

# Makatiti Dome revisited

Paul Cashmore

## Introduction

On 19 February 2022, eleven members of Rotorua Botanical Society joined five whanau from Rotoiti 15 Lands Trust for a second field trip to further explore the vegetation and flora of Makatiti Dome, following on from the first successful trip in March 2021. The trip was once again led by Steve Henry who knows this country well, assisted by myself.

The objectives were:

- to head further south to describe and document the indigenous vegetation and flora of new areas of Makatiti Dome Scenic Reserve;
- to learn and share the combined knowledge of this area between Rotoiti 15 trustees, whanau, Hunting Club members and the botanical community.

A brief history of the reserve is given in a previous issue of this newsletter (Cashmore, 2021).

## Vegetation and Flora

We were able to drive in convoy to approximately 860 m asl to a similar spot to where we went last year. However, this time we headed south along the access track with a very brief stop at Lake Rotoroniu to re-examine all the species we saw last year, as there were many new attendees on the trip who did not see this site last year.

The lake level was down somewhat but there was still plenty of water in the lake. Marginal turf species *Glossostigma elatinoides*, *Limosella lineata*, *Elatine gratioloides* and *Myriophyllum pedunculatum* subsp. *novaezelandiae* were noted and debated once again.

Heading south on the access track through more kamahi-(broadleaf-tawari-Hall's totara) forest we noted a few kahikatea (*Dacrycarpus dacrydioides*) saplings growing on or near track edges. Then someone noted a parsley fern (*Botrychium bifforme*) present on a shady bank on the track edge. As we continued south we noted more parsley fern scattered along the track – probably seeing dozens of individuals by the time the day was complete, probably more than any of us have ever seen in one reserve.

As we continued south, slightly dropping in altitude, we reached the tawa-(kamahi) forest described by Clarkson (1986). Mangeao (*Litsea calicaris*) was occasionally present in the canopy and subcanopy. The subcanopy was relatively open with

katote (*Cyathea smithii*), rewarewa (*Knightia excelsa*), ponga (*Cyathea dealbata*), kamahi (*Pterophylla (Weinmannia) racemosa*) and wheki (*Dicksonia squarrosa*) all common. The understorey was dominated by unpalatable species including crown fern/piupiu (*Blechnum discolor*), rewarewa, *Pseudowintera axillaris*, katote, and kiokio (*Blechnum novae-zelandiae*). Here we also noted some of the fern, *Lindsaea trichomanoides* not previously noted in the reserve.

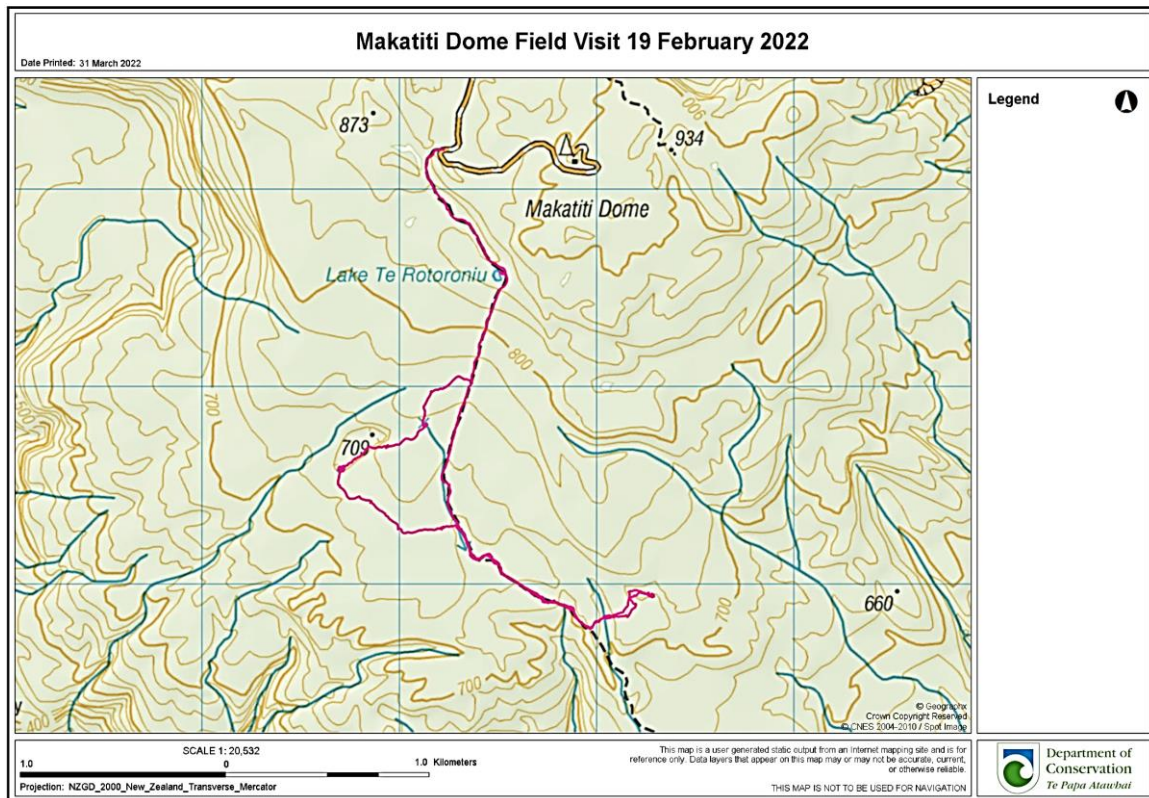


Figure 1. Route taken on 19 Feb 2022.

It was here that the party left the access track and wandered through the undulating open forest until we reached an old clearing at NZTM 1904259 5770943, where we admired the surrounding forest canopy from a distance, noting one large emergent dead tree that may have been a mangeao. One moderate-sized emergent healthy northern rata (*Metrosideros robusta*), surrounded by tawa forest with a big puka (*Griselinia littoralis*) and lemonwood (*Pittosporum eugenioides*), was also noted. This proved to be a nice spot to stop for lunch (Figure 2), and was where the stalked adder's tongue fern (*Ophioglossum coriaceum*) and *Geranium microphyllum*, growing amongst the otherwise dry and bare scoria of the clearing, were seen. After lunch we wandered back into the forest to the base of one of the several large northern rata (Figure 4) to admire its form. This led to a discussion about the age of these trees with consensus that the northern rata and tawa- dominated forest predated the 1886 Tarawera eruption, which Clarkson (1986) also notes.



Figure 2: Lunch under the open tawa forest on the edge of the clearing. Photo: Paul Cashmore

We headed back out to the access track and debated if there was time to head south to the large clearings near the hut. While some were keen most thought that it would take too long and not leave enough time for botanical exploration, so that was left for another day. We headed briefly back north along the access track before heading west off-track following GPS with the aim of locating a small unnamed depression or 'pond' as it is known, shown on the topographical map at NZTM 1902677 5771595, that Steve had visited many times.

We wandered for some time in a westerly then north-westerly direction lead by my GPS. Forest to the west of the access route could largely be described as fairly flattish to gently sloping, with some small gullies leading off the plateau towards Lake Tarawera. This was generally fairly homogenous tall kamahi-(tawari) forest, very open in the subcanopy with mainly katote and ponga present. The understory was relatively open with crown fern/piupiu, *Pseudowintera axillaris*, horopito (*Pseudowintera colorata*), *Hymenophyllum demissum*, and occasional tawa, mangeao, and rewarewa seedlings. Hall's totara (*Podocarpus laetus*) seedlings and saplings were locally present.



Figure 3. Botanists hard at work in the turfs around the 'pond'. Photo: Paul Cashmore

We eventually reached the 'pond' which had a moderate amount of water in it, given recent rain. Steve noted it was normally dry in February and full in winter as it has no natural outflow. While the majority of the party rested and chatted the hard-core botanists excitedly set to work combing through the turfs for any species of interest, as this was the first time that most of us had visited this ephemeral wetland. Species noted in turfs included *Myriophyllum pedunculatum* which was mostly in the water; *Glossostigma elatinoides* and *Limosella lineata* were both common, with occasional *Lobelia angulata*. *Gonocarpus micranthus* was also present further out of water on drier margins. Also noted was *Galium propinquum*, *Hypericum pusillum*, and *Euchiton delicatus*. A small patch of *Schoenus maschalinus* was also found. The wetland was surrounded by forest with some old kanuka (*Kunzea robusta*), Hall's totara, rewarewa, kamahi and a toatoa (*Phyllocladus toatoa*) tree noted.

We left the ephemeral wetland and headed north dropping briefly into a large basin which looked like an old crater (shown on topographical maps as pt 709). Here the topography and vegetation changed. The gently sloping flattish terrain we had been walking through gave way to a large flat basin surrounded by tall cliffs that we could

see to the north and east. The vegetation of the basin was very open with large scattered kanuka trees dominating throughout. The subcanopy and understory were very open with generally only moss present on the forest carpet and a lot of animal tracks. We walked across the basin, eventually finding an animal track that worked its way up a small spur in amongst the bluffs. We followed this up to the top of the bluff back into the surrounding kamahi-dominated forest. Looking down onto the bluffs from above one could see on the cliffs, where browsing ungulates and wallabies could not reach, an abundance of palatable species we hadn't seen all day, such as hangehange (*Geniostoma ligustrifolium*).

From here we headed NE, following my compass through more kamahi-(tawari) forest, which was homogenous and easy-going with a very similar species composition to that noted previously. We aimed to locate what looked like a spring on the map but it came to nothing that we could see. However, those at the tail end of the party did find three of the distinctive blue native toadstools – *Entoloma hochstetteri* or werewere-kokako – growing on the forest floor, which was a highlight.

After lots of wandering purposefully through lots of tall kamahi forest we eventually reached the access track again. As it was now very late afternoon, it was time to do some tramping and head north to the cars. We still kept noting more parsley fern on the way home and also saw a very large mature kahikatea tree at NZTM 1903731 5770916, the source of some of the kahikatea seedlings we had been seeing. I am not sure how I missed this tree on the way south earlier in the day. It was after 5 pm by the time we reached the vehicles and headed back down through the plantation forestry to regroup at Rotoiti Rugby Club. Many farewells and thank yous were exchanged between parties for an excellent day out, where everyone got to see some new places and most of us learnt some new plants.

This botanical survey covered only a very small central part of the reserve. Approximately ten plant species were added to the initial vascular plant species list for the reserve updated last year (Cashmore 2021), one of which was an exotic species. No more significant ecological plant pest species which would be considered a threat to the reserve were noted this year.

### **Summary and Conclusions**

Overall, another successful wananga for all involved was the general consensus for the day. The trip once again provided a good opportunity for Rotorua Botanical Society botanists and Rotoiti 15 whanau to spend time together on the whenua and

share knowledge and ideas, which has been invaluable for all present. Some stories about the past history of the block were also shared, which enriched the learnings for the day.



*Figure 4: Large emergent live northern rata seen near lunch clearing.  
Photo: Paul Cashmore*

## Acknowledgements

Rotorua Botanical Society would like to thank Rotoiti 15 trustees (in particular Kerri Anne Hancock) for organising the trip and allowing access, together with Steve Henry for guiding us on the day, and thank all for sharing their korero with us.

## References

- Cashmore, P.B. 2021. Makatiti Dome field trip. *Rotorua Botanical Society Newsletter* 76:38-47.
- Clarkson, B.D. 1986: Makatiti Dome "Reserve". *Unpublished report*. D.S.I.R., Rotorua.

## Vascular plants of Makatiti Dome Scenic Reserve

Sarah Beadel and Paul Cashmore  
March 2022

### Notes

- Species listed below were observed on 19 February 2022 unless referenced otherwise.
- \* Species first observed in 2022.
- \*\* The plant species list in Clarkson 1986 could not be located in time for publication of this list so all records from Clarkson 1986 were sourced from Cashmore 2021 and/or Jane 2021.

### Indigenous Species

#### Gymnosperms

<i>Dacrycarpus dacrydioides</i>	kahikatea
<i>Dacrydium cupressinum</i>	rimu
<i>Pectinopitys ferruginea</i> (Clarkson 1986 from Cashmore 2021**)	miro
<i>Phyllocladus toatoa</i>	toatoa
<i>Podocarpus laetus</i>	Hall's tōtara

#### Dicot. trees and shrubs

<i>Alseuosmia macrophylla</i> (Clarkson 1986 from Cashmore 2021**, Cashmore 2021)	toropapa, karapapa, matukuroimata
<i>Aristotelia serrata</i>	makomako, wineberry
<i>Beilschmiedia tawa</i>	tawa
<i>Brachyglottis repanda</i>	rangiora
<i>Carpodetus serratus</i>	putaputawētā
<i>Coprosma dumosa</i>	
<i>Coprosma foetidissima</i> (Clarkson 1986 from Cashmore 2021**)	hūpiro
<i>Coprosma grandifolia</i>	kanono, raurēkau, raurākau, manono
<i>Coprosma lucida</i>	karamū, kāramuramu, glossy karamū
<i>Coprosma propinqua</i> var. <i>propinqua</i> (Cashmore 2021)	mingimingi
<i>Coprosma rhamnoides</i>	

<i>Coprosma robusta</i>	karamū, kāramuramu
<i>Coprosma tenuifolia</i>	
<i>Coprosma propinqua</i> × <i>C. dumosa</i>	
<i>Coprosma</i> aff. <i>acerosa</i> ("Volcanic Plateau") (Clarkson 1986 from Cashmore 2021 <sup>**</sup> )	
<i>Coriaria arborea</i> var. <i>arborea</i>	tutu
<i>Corokia buddleioides</i> *	korokio, korokio tārangā
<i>Dracophyllum strictum</i>	tōtorowhiti
<i>Dracophyllum subulatum</i> (Clarkson 1986 from Cashmore 2021 <sup>**</sup> )	monoao
<i>Elaeocarpus dentatus</i>	hīnau, whīnau
<i>Elaeocarpus hookerianus</i> *	pōkākā
<i>Fuchsia excorticata</i>	kōtukutuku, kōnini
<i>Gaultheria antipoda</i>	tāwiniwini, koropuka, takapo, taupuku
<i>Gaultheria oppositifolia</i>	niniwa
<i>Gaultheria paniculata</i>	koropuka
<i>Gaultheria antipoda</i> × <i>G. paniculata</i>	koropuka
<i>Geniostoma ligustrifolium</i> var. <i>ligustrifolium</i>	hangehange
<i>Griselinia littoralis</i> (Cashmore 2021)	kāpuka
<i>Griselinia lucida</i> *	puka
<i>Hedycarya arborea</i> (Cashmore 2021)	porokaiwhiri; pigeonwood
<i>Ixerba brexioides</i>	tāwari
<i>Kunzea robusta</i>	kānuka
<i>Laurelia novae-zelandiae</i> (Clarkson 1986 from Cashmore 2021 <sup>**</sup> )	pukatea
<i>Leptospermum scoparium</i> agg.	mānuka
<i>Leucopogon fasciculatus</i>	mingimingi
<i>Leucopogon fraseri</i>	pātōtara
<i>Litsea calicaris</i>	mangeao
<i>Melicytus ramiflorus</i> subsp. <i>ramiflorus</i>	māhoe
<i>Metrosideros robusta</i>	northern rātā
<i>Myrsine australis</i>	māpou, matipou, māpau
<i>Myrsine salicina</i>	toro
<i>Nestegis cunninghamii</i>	black maire, maire rau nui
<i>Olearia furfuracea</i>	akepiro, tanguru
<i>Olearia rani</i> var. <i>colorata</i>	heketara
<i>Pennantia corymbosa</i>	kaikōmako
<i>Pimelea prostrata</i> (Clarkson 1986 from Cashmore 2021 <sup>**</sup> )	pinātoro
<i>Pittosporum colensoi</i>	rautāwhiri, rautāhiri
<i>Pittosporum eugenioides</i>	tarata; lemonwood
<i>Pomaderris amoena</i>	tauhinu
<i>Pseudopanax arboreus</i>	whauwhaupaku, puahou, five finger
<i>Pseudopanax crassifolius</i>	horoeka, lancewood
<i>Pseudowintera axillaris</i>	horopito
<i>Pseudowintera colorata</i>	mountain horopito
<i>Quintinia serrata</i>	tāwheowheo

<i>Raukawa edgerleyi</i> (Clarkson 1986 from Cashmore 2021 **, Cashmore 2021)	raukawa
<i>Raukawa simplex</i> (Cashmore 2021)	haumangōroa
<i>Schefflera digitata</i>	pate
<i>Veronica stricta</i> var. <i>stricta</i>	koromiko, kōkōmuka
<i>Weinmannia racemosa</i>	kāmahi
<u>Monocot. lianes</u>	
<i>Ripogonum scandens</i>	supplejack, kareao
<u>Dicot. lianes</u>	
<i>Clematis paniculata</i>	puawānanga
<i>Metrosideros diffusa</i>	rātā
<i>Metrosideros fulgens</i>	rātā
<i>Metrosideros perforata</i>	aka
<i>Parsonia capsularis</i>	akakiore
<i>Rubus cissoides</i> agg.	tātārāmoa, tātaraheke, bush lawyer
<i>Rubus schmidelioides</i> var. <i>schmidelioides</i>	tātārāmoa, bush lawyer
<u>Lycopods and psilopsids</u>	
<i>Lycopodium fastigiatum</i>	mātukutuku
<i>Lycopodium scariosum</i>	mātukutuku
<i>Lycopodium volubile</i>	waewaekoukou
<i>Phlegmariurus billardierei</i>	
<i>Tmesipteris elongata</i> (Clarkson 1986 from Cashmore 2021 **, Cashmore 2021)	
<i>Tmesipteris tannensis</i>	
<u>Ferns</u>	
<i>Asplenium bulbiferum</i> (Clarkson 1986 from Cashmore 2021 **)	mouku, hen and chicken fern
<i>Asplenium flaccidum</i>	makawe, ngā makawe o Raukatauri
<i>Asplenium oblongifolium</i> *	huruhuru whenua
<i>Asplenium polyodon</i>	petako
<i>Blechnum chambersii</i>	rereti, nini
<i>Blechnum colensoi</i>	peretao
<i>Blechnum discolor</i>	piupiu, crown fern
<i>Blechnum filiforme</i>	pānako
<i>Blechnum fluviatile</i>	kiwikiwi, kiwakiwa
<i>Blechnum membranaceum</i> (Clarkson 1986 from Cashmore 2021 **)	
<i>Blechnum novae-zelandiae</i>	kiokio
<i>Blechnum penna-marina</i> subsp. <i>alpina</i>	
<i>Blechnum procerum</i>	
<i>Blechnum vulcanicum</i>	korokio
<i>Botrychium biforme</i>	
<i>Cardiomanes reniforme</i>	kidney fern, konehu raurenga, kopakopa
<i>Cyathea dealbata</i>	ponga, silver fern
<i>Cyathea medullaris</i>	mamaku

<i>Cyathea smithii</i>	kātote, soft tree fern
<i>Dicksonia fibrosa</i>	whekī-ponga, kurīpākā
<i>Dicksonia squarrosa</i>	whekī
<i>Diplazium australe</i>	
<i>Grammitis billardierei</i>	paretao
<i>Histiopteris incisa</i>	mātātā, water fern
<i>Hymenophyllum bivalve</i>	mauku, filmy fern
<i>Hymenophyllum demissum</i>	irirangi, piripiri, filmy fern
<i>Hymenophyllum dilatatum</i>	matua mauku, filmy fern
<i>Hymenophyllum flabellatum</i>	mauku, filmy fern
<i>Hymenophyllum frankliniae</i>	mauku, filmy fern
<i>Hymenophyllum multifidum</i>	mauku, filmy fern
<i>Hymenophyllum pulcherrimum</i> (Clarkson 1986 from Cashmore 2021**, Cashmore 2021)	mauku, filmy fern
<i>Hymenophyllum rarum</i>	mauku, filmy fern
<i>Hymenophyllum revolutum</i>	mauku, filmy fern
<i>Hymenophyllum sanguinolentum</i>	piripiri, filmy fern
<i>Hymenophyllum scabrum</i>	mauku, filmy fern
<i>Hypolepis ambigua</i>	
<i>Hypolepis rufobarbata</i> (Clarkson 1986 from Cashmore 2021**)	
<i>Lastreopsis hispida</i> (Clarkson 1986 from Cashmore 2021**)	tuakura
<i>Leptolepia novae-zelandiae</i> (Clarkson 1986 from Cashmore 2021**)	
<i>Leptopteris hymenophylloides</i>	heruheru
<i>Lindsaea trichomanoides</i> *	
<i>Microsorium novae-zelandiae</i> (Clarkson 1986 from Cashmore 2021**)	
<i>Microsorium pustulatum</i>	kōwaowao, pāraharaha, hound's tongue fern
<i>Notogrammitis heterophylla</i>	
<i>Notogrammitis pseudociliata</i>	
<i>Notogrammitis angustifolia</i> subsp. <i>nothofaeti</i>	
<i>Ophioglossum coriaceum</i>	
<i>Paesia scaberula</i>	mātātā
<i>Pneumatopteris pennigera</i>	pākau
<i>Polystichum silvaticum</i> *	
<i>Polystichum vestitum</i>	pūniu, prickly shield fern
<i>Pyrrhosia elaeagnifolia</i>	leather-leaf fern
<i>Rumohra adiantiformis</i>	karuwai
<i>Trichomanes venosum</i>	

### Orchids

<i>Corybas oblongus</i> (Clarkson 1986 from Cashmore 2021**)
<i>Corybas rivularis</i> (Clarkson 1986 from Cashmore 2021**)
<i>Corybas trilobus</i>
<i>Dendrobium cunninghamii</i> *

<i>Earina autumnalis</i>	raupeka
<i>Earina mucronata</i>	peka-a-waka
<i>Microtis unifolia</i> agg.*	
<i>Orthoceras novae-zeelandiae</i> ? (Clarkson 1986 from Cashmore 2021**)	māikaika
<i>Pterostylis banksii</i> (Clarkson 1986)	tutukiwi
<i>Thelymitra longifolia</i> *	
<u>Grasses</u>	
<i>Austroderia fulvida</i>	toetoe
<i>Deschampsia chapmanii</i>	
<i>Deyeuxia avenoides</i>	
<i>Deyeuxia quadriseta</i>	
<i>Dichelachne crinita</i> *	plume grass
<i>Lachnagrostis filiformis</i>	
<i>Microlaena avenacea</i>	bush rice grass
<i>Poa breviglumis</i>	
<i>Poa cita</i> s.l. (Clarkson 1986 from Cashmore 2021**)	silver tussock
<i>Rytidosperma gracile</i>	
<u>Sedges</u>	
<i>Carex breviculmis</i>	
<i>Carex dissita</i> (Clarkson 1986 from Cashmore 2021**)	
<i>Carex healyi</i> (Cashmore 2021)	matau
<i>Carex imbecilla</i> (Clarkson 1986 from Cashmore 2021**, Cashmore 2021)	matau
<i>Carex secta</i>	pūrei, makura, pūreirei, pūrekireki, pūkio
<i>Carex solandri</i> (Cashmore 2021)	
<i>Carex testacea</i> (Clarkson 1986 from Cashmore 2021**, Cashmore 2021)	
<i>Carex uncinata</i>	kamu matau a Maui, kamu
<i>Carex virgata</i>	pūrei
<i>Carex zotovii</i>	matau
<i>Eleocharis sphacelata</i>	giant spike sedge, ngāwhā, kuta, kutakuta, paopao
<i>Gahnia setifolia</i>	māpere
<i>Isolepis habra</i>	
<i>Morelotia affinis</i>	
<i>Schoenus maschalinus</i>	
<u>Rushes</u>	
<i>Juncus edgariae</i>	wi, wīwī
<u>Monocot. herbs</u> (other than orchids, grasses, sedges, and rushes)	
<i>Astelia fragrans</i> (Cashmore 2021)	kakaha
<i>Astelia microsperma</i>	
<i>Astelia solandri</i>	kōwharawhara

*Libertia micrantha* (Clarkson 1986 from  
Cashmore 2021\*\*, Cashmore 2021)  
*Potamogeton suboblongus* (Clarkson 1986 from  
Cashmore 2021\*\*) rerewai

Composite herbs

*Euchiton delicatus*  
*Euchiton limosus* (Cashmore 2021)  
*Lagenifera pumila* papataniwhaniwha  
*Pseudognaphalium luteoalbum* agg. pukatea  
*Raoulia albosericea* (Clarkson 1986 from  
Cashmore 2021\*\*)   
*Raoulia glabra* (Clarkson 1986 from  
Cashmore 2021\*\*, Cashmore 2021)  
*Raoulia tenuicaulis* (Clarkson 1986 from  
Cashmore 2021\*\*, Cashmore 2021) tatahuna  
*Senecio minimus* (Clarkson 1986 from  
Cashmore 2021\*\*)

Dicot. herbs (other than composites)

*Acaena anserinifolia* piripiri, hutiwai  
*Acaena microphylla*  
*Acaena novae-zelandiae* piripiri  
*Callitriche petriei* subsp. *petriei*  
*Cardamine* sp.  
*Crassula* sp.  
*Elatine gratioloides*  
*Epilobium alsinoides* subsp. *alsinoides*  
*Epilobium brunnescens* subsp. *brunnescens*  
*Epilobium cinereum\** papakoura  
*Epilobium komarovianum*  
*Epilobium pedunculare*  
*Epilobium pernitens* (Clarkson 1986 from  
Cashmore 2021\*\*, Cashmore 2021)  
*Epilobium tenuipes* (Clarkson 1986 from  
Cashmore 2021\*\*)   
*Galium perpusillum* ? (Clarkson 1986 from  
Cashmore 2021\*\*)   
*Galium propinquum* (Clarkson 1986 from  
Cashmore 2021\*\*) mawe  
*Geranium brevicaule*  
*Geranium microphyllum* (Clarkson 1986 from  
Cashmore 2021\*\*, Cashmore 2021)  
*Glossostigma elatinoides*  
*Gonocarpus micranthus* piripiri  
*Hydrocotyle heteromeria*  
*Hydrocotyle microphylla*  
*Hydrocotyle moschata*  
*Hypericum pusillum*

<i>Limosella lineata</i>	mudwort
<i>Lobelia angulata</i>	pānakenake
<i>Myriophyllum pedunculatum</i> subsp. <i>novae-zelandiae</i>	
<i>Nertera depressa</i>	
<i>Nertera villosa</i> *	
<i>Oxalis exilis</i>	
<i>Ranunculus reflexus</i>	maruru
<i>Stellaria parviflora</i>	kohukohu
<i>Urtica sykesii</i>	

### **Naturalised and exotic species**

#### Dicot. trees and shrubs

<i>Cotoneaster glaucophyllus</i> (Cashmore 2021)	cotoneaster
<i>Erica lusitanica</i>	Spanish heath
<i>Salix cinerea</i> (Cashmore 2021)	grey willow
<i>Ulex europaeus</i>	gorse

#### Grasses

<i>Agrostis capillaris</i> (Cashmore 2021)	browntop
<i>Aira caryophyllea</i> subsp. <i>caryophyllea</i> (Cashmore 2021)	silver hairy grass
<i>Rytidosperma racemosum</i>	danthonia

#### Rushes

<i>Juncus tenuis</i> var. <i>tenuis</i>	track rush
---	------------

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

<i>Lagarosiphon major</i>	lagarosiphon
---------------------------	--------------

#### Composite herbs

<i>Carduus nutans</i> (Clarkson 1986 from Cashmore 2021**)	nodding thistle
<i>Cirsium arvense</i>	Californian thistle
<i>Cirsium vulgare</i>	Scotch thistle
<i>Crepis capillaris</i>	hawksbeard
<i>Erigeron sumatrensis</i>	broad-leaved fleabane
<i>Hypochaeris radicata</i>	catsear
<i>Mycelis muralis</i>	wall lettuce
<i>Sonchus oleraceus</i> (Cashmore 2021)	puha, sow thistle

#### Dicot. herbs (other than composites)

<i>Callitriche stagnalis</i>	starwort
<i>Centaureum erythraea</i>	centaury
<i>Cerastium arvense</i>	field chickweed
<i>Digitalis purpurea</i> *	foxglove
<i>Lotus pedunculatus</i>	lotus
<i>Lysimachia arvensis</i> subsp. <i>arvensis</i>	scarlet pimpernel
<i>Prunella vulgaris</i>	selfheal

<i>Rumex acetosella</i>	sheep's sorrel
<i>Sagina apitata</i>	
<i>Sagina procumbens</i>	pearlwort
<i>Solanum nigrum</i>	black nightshade
<i>Veronica serpyllifolia</i>	turf speedwell

### **References**

- Cashmore P. 2021: Makatiti Dome field Trip. *Rotorua Botanical Society Newsletter No. 76, June 2021*: 38-44.
- Clarkson B.D. 1986: Makititi Dome "Reserve". *Unpublished report*. DSIR, Rotorua. Copy held on Department of Conservation File RSC-011. 3 p.
- Jane, G. 2021: Makatiti Dome summit area – species list. *Rotorua Botanical Society Newsletter No. 76, June 2021*: 45-47.

## **Botanical Societies Journals and Bulletins**

There is considerable New Zealand botanical information, available to all, online at sites such as NZPCN (<https://www.nzpcn.org.nz/>) and iNaturalist (<https://inaturalist.nz/>). In addition, the larger botanical societies produce journals that include reports of field trips and other botanical articles from members, as Rotorua Botanical Society does. Some are digital only, distributed to members, and a few produce printed copies. Each Society has its own style, and they contain a lot of valuable, interesting articles on a range of topics.

In exchange for copies of the Rotorua Botanical Society newsletter, the Rotorua Botanical Society receives printed copies of bulletins and journals from some other NZ botanical societies, and these are stored at the National Forestry Herbarium. Currently, printed copies, annual or more frequent, of the following publications are received: NZ Botanical Society Newsletter; Auckland Botanical Society Journal; Canterbury Botanical Society Journal; Wellington Botanical Society Bulletin. RBS members can access these by contacting the Secretary to arrange a visit.