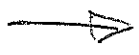


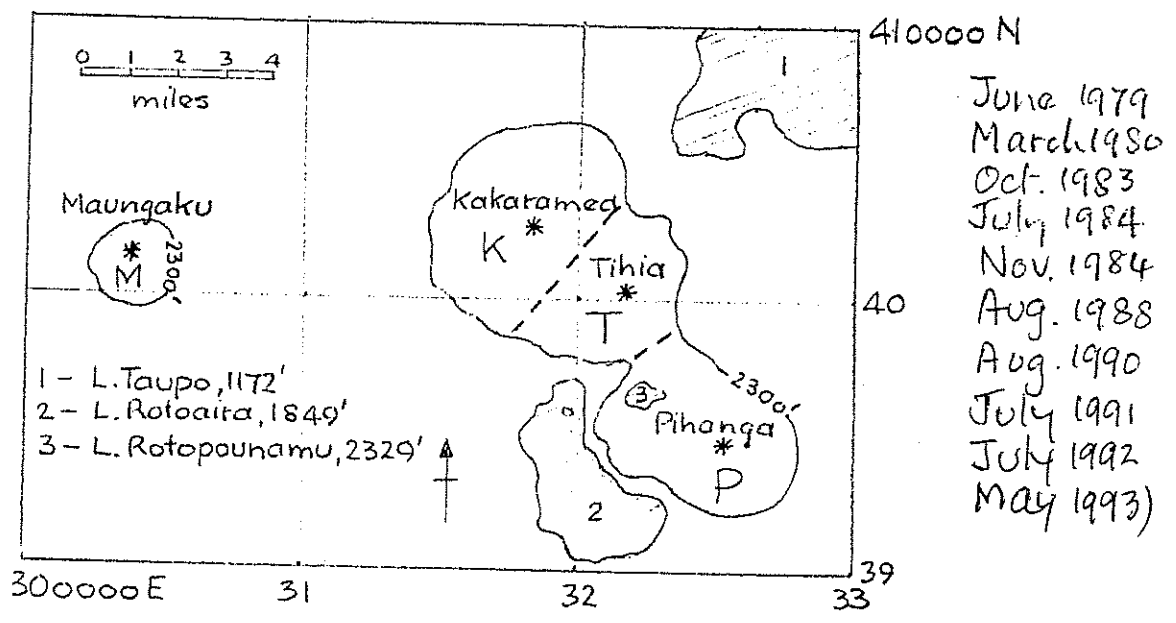
VASCULAR PLANTS OF THE ANDESITIC VOLCANOES, PIHANGA<sup>1</sup>,  
TIHIA<sup>2</sup>, KAKARAMEA<sup>3</sup>, AND MAUNGAKU<sup>4</sup>, S.W. OF L. TAUPO, 2300-4348 FT.

- <sup>1</sup> Grid ref. N112 254948 ; alt. 4348 ft.
- <sup>2</sup> Grid ref. N102 217003 ; alt. 3824 ft.
- <sup>3</sup> Grid ref. N102 185027 ; alt. 4266 ft. ✓
- <sup>4</sup> Grid ref. N102 036014 ; alt. 3213 ft.



A.P. Druce, Botany Division, D.S.I.R., 1972 (revised May 1974)  
 (Based on observations 1956-1974) ✓

" Aug 1974  
 " July 1975  
 " July 1976  
 " May 1977



P - Pihanga-L. Rotopounamu area  
 T - Tihia area  
 K - Kakaramea area  
 M - Maungaku area

Plants not labelled (P, T, K, M) are widespread  
 Unc - uncommon (above 2300 ft)

# INDIGENOUS SPECIES

## GYMNOSPERMS

- Dacrycarpus dactyloides*
- Dactyidium cupressinum*
- Halocarpus bidwillii* (P,T,K)
- H. biformis* (P) (unc on K)
- Lagarostrobos colensoi* (P) (unc)
- Lepidothamnus laxifolius* (P,T,K)
- L. intermedius* X *L. laxifolius* (P,T) (unc)
- Libocedrus bidwillii* (T,K)
- Phyllocladus alpinus* ss. (P,T,K)
- Podocarpus hallii*
- P. nivalis* (P,K)
- P. totara* ss. (unc)
- P. hallii* X *P. nivalis* (P,K) (unc)
- Prumnopitys ferruginea*
- P. taxifolia* (max. alt. 3300ft)

## MONOCOT TREES

- Cordyline australis*
- C. banksii* (unc)
- C. indivisa* (P,T,K)
- C. australis* X *C. banksii* (unc)

## DICOT TREES

- Aristotelia serrata*
- Carpodetus serratus*
- Elaeocarpus dentatus* (incl. *E. d. var. obovatus*)
- E. hookerianus*
- Fuchsia excorticata*
- Griselinia littoralis*
- Knightia excelsa*
- Melicactus lanceolatus* (incl. *M. l. var. latior*) (unc)
- M. ramiflorus* ssp. *ramiflorus*
- M. lanceolatus* X *M. ramiflorus* (P) (unc)
- Myrsine australis*
- M. salicina*

- Nestegis cunninghamii*
- N. lanceolata*
- Nothofagus fusca* (P,T,K)
- N. menziesii* (P) (unc on T)
- N. solandri* var. *cliffortioides* (P; unc on T and K)
- N. fusca* X *N. solandri* (unc)
- Olearia rani* var. *colorata* (unc)
- Pennantia corymbosa* (unc)
- Pittosporum eugenioides*
- P. tenuifolium* (ssp. *colensoi* → ssp. *tenuifolium*)
- Pseudopanax arboreus* var. *arboreus*
- P. colensoi* ss. (unc)
- P. crassifolium*
- P. edgetleyi* (unc)
- P. simplex* (incl. *P. s. var. sinclairii*)
- Schefflera digitata*
- Weinmannia racemosa* var. *racemosa*

## DICOT SHRUBS

- Alepis flavida* (unc)
- Alseuosmia pusilla*
- Aristotelia fruticosa* var. *microphylla* (P,T)
- Brachyglottis bidwillii* var. *bidwillii* (P,T,K)
- B. repanda* ss.
- Carmichaelia* sp. (subgenus *Carmichaelia*) (T) (unc)
- Cassinia vauvilliersii* (P,T,K)
- Coprosma cheesemanii* ss. (P,T,K)
- C. foetidissima*
- C. grandifolia*
- C. lucida* s.s.
- C. microcarpa* (P,T) (unc)
- C. perpusilla* ssp. *perpusilla* (P,T,K)

- C. pseudocuneata* ssp. *pseudocuneata*  
*C. rigida*  
*C. robusta*  
*C. rugosa* ssp. *rugosa* (T, K)  
*C. tenuifolia*  
*C. sp. (i)* (unnamed; included in *C. parviflora* by Oliver, 1935, and others)  
*C. sp. (ii)* (unnamed; drupes red) (*C. parviflora* var. *dumosa* Allan 1961, non *C. p.* var. *dumosa* Cheeseman) (P) (unc on T)  
*C. sp. (iii)* (unnamed; aff. *C. cheesemanii*) (lvs broader than in *C. cheesemanii*) (P, T, K)  
*C. propinqua* X *C. sp.* (*C. robusta* or *C. tenuifolia*) (P) (unc)  
*C. robusta* X *C. tenuifolia* (P) (unc)  
*Coriaria arborea*  
*C. pteridoides* (P, T, K)  
*C. arborea* var. *arborea* X *C. pteridoides* (T) (unc)  
*Cyathodes ampetrifolia* (P, T, K)  
*C. sp.* (*C. juniperina* agg.) (P, T, K)  
*Dracophyllum longifolium* var. (incl. *D. filifolium* and *D. oliveri*) (P, T, K)  
*D. recurvum* (P, T, K)  
*D. subulatum* (P, T)  
*D. longifolium* X *D. recurvum* (P, K)  
*D. l.* X *D. subulatum* (T)  
*Epactis alpina* (P, T, K)  
*Gaulltheria antipoda*  
*G. colensoi* (P, T, K)  
*G. sp.* (unnamed; included in *G. depressa*, as var. *novae-zelandiae*, by Franklin 1962) (P, T, K)  
*G. antipoda* X *G. sp.* (unnamed) (T)  
*G. a.* X *G. macrostigma* (P) (unc)  
*G. colensoi* X *G. sp.* (unnamed) (T)  
*G. macrostigma* X *G. sp.* (unnamed) (P, T, K) (unc)  
*Geniostoma rupestre* var. *ligustrifolium*  
*Hebe odora* s.s. (K) (unc on T)  
*H. stricta* var. *stricta*  
*H. tetragona* var. *tetragona* (P, T, K)  
*H. venustula* (incl. *H. brachysiphon*) (P, T, K)  
*H. odora* X *H. tetragona* (K) (unc)  
*H. stricta* X *H. venustula* (P, T, K) (unc)  
*Kunzea ericoides* agg. (max. alt. 3200 ft)  
*Leptospermum scoparium*  
*Leucopogon fasciculatus* var. *L. fraseri* s.s.  
*Melicope simplex*  
*Myrsine divaricata* s.s.  
*M. nummularia* (P, K)  
*M. n.* X *M. salicina* (T) (unc)  
*Neomyrtus pedunculata*  
*Oleaia arborescens* (P, T, K)  
*O. ilicifolia*  
*O. nummularifolia* var. *nummularifolia* (P, T, K)  
*O. virgata* var. (lvs smaller than in var. *virgata*) (T) (unc)

*O. arborescens* x *O. ilicifolia* (P, K)  
*Pentachondra pumila* (P, T, K)  
*Pimelea oreophila* (P, T, K)  
*P. prostrata*  
*Pomaderris ericifolia* (T) (unc)  
*Pseudopanax anomalus*  
*Pseudowintera axillaris*  
*P. colorata*

*B. vulcanicum*  
*B. sp. (i)* (unnamed) (common lowland sp.;  
lower pinnae reduced in length)  
*B. sp. (ii)* (unnamed) (mountain sp.;  
lower pinnae not reduced) (K) (unc)

*B. sp. (i)* x *B. sp. (ii)* (T) (unc)

#### DICOT LIANES + RELATED TRAILING PLANTS

*Muehlenbeckia axillaris* (P, T, K)  
*Parsonsia capsularis* var.  
*Rubus cissoides* var. (flts narrow)  
*R. schmidelioides* var. *schmidelioides*

*Botrychium austriale* (P, T) (unc)

*B. bifurcatus* (P) (unc)

#### PSILOPSIDS AND LYCOPODS

*Tmesipteris elongata* (incl. *T. e. ssp. robusta*)  
*Lycopodium australianum* (P, T, K)  
*L. deuteroideum* (P, T) (unc)  
*L. fastigiatum*  
*L. scariosum*  
*L. vatium* (incl. *L. billardierei* and *L. novae-zelandicum*)  
*L. volubile* (unc)

*Ctenopteris heterophylla*

*Cyathea dealbata*

*C. medullaris*

*C. smithii*

*Dicksonia fibrosa*

*D. squarrosa*

*Gleichenia dicarpa* (P, T, K)

*Grammitis poeppigiana* (P, K) (unc)

*G. billardierei*

*G. magellanica* ssp. *nothofagati* (P, T, K)

*G. pseudociliata* (Parris and Givon, 1976) (P)

*Histiopteris incisa*

*Hymenophyllum demissum*

*H. dilatatum*

*H. flabellatum*

*H. multifidum*

*H. pulcherrimum* (T, M)

*H. ratum*

*H. revolutum*

*H. sanguinolentum* agg.

*H. scabrum*

*Hypolepis ambigua* (P)

*H. millefolium* (K) (unc)

*H. rufobarbata*

#### FERNS

*Asplenium bulbiferum* agg.

*A. flaccidum*

*A. hookerianum* (P) (unc) (Butler 1970)

*A. polyodon*

*Blechnum chambersii*

*B. colensoi*

*B. discolor*

*B. fluviatile* agg.

*B. membranaceum* (P) (unc)

*B. minus* (P, T) (unc)

*B. penna-marina* (P, T, K)

*B. procerum*

*Lastroopsis hispida* (unc)  
*Leptopteris hymenophylloides*  
*L. superba*  
*L. hymenophylloides* X *L. superba*  
*Lindsea linearis* (T) (unc)  
*L. trichomanoides* (P) (unc)

*L. viridis* (P) (unc) (Butler 1970)  
*Ophioglossum coriaceum* agg. (T)  
*Paesia scaberula*  
*Pneumatopteris pennigera* (unc)  
*Polystichum vestitum*  
*Pteridium esculentum*  
*Schizaea australis*  
*Sticherus cunninghamii*  
*Trichomanes reniforme*  
*T. venosum* (unc)

#### ORCHIDS

*Adenochilus gracilis* (K) (Cheeseman 1925)  
*Aporostylis bifolia* (P, T, K)  
*Corybas trilobus* s.s.  
*Eatina autumnalis*  
*E. mucronata* s.s.  
*Ganoplesium nudum* (T, K) (unc)  
*Microtis unifolia* (T)  
*Orthoceras novae-zealandiae* (T) (unc)  
*Prasophyllum colensoi* (P, T, K)  
  
*Pterostylis patens*  
*P. sp.* (cf. *P. humilis* and *P. venosa*) (P) (unc)  
*Thelymitra cyanea* (T, K)  
*T. longifolia* (T, K)  
*T. sp.* (T)  
*Spitantiopsis novae-zealandiae* (T)

#### GRASSES

*Agrostis dyeri* ss. (P, K)  
*A. muscosa* (T, K)  
*A. personata* (T, K)  
*Chionochloa pallens* ssp. *pallens* (P) (unc)  
*C. rubra* ssp. *rubra* (P, T, K)  
*C. pallens* X *C. rubra* (P) (unc)  
*Cortaderia fulvida* (P, T)  
*Deyeuxia aucklandica* (P, K)  
*Davencides* (incl. *D. a.* var. *brachyantha*)  
*D. sp.* (*D. quadriseta* agg.) (T)  
*Dichelachne cuneata* (P, T) (unc)  
*Elymus multiflorus* (P) (unc)  
  
*Festuca novae-zealandiae* var. (T, K)  
*Hierochloa recurvata* (P, K)  
*H. redolens* (P, T, K)  
*Lachnagrostis filiformis* s.s. (P)  
*L. striata* (P)  
*L. sp.* (i) (unnamed; included in  
*L. filiformis*, as var. *semiglabra*,  
by Zotov 1965) (P, T)  
*L. sp.* (ii) (unnamed) (T)  
  
*Poa anceps* ssp. *anceps*  
*P. cita* ssp.  
*P. colensoi* (P) (unc on T)  
(P) (unc on T)  
  
*P. pusilla* (T, K)

- Rytidosperma australe (T)
- R. clavatum (P)
- R. gracile
- R. pulchrum (P)
- R. vitide (K)(unc)
- R. setifolium (P, T, K)
- Trisetum sp. (unnamed; aff. T. antarcticum) (T, K)

**SEDGES**

- Baumea huttonii (P, T)
- B. tenax (P)(unc)
- Carex breviculmis (T)
- C. comans
- C. coriacea (T, K)
- C. dipsacea (P, T)
- C. dissita s.s.
- C. echinata var. (C. stellulata var. australis) (T)
- C. maotica (P)
- C. tubicunda (T)
- C. secta s.s.
- C. sinclairii (T)(unc)
- C. solandri (T)(unc)
- C. testacea s.s. (K)
- C. virgata (P)
- Carpha alpina s.s. (P, T, K)
- Eleocharis acuta (P, K)
- E. gracilis (T, K)
- E. sphacelata (P)(unc on T)
- Gahnia pauciflora (P, T)
- G. procera (P, T, K)
- Lepidosperma australe (P, T)
- Oreobolus pectinatus (P, T, K)

- Schoenus fluitans (T)(unc)
- S. maschalinus (P)
- S. pauciflorus s.s. (T, K)
- Isolopis crassiuscula (T, K)
- I. inundata (P)
- I. reticularis (P)
- I. subtilissima (P, T, K)
- I. sp. (K)
- Uncinia banksii
- U. clavata
- U. distans (T)(unc)
- U. gracilentia
- U. rubra (P, T, K)
- U. rupestris (incl. U. angustifolia)
- U. scabra
- U. silvestris (incl. U. affinis) (K)
- U. viridis (P, T, K)
- U. zotovii
- U. sp. (unnamed; aff. U. nervosa) (more slender than U. nervosa; see Edgar 1970, p. 231) (P, K)(unc on T)

**RUSHES**

- Centrolepis ciliata (T)
- Empodisma minus (T, K)
- Juncus antarcticus (T, K)
- J. gregiflorus (T, K)
- J. planifolius (P)
- J. novae-zelandiae (P, T, K)
- Luzula decipiens (T)(unc)
- L. migrata (P, K)
- L. sp. (unnamed; included in L. picta, as var. limosa, by Edgar 1966) (P)

{ *Anaphalis* sp. (*Halichrysum ballidoides* ss.) (P, T)  
*A.* sp. (unnamed) ("Halichrysum alpinum" of Cocharne 1928) (P, T, K)

*G. flavescens* (T) (unc)

*Halichrysum filicaule*

MONOCOT HERBS (OTHER THAN ORCHIDS,

GRASSES, SEDGES, RUSHES)

*Astelia fragrans*

*A.* sp. (unnamed; aff. *A. nervosa*) (lvs not conspicuously white adaxially as in *A. nervosa*) (P, T, K)

*Colospermum microspERMum*

*Heteropogon novae-zelandiae* (T, K)

*Libertia ixioides* (P, T) (unc)

*Phormium cookianum* (T)

*P. tenax* (P, T, K)

*P. cookianum* X *P. tenax* (T)

*Spatarganium subglobosum* (P)

*Triglochin striata* (T)

*Lagenifera cuneata* (T) (unc)

*L. pumila*

*L. cuneata* X *L. pumila* (T) (unc)

*Microseris scapigera* var. (T, K)

*Pseudognaphalium* sp. (unnamed) (aff. *P. luteoalbum*)

*Raoulia albosericea* (P, T)

*R. glabra* (K)

*R. tenuicaulis* (incl. *R. t.* var. *dimorpha* and *R. t.* var. *pusilla*) (T) (unc)

*R. sp.* (i) (unnamed; aff. *R. australis*) (T) (unc)

*R. sp.* (ii) (unnamed)

*R. albosericea* X *R. sp.* (a) (T) (unc)

*Senecio hispidulus* (T) (unc)

*S. minimus*

*S. waitavensis* (K) (unc)

COMPOSITE HERBS

→ *Celmisia glandulosa* ssp. *glandulosa* (incl. *C. g.* var. *latifolia*) (T) (unc)

*C. gracilentata* ssp.

*C. spectabilis* ssp. *spectabilis* (P, T, K)

*C. sp.* (unnamed; aff. *C. gracilentata*)\* (P, T, K)

*C. gracilentata* X *C. spectabilis* (T) (unc)

*Craspedia* sp. (unnamed) (T, K)

*Gnaphalium audax* (P, T, K)

*G. delicatum* (T)

*G. limosum* ss. (K)

*G. paludosum* ss. (T)

*G. sphaericum*

DICOT HERBS (OTHER THAN COMPOSITES)

*Acaena ansethinifolia*

*A. microphylla* var. *microphylla*

*Aciphylla* sp. (unnamed; aff. *A. squarrosa*) (T)

*Anisotome atomatica* (P, T, K)

\* (plants strongly rhizomatous)

*Cardamine* sp. (*C. debilis* agg.) (unc)

*Centella uniflora* (P, T)

*Dichondra* sp. (unnamed; aff. *D. brevifolia*)  
(T, M)

*Drosera arcturi* (T)

*D. binata* (P, T, K)

*D. spathulata* (T, K)

*Epilobium alsinoides* s.s.

*E. atriplicifolium* s.s. (P, K)

*E. cinereum*

*E. cockayneanum* (T, K)

*E. glabellum* s.s. (K) (unc)

*E. insulare* (K)

*E. komarovianum* (T) (unc)

*E. hummulariifolium*

*E. pedunculata* agg. (K) (unc)

*E. tenuipes* s.s.

*E. sp.* (unnamed; included in *E. brunne-*  
*-escens*, as ssp. *minutiflorum*, by  
Raven and Engelhorn 1971) (K) (unc)

*Euphrasia cuneata*

*Forstera bidwillii* (incl. *F. b. var. densifolia*) (P, K)

*Galium perpusillum* s.s. (T) (unc)

*Gentiana ghiszbachii* (T, K, M)

*Geranium* <sup>sp.</sup> (*microphyllum*) (T, K)

*G. potentilloides* var. *potentilloides* (P, T, M)

*G. sessiliflorum* var. *novae-zealandiae* (T)

*Glossostigma elatinooides* (P)

*Gonocarpus aggregatus*

*G. micranthus* ssp. *micranthus*

*Hieracis erecta* ssp. *erecta* (P) (unc)

*Hydrocotyle dissecta* (P) (unc)

*H. heteromelea*

*H. microphylla* (P, T)

*H. moschata* (T, K, M)

*H. novae-zealandiae* s.s. (P)

*H. pterocarpa* (P) (unc)

*H. sulcata* (T) (unc)

*Hypericum japonicum* agg. (T) (unc)

*H. sp.* (unnamed) (T)

*Kelleria dieffenbachii* (P, T, K)

*Lilaeopsis ruthiana* (P, T)

*Liparophyllum gunnii* (T, K)

*Myosotis* sp. (unnamed; aff. *M.*  
*pygmaea*) (T, K) (unc)

*Myriophyllum pedunculatum*  
ssp. *novae-zealandiae* (P, T)

*M. propinquum* (P)

*Nertera ciliata* (P, T, K)

*N. setulosa* (P, T, M) (T, M)

*Oreomyrrhis* sp. (i) (unnamed; aff. *O. ramosa*)  
*O. sp.* (ii) (unnamed; included in *O. colensoi*,  
as var. *delicatula*, by Allan 1961) (T)

*Oreostylidium subulatum* (T) (unc)

*Ourisia macrophylla* ssp. *robusta* (T, K)

*O. vulcanica* (P, T, K)

*O. macrophylla* × *O. vulcanica* (T, K)

*Oxalis exilis* (P, T)

*Patahebe hookeriana* (K, P)

*Plantago raculii* (T) (unc)

*P. triandra* s.s. (T)

*Pratia angulata* agg.

*Ranunculus amphitrichus* (P) (unc on K)

*R. reflexus*



Stackhousia minima (P,T,K)  
Utricularia novae-zelandiae (T)

Viola cunninghamii  
V. filicaulis  
Wahlenbergia albomarginata var.  
pygmaea  
W. tupestris (P,T)

ADVENTIVE SPECIES

SHRUBS

Leycesteria formosa  
Lupinus arboreus  
Pinus contorta  
Rosa rubiginosa  
Ulex europaeus

GRASSES

Agrostis capillaris  
Aira catyophyllea  
Anthoxanthum odoratum  
Festuca atundinacea s.l.  
Hdcus lanatus  
Poa pratensis

RUSHES

Juncus articulatus  
J. effusus  
J. tenuis

COMPOSITE HERBS

Achillea millefolium  
Cirsium arvense  
C. vulgare  
Conyza sp.

(ADVENTIVE SPECIES CONT.)

Crepis capillaris  
Gnaphalium coarctatum  
Hypochoeris radicata  
Mycelis muralis  
Senecio alkinsoniae  
S. jacobaea  
Sonchus asper  
S. oleraceus  
Tataraxacum officinale s.l.

DICOT HERBS (OTHER THAN COMPOSITES)

Centaurium erythraea  
Epilobium ciliatum  
Fragaria vesca  
Galium palustre  
Hypericum sp.  
Linum bienne  
L. catharticum  
Lotus pedunculatus  
Ludwigia palustris  
Parentucellia viscosa  
Plantago lanceolata  
P. sp.  
Prunella vulgaris  
Trifolium pratense  
T. repens

No. of indigenous spp : 366.

No. of adventive spp : 43.

Record not accepted:

Aciphylla squarrosa (Clivet 1956)

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