

MAUAO (MOUNT MAUNGANUI)

Sarah Beadel

A hardy group of about 15 botanists from both the Rotorua and Waikato Botanical Societies met in windy, wet, and cold weather on 8 August at the Pilot Bay jetty for the combined Conservation Week field trip. Mauao (Mt Maunganui) is the prominent steep-sided rhyolitic lava dome at the south-eastern entrance to Tauranga Harbour and is in the Tauranga Ecological District.

The first diversion as we set off around the base track was to look at stumps of tree of heaven (*Ailanthus altissima*) - a very persistent invasive suckering tree. There is one very small population on Mauao which has required several years of control work by Tauranga City Council which is still ongoing.

As we made our way up to the summit we stopped to look at *Peperomia urvilleana* and the robust clumps of *Astelia banksii*. *Rhabdothamnus solandri* was also seen in the understorey. We also stopped to look at three orchid species that had been “planted” on a five-finger several years ago - *Drymoanthus adversus*, *Bulbophyllum pygmaeum*, and *Winika cunninghamii*. We also saw *Tetraria capillaris* in this area. One of the features of the trip, *Psilotum nudum*, was very prominent on the bluffs, with its bright orange-yellow sporangia on full display.

Recent clearance of vegetation has been undertaken by the Tauranga City Council around the summit, in part to protect the archaeological features, and the views from the top were even more spectacular than previously. A conservation plan for Mauao has recently been prepared for Tauranga City Council (Wildland Consultants Ltd 2004).

After a brief cold and wet lunch break the few hardy stayers that remained set off back to the cars via the quickest way possible, and were rewarded with a very exciting find of a native daphne, *Pimelea tomentosa*. One plant was found growing very close to the track, near the summit. It is the only record of this threatened species from Mauao, and it has not been recorded from elsewhere in the Tauranga Ecological District. *P. tomentosa* is classed as serious decline in Hitchmough (2002).

A large number of weed species were seen, including a few seedlings of moth plant (not previously recorded from Mauao), willow-leaved hakea, prickly hakea, climbing asparagus, smilax, and Japanese honeysuckle, and the sight of a carefully pruned sapling Italian buckthorn next to the fence at the start of the 4WD track to the summit was rather amusing. The adventive swan plant (*Gomphocarpus fruticosus*) was also present alongside the bluff track.

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INDIGENOUS, PLANTED INDIGENOUS, AND ADVENTIVE SPECIES OF MAUAO (MT MAUNGANUI)

NATURALLY OCCURRING INDIGENOUS SPECIES

Gymnosperms

Phyllocladus trichomanoides tanekaha

Monocot. trees and shrubs

Cordyline australis ti kouka

Dicot. trees and shrubs

Aristotelia serrata makomako, wineberry

Brachyglottis repanda rangiora

Carmichaelia australis makaka, maukoro

Carpodetus serratus putaputaweta

Coprosma lucida karamu

Coprosma macrocarpa

Coprosma repens taupata

Coprosma robusta karamu

Coriaria arborea var. *arborea* tutu

Corynocarpus laevigatus karaka

Dodonaea viscosa akeake

Entelea arborescens whau

Gaultheria antipoda tawiniwini

Geniostoma ligustrifolium hangehange

Hebe stricta koromiko

Knightia excelsa rewarewa

Kunzea ericoides var. *ericoides* kanuka

Leptospermum scoparium manuka

| | |
|--|---------------------------|
| <i>Leucopogon fasciculatus</i> | mingimingi |
| <i>Macropiper excelsum</i> var. <i>excelsum</i> | kawakawa |
| <i>Melicytus ramiflorus</i> subsp. <i>ramiflorus</i> | mahoe |
| <i>Metrosideros excelsa</i> | pohutukawa |
| <i>Myoporum laetum</i> | ngaio |
| <i>Myrsine australis</i> | mapou |
| <i>Olearia furfuracea</i> | akepiro |
| <i>Olearia pachyphylla</i> (Historic record; P. de Lange pers. comm.) | |
| <i>Olearia rani</i> | heketara |
| <i>Pimelea tomentosa</i> | |
| <i>Pittosporum crassifolium</i> | karo |
| <i>Pittosporum eugenioides</i> | tarata |
| <i>Pittosporum tenuifolium</i> subsp. <i>tenuifolium</i> | kohuhu |
| <i>Pomaderris</i> aff. <i>phyllicifolia</i> | |
| <i>Pseudopanax arboreus</i> var. <i>arboreus</i> | whauwhaupaku, five-finger |
| <i>Pseudopanax lessonii</i> | houpara |
| <i>Rhabdothamnus solandri</i> | taurepo |
| <i>Vitex lucens</i> | puriri |
| <i>Weinmannia racemosa</i> | kamahi |

Dicot. lianes

| | |
|-------------------------------|--------------|
| <i>Calystegia sepium</i> | |
| <i>Calystegia soldanella</i> | |
| <i>Clematis paniculata</i> | puawananga |
| <i>Muehlenbeckia complexa</i> | pohuehue |
| <i>Parsonsia capsularis</i> | akakiore |
| <i>Rubus schmidelioides</i> | akatataramoa |

Lycopods and psilopsids

Lycopodium deuterodensum puakarimu

Huperzia varia iwituna

Psilotum nudum

Tmesipteris elongata

Tmesipteris tannensis

Ferns

Adiantum cunninghamii huruhuru tapairu

Adiantum hispidulum

Asplenium flaccidum makawe

Asplenium oblongifolium huruhuruwhenua

Asplenium polyodon pekato

Blechnum novae-zealandiae kiokio

Blechnum filiforme panako

Cyathea dealbata ponga

Cyathea medullaris mamaku

Dicksonia squarrosa wheki

Doodia australis pukupuku

Histiopteris incisa matata

Hymenophyllum demissum irirangi

Hymenophyllum dilatatum

Hymenophyllum sanguinolentum piripiri

Lygodium articulatum mangemange

Microsorium pustulatum kowaowao (hounds tongue fern)

Paesia scaberula matata

Pellaea rotundifolia tarawera (button fern)

Polystichum richardii puniu

Pteridium esculentum rarahu

Pteris macilenta

| | |
|------------------------------|----------|
| <i>Pteris tremula</i> | turawera |
| <i>Pyrrosia eleagnifolia</i> | |
| <i>Trichomanes reniforme</i> | raurenga |

Orchids

| | |
|--|----------|
| <i>Corybas oblongus</i> | |
| <i>Corybas</i> sp. (<i>C. rivularis</i> agg.) | |
| <i>Earina autumnalis</i> | |
| <i>Earina mucronata</i> s.s. | |
| <i>Microtis unifolia</i> | maikaika |
| <i>Orthoceras novae-zeelandiae</i> | |
| <i>Pterostylis alobula</i> | |
| <i>Pterostylis banksii</i> | tutukiwi |
| <i>Thelymitra longifolia</i> | maikuku |

Grasses

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| <i>Dichelachne avenoides</i> |
| <i>Dichelachne crinita</i> |
| <i>Microlaena stipoides</i> |
| <i>Oplismenus imbecillis</i> |
| <i>Poa anceps</i> subsp. <i>anceps</i> |
| <i>Rytidosperma gracile</i> |
| <i>Zoysia pauciflora</i> |

Sedges

| |
|--------------------------|
| <i>Baumea juncea</i> |
| <i>Carex breviculmis</i> |
| <i>Carex pumila</i> |
| <i>Carex testacea</i> |
| <i>Cyperus ustulatus</i> |

| | |
|------------------------------|--------------------|
| <i>Isolepis cernua</i> | |
| <i>Isolepis nodosa</i> | wiwi |
| <i>Lepidosperma laterale</i> | |
| <i>Leptocarpus similis</i> | oioi |
| <i>Morelotia affinis</i> | |
| <i>Schoenus apogon</i> | |
| <i>Schoenus tendo</i> | |
| <i>Tetraria capillaris</i> | |
| <i>Uncinia uncinata</i> | kamu, matau a Maui |

Rushes

| | |
|---------------------------|----|
| <i>Juncus gregiflorus</i> | wi |
| <i>Juncus sarophorus</i> | |

Monocot. herbs (other than orchids, grasses, sedges and rushes)

| | |
|------------------------|--------|
| <i>Astelia banksii</i> | kakaha |
| <i>Dianella nigra</i> | turutu |
| <i>Lemna minor</i> | |

Composite herbs

| | |
|------------------------------------|---------|
| <i>Gnaphalium audax</i> | |
| <i>Gnaphalium gymnocephalum</i> | |
| <i>Lagenifera pumila</i> | |
| <i>Pseudognaphalium luteoalbum</i> | pukatea |
| <i>Senecio hispidulum</i> | |
| <i>Senecio lautus</i> | |

Dicot. herbs (other than composites)

| | |
|--------------------------|----------|
| <i>Centella uniflora</i> | |
| <i>Dichondra repens</i> | |
| <i>Disphyma australe</i> | horokaka |

| | |
|---|----------|
| <i>Drosera peltata</i> subsp. <i>auriculata</i> | |
| <i>Geranium solanderi</i> | |
| <i>Gonocarpus incanus</i> | piripiri |
| <i>Haloragis erecta</i> subsp. <i>erecta</i> | toatoa |
| <i>Hydrocotyle moschata</i> | |
| <i>Lobelia anceps</i> | |
| <i>Oxalis exilis</i> | |
| <i>Oxalis rubens</i> | |
| <i>Parietaria debilis</i> | |
| <i>Pelargonium inodorum</i> | kopata |
| <i>Peperomia urvilleana</i> | |
| <i>Ranunculus reflexus</i> | maruru |
| <i>Samolus repens</i> | |
| <i>Sarcocornia quinqueflora</i> | ureure |
| <i>Selliera radicans</i> | |
| <i>Wahlenbergia violacea</i> | |

PLANTED INDIGENOUS SPECIES

Gymnosperms

| | |
|---------------------------------|-----------|
| <i>Agathis australis</i> | kauri |
| <i>Dacrycarpus dacrydioides</i> | kahikatea |
| <i>Dacrydium cupressinum</i> | rimu |
| <i>Podocarpus totara</i> | totara |

Monocot. trees and shrubs

| | |
|-----------------------------|----------|
| <i>Cordyline australis</i> | ti kouka |
| <i>Phormium tenax</i> | harakeke |
| <i>Rhopalostylis sapida</i> | nikau |

Dicot. trees and shrubs

| | |
|--|-------------------|
| <i>Coprosma grandifolia</i> | kanono |
| <i>Coprosma repens</i> | taupata |
| <i>Coprosma robusta</i> | karamu |
| <i>Corynocarpus laevigatus</i> | karaka |
| <i>Dodonaea viscosa</i> | akeake |
| <i>Entelea arborescens</i> | whau |
| <i>Griselinia littoralis</i> | broadleaf |
| <i>Hebe stricta</i> | koromiko |
| <i>Hebe</i> sp. (<i>H. parviflora</i> agg.) | |
| <i>Hoheria populnea</i> var. <i>lanceolata</i> | houhere, lacebark |
| <i>Leptospermum scoparium</i> | manuka |
| <i>Melicytus novae-zelandiae</i> | |
| <i>Metrosideros excelsa</i> | pohutukawa |
| <i>Myoporum laetum</i> | ngaio |
| <i>Myrsine australis</i> | mapou |
| <i>Olearia paniculata</i> | akirako |
| <i>Pittosporum crassifolium</i> | karo |
| <i>Pittosporum eugenioides</i> | tarata |
| <i>Pseudopanax lessonii</i> | houpara |
| <i>Vitex lucens</i> | puriri |

Dicot. lianes

| | |
|-------------------------------|----------|
| <i>Muehlenbeckia complexa</i> | pohuehue |
|-------------------------------|----------|

Orchids

| | |
|------------------------------|----------|
| <i>Bulbophyllum pygmaeum</i> | piripiri |
| <i>Drymoanthus adversus</i> | |
| <i>Winika cunninghamii</i> | |

ADVENTIVES

Gymnosperms

| | |
|-----------------------------|---------------|
| <i>Pinus pinaster</i> | maritime pine |
| <i>Pinus radiata</i> | radiata pine |
| <i>Cupressus macrocarpa</i> | macrocarpa |

Dicot. trees and shrubs

| | |
|---|-----------------------|
| <i>Acacia dealbata</i> | silver wattle |
| <i>Acacia longifolia</i> | Sydney golden wattle |
| <i>Acacia mearnsii</i> | black wattle |
| <i>Acacia sophorae</i> | Sydney golden wattle |
| <i>Acer pseudoplatanus</i> | sycamore |
| <i>Ailanthus altissima</i> | tree of heaven |
| <i>Berberis glaucocarpa</i> | barberry |
| <i>Buddleia davidii</i> (Wilcox & Ecroyd 1984) | buddleia |
| <i>Chamaecytisus palmensis</i> | tree lucerne |
| <i>Chrysanthemoides monolifera</i> | boneseed |
| <i>Cotoneaster glaucophyllus</i> f. <i>serotina</i> | cotoneaster |
| <i>Cotoneaster simonsii</i> (Wilcox & Ecroyd 1984) | khasia berry |
| <i>Crataegus monogyna</i> | hawthorn |
| <i>Erica lusitanica</i> | Spanish heath |
| <i>Euonymus japonicus</i> | Japanese spindle tree |
| <i>Hakea salicifolia</i> | willow-leaved hakea |
| <i>Hakea sericea</i> | prickly hakea |
| <i>Impatiens sodenii</i> | shrub balsam |
| <i>Jasminum mesnyi</i> | primrose jasmine |
| <i>Ligustrum lucidum</i> | tree privet |
| <i>Ligustrum sinense</i> | Chinese privet |
| <i>Lupinus arboreus</i> | lupin |

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|---|----------------------------|
| <i>Lycium ferrocissimum</i> | African boxthorn |
| <i>Metrosideros kermadecensis</i> | Kermadec Island pohutukawa |
| <i>Paraserianthes lophantha</i> | brush wattle |
| <i>Paulownia tomentosa</i> | paulownia |
| <i>Populus alba</i> cv. Nivea | silver poplar |
| <i>Quercus ilex</i> | oak |
| <i>Rhamnus alaternus</i> | Italian buckthorn |
| <i>Rosa rubiginosa</i> | sweet brier |
| <i>Rubus</i> sp. (<i>R. fruticosus</i> agg.) | blackberry |
| <i>Solanum mauritianum</i> | woolly nightshade |
| <i>Teucrium fruticans</i> | teucrium |
| <i>Ulex europaeus</i> | gorse |

Dicot. lianes

| | |
|---|----------------------|
| <i>Anredera cordifolia</i> | mignonette vine |
| <i>Araujia sericifera</i> | moth plant |
| <i>Dipogon lignosus</i> | mile a minute |
| <i>Hedera helix</i> | ivy |
| <i>Lonicera japonica</i> | Japanese honeysuckle |
| <i>Passiflora edulis</i> (Wilcox & Ecroyd 1984) | passionfruit |
| <i>Senecio mikanioides</i> | German ivy |
| <i>Senecio petasitis</i> | velvet groundsel |
| <i>Vitis</i> sp. | |

Monocot. trees and shrubs

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|------------------------------|--------------|
| <i>Phoenix canariensis</i> | Phoenix palm |
| <i>Trachycarpus fortunei</i> | fan palm |

Grasses

| | |
|--|-----------------------|
| <i>Agrostis capillaris</i> | browntop |
| <i>Anthoxanthum odoratum</i> | sweet vernal |
| <i>Aristida ramosa</i> | Australian wire grass |
| <i>Briza minor</i> | shivery grass |
| <i>Bromus diandrus</i> | riggut brome |
| <i>Cortaderia jubata</i> | pampas |
| <i>Cortaderia selloana</i> | pampas |
| <i>Cynodon dactylon</i> | Indian doab |
| <i>Dactylis glomerata</i> | cocksfoot |
| <i>Ehrharta erecta</i> | veld grass |
| <i>Holcus lanatus</i> | Yorkshire fog |
| <i>Lolium perenne</i> | rye grass |
| <i>Miscanthus nepalensis</i> | Himalaya fairy grass |
| <i>Paspalum conjugatum</i> (Gardiner 1995) | |
| <i>Paspalum dilatatum</i> | paspalum |
| <i>Pennisetum clandestinum</i> | kikuyu grass |
| <i>Poa annua</i> | annual poa |
| <i>Poa pratensis</i> | Kentucky bluegrass |
| <i>Schedonorus phoenix</i> | tall fescue |
| <i>Sporobolus africanus</i> | ratstail |

Sedges

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|---------------------------|
| <i>Carex divulsa</i> |
| <i>Cyperus congestus</i> |
| <i>Cyperus eragrostis</i> |

Monocot. herbs (other than orchids, grasses, sedges and rushes)

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|-------------------------------|--------------|
| <i>Arum italicum</i> | Italian arum |
| <i>Asparagus asparagoides</i> | smilax |

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|----------------------------------|--------------------|
| <i>Asparagus scandens</i> | climbing asparagus |
| <i>Colocasia esculenta</i> | taro |
| <i>Hedychium gardnerianum</i> | wild ginger |
| <i>Ixia maculata</i> | ixia |
| <i>Narcissus pseudonarcissus</i> | daffodil |
| <i>Tradescantia fluminensis</i> | tradescantia |

Composite herbs

| | |
|---------------------------------------|---------------------|
| <i>Aster subulatus</i> | sea aster |
| <i>Bellis perennis</i> | daisy |
| <i>Cirsium vulgare</i> | Scotch thistle |
| <i>Conyza albida</i> | fleabane |
| <i>Crepis capillaris</i> | hawksear |
| <i>Erigeron karvinskianus</i> | Mexican daisy |
| <i>Gnaphalium coarctatum</i> | cudweed |
| <i>Hypochoeris radicata</i> | catsear |
| <i>Leontodon taraxacoides</i> | hawkbit |
| <i>Leucanthemum vulgare</i> | oxeye daisy |
| <i>Mycelis muralis</i> | wall lettuce |
| <i>Pericallis x hybrida-cineraria</i> | |
| <i>Picris echioides</i> | oxtongue |
| <i>Senecio bipinnatisectus</i> | Australian fireweed |
| <i>Senecio jacobaea</i> | ragwort |
| <i>Senecio sylvaticus</i> | wood groundsel |
| <i>Senecio vulgaris</i> | groundsel |
| <i>Sonchus asper</i> | prickly puha |
| <i>Sonchus oleraceus</i> | puha |
| <i>Taraxacum officinale</i> | dandelion |

Dicot. herbs (other than composites)

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|---|------------------------|
| <i>Acaena agnipila</i> (Wilcox & Ecroyd 1984) | Australian sheep's bur |
| <i>Acaena novae-zelandiae</i> | piripiri, bidibid |
| <i>Acanthus mollis</i> | acanthus |
| <i>Anagallis arvensis</i> | scarlet pimpernel |
| <i>Aphanes arvensis</i> | parsley piert |
| <i>Cardamine</i> sp. | |
| <i>Centaurium erythraea</i> | centaury |
| <i>Coronopus didymus</i> | twin cress |
| <i>Dianthus ameria</i> | Deptford pink |
| <i>Digitalis purpurea</i> | foxglove |
| <i>Dipsacus fullonum</i> | wild teasel |
| <i>Epilobium ciliatum</i> | willow herb |
| <i>Euphorbia peplus</i> | milkweed |
| <i>Foeniculum vulgare</i> | fennel |
| <i>Fumaria muralis</i> | scrambling fumitory |
| <i>Galium aparine</i> | bedstraw |
| <i>Geranium molle</i> | geranium |
| <i>Gomphocarpus fruticosus</i> | swan plant |
| <i>Hypericum perforatum</i> | St John's wort |
| <i>Lactuca serriola</i> | prickly lettuce |
| <i>Linum bienne</i> | |
| <i>Lotus pedunculatus</i> | lotus |
| <i>Marrubium vulgare</i> | horehound |
| <i>Medicago nigra</i> | bur medick |
| <i>Modiola caroliniana</i> | creeping mallow |
| <i>Ornithopus perpusillus</i> | wild seradella |
| <i>Orobanche minor</i> | broomrape |
| <i>Oxalis</i> sp. | |
| <i>Physalis peruviana</i> | cape gooseberry |
| <i>Phytolacca octandra</i> | inkweed |

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|--|-------------------------|
| <i>Plantago lanceolata</i> | plantain |
| <i>Plantago major</i> | broad-leaved plantain |
| <i>Polycarpon tetraphyllum</i> | allseed |
| <i>Portulaca oleracea</i> | wild portulaca |
| <i>Prunella vulgaris</i> | selfheal |
| <i>Ranunculus repens</i> | creeping buttercup |
| <i>Ranunculus scleratus</i> | celery-leaved buttercup |
| <i>Rumex acetosella</i> | sheep's sorrel |
| <i>Rumex obtusifolius</i> | dock |
| <i>Rumex sagittatus</i> | climbing dock |
| <i>Sagina apetala</i> | pearlwort |
| <i>Sagina procumbens</i> | pearlwort |
| <i>Sigesbeckia orientalis</i> (Wilcox and Ecroyd 1984) | |
| <i>Silene gallica</i> | catchfly |
| <i>Solanum chenopodioides</i> | velvety nightshade |
| <i>Solanum linnaeanum</i> | Apple of Sodom |
| <i>Solanum marginatum</i> | white-edged nightshade |
| <i>Solanum tuberosum</i> | potato |
| <i>Soliva valdiviana</i> | Onehunga weed |
| <i>Stellaria media</i> | chickweed |
| <i>Trifolium repens</i> | white clover |
| <i>Tropaeolum majus</i> | garden nasturtium |
| <i>Verbascum thapsus</i> | woolly mullein |
| <i>Verbena bonariensis</i> | purpletop |