

A BOTANICAL FORAY INTO THE TIKITERE FOREST GEOTHERMAL AREAS

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After an extensive Health and Safety briefing, required by the forest management company's security service, followed by a more relevant (to most) briefing on the dangers of entering geothermally active environments, and complete with anecdotes of the unfortunate experiences in Tikitere Forest of a friend and Rotorua Botanical Society member, we set off down a road through pine forest. After 500 m or so we left the vehicles and entered the forest and headed in a north-easterly direction towards the first geothermal site.

The understory vegetation was fairly sparse comprising mainly ferns and treeferns with occasional blackberry (*Rubus fruticosus*) and inkweed (*Phytolacca octandra*) and konono (*Coprosma grandifolia*). This was fairly typical of the vegetation within the pine forest throughout the day. The first sign that we were getting close to a thermal area was the occurrence of *Hypolepis distans*, then dropping down through quite dense soft mingmingi (*Leucopogon fascicularis*) we emerged on to an area of sinter with several steaming vents scattered through it. No stand out thermal vegetation gems were observed here so we moved on passing across a slight gully, encountering some swamp coprosma (*C. tenuicaulis*) which instigated discussion as to its identity and samples were collected for confirmation. Typically this species is more common in swampy ground but the thermal contribution of steam to the ground cover was favourable to its presence. Several hardwood species occurred in an open part of the pine forest, including mangeao (*Litsea calicularis*) and pigeonwood (*Hedycarya arborea*). The next thermal area was bordered in part by close-cropped narrow-leaved carpet grass (*Axonopus fissifolius*) shaded by fuchsia (*Fuchsia excorticata*), harakeke (flax; *Phormium tenax*), and bracken (*Pteridium esculentum*). This area was very similar to the previous area so we moved on to a power line access track and stopped to observe the exotic contributions (debris and vegetation) to the local environment.

Back to the vehicles, we headed down the road towards the Ruahine Springs where we were again reminded of the dangers of thin-crust thermal ground. This was a fairly dangerous area with no obvious thermal vegetation gems close at hand and as it was closing on mid-day we had lunch.

In the afternoon we drove down Tumoana Road, parked at a convenient spot then walked along a forestry track where the presence of more swamp coprosma elicited further debate, as this was a relatively well-drained site. Further along, at a thermal stream, we gathered and walked upstream along the stream bank (along a rough access track) till we came to a point where, due to the topography, the septuagenarians decided to stop and botanise, and let the rest of the party go to the end of the track. The septuagenarians found some Vasey grass (*Paspalum urvilleana*), snowberry (*Gaultheria oppositifolia*), *Nertera depressa*, and turutu (*Dianella nigra*), whereas the geothermal area at the end of the track comprised similar vegetation to previously inspected geothermal areas.

Back at the vehicles and returning up Tumoana Road, we stopped above another thermal area. Some decided to investigate the valley floor where there were wetland areas comprising *Hypolepis distans*, *Machaerina rubiginosa*, and bracken, with local *H. ambigua*, *M. teretifolia*, and patches of mānuka. The rest inspected the high roadside bank discovering some parasol fern (*Gleichenia microphylla*), scrambling clubmoss (*Lycopodium volubile*) and a specimen of what appeared to be a hybrid between pig fern and *Hypolepis distans*, and this was vouchered as such in the National Forestry Herbarium (Scion) as *Hypolepis ambigua* × *H. distans* (NZFRI 30600).

A final stop further up the road produced two species not seen earlier, one native - arching club moss (*Lycopodiella cernua*), and one pest plant - heather (*Calluna vulgaris*).

A good day out. It is always interesting to go into “forestry areas” to see what is behind the locked gates that we often drive past every day!

SPECIES LIST FOR TIKITERE FOREST, LAKE ROTOITI

John F. F. Hobbs 11 June 2016

* = naturalised species

Ferns and Fern Allies

<i>Asplenium flaccidum</i> subsp. <i>flaccidum</i>	hanging spleenwort, makawe
<i>Asplenium oblongifolium</i>	shining spleenwort, huruhuruwhenua
<i>Asplenium polyodon</i>	sickle spleenwort, petako
<i>Blechnum novae-zelandiae</i>	kiokio
<i>Cyathea cunninghamii</i>	gully tree fern, ponga
<i>Cyathea dealbata</i>	silver fern, ponga
<i>Cyathea medullaris</i>	black tree fern, mamaku
<i>Dicksonia fibrosa</i>	wheki-ponga
<i>Dicksonia squarrosa</i>	harsh tree fern, wheki
<i>Diplazium australe</i>	southern ladyfern
<i>Gleichenia microphylla</i>	parsol fern, waewaekaka
<i>Histiopteris incisa</i>	water fern, matata
<i>Hypolepis ambigua</i>	pig fern
<i>Hypolepis ambigua</i> × <i>H. distans</i>	
<i>Hypolepis distans</i>	
<i>Lycopodiella cernua</i>	arching clubmoss
<i>Lycopodium volubile</i>	scrambling clubmoss, waewaekoukou
<i>Microsorium pustulatum</i> subsp. <i>pustulatum</i>	hound's tongue fern, kawaowao
<i>Paesia scaberula</i>	lace fern, matata
<i>Pteridium esculentum</i>	bracken, rahurahu

Gymnosperms

* *Pinus radiata* radiata pine

Dicotyledons

* <i>Achillea millefolium</i>	yarrow
<i>Aristolelia serrata</i>	wineberry, makomako
* <i>Calluna vulgaris</i>	heather
* <i>Cirsium vulgare</i>	Scotch thistle
* <i>Conium maculatum</i>	hemlock
<i>Coprosma grandifolia</i>	large-leaved coprosma, kanono
<i>Coprosma robusta</i>	karamu

<i>Coprosma tenuicaulis</i>	swamp coprosma, hukihuki
* <i>Cucumis sativa</i>	apple cucumber
* <i>Cytisus scoparius</i>	broom
* <i>Digitalis purpurea</i>	foxglove
* <i>Erigeron sumatrensis</i>	broad-leaved fleabane
<i>Fuchsia excorticata</i>	tree fuchsia, kotukutuku
* <i>Galium aparine</i>	cleavers
<i>Gaultheria antipoda</i>	snowberry, tawiniwini
<i>Gaultheria oppositifolia</i>	kama
<i>Geniostoma ligustrifolium</i> var. <i>ligustrifolium</i>	hangehange
<i>Hedycarya arborea</i>	pigeonwood, porokaiwhiri
* <i>Hydrangea macrophylla</i>	hydrangea
<i>Hydrocotyle moschata</i>	hairy pennywort
* <i>Juglans ailantifolia</i>	Japanese walnut
<i>Kunzea tenuicaulis</i>	prostrate kanuka
* <i>Lamium galeobdolon</i>	aluminium plant
<i>Leptospermum scoparium</i>	teatree, manuka
<i>Leucopogon fasciculatus</i>	soft mingimingi
<i>Litsea calicaris</i>	mangeao
<i>Melicytus ramiflorus</i> subsp. <i>ramiflorus</i>	whiteywood, mahoe
<i>Muehlenbeckia australis</i>	pohuehue
* <i>Myosotis arvensis</i>	field forget-me-not
<i>Nertera depressa</i>	stinky nertera
<i>Olearia traversiorum</i> (planted)	Chatham Island akeake
* <i>Phytolacca octandra</i>	inkweed
* <i>Prunus serrulata</i>	Japanese hill cherry
<i>Pseudopanax arboreus</i>	five finger, whaupaku
* <i>Quercus robur</i>	English oak
* <i>Ranunculus repens</i>	creeping buttercup
* <i>Rubus fruticosus</i> agg.	blackberry
* <i>Rumex acetosella</i>	sheep's sorrel
* <i>Rumex obtusifolius</i>	broad-leaved dock
* <i>Rumex pulcher</i>	fiddle dock
* <i>Salix cinerea</i>	grey willow
<i>Schefflera digitata</i>	seven-finger, pate
* <i>Sonchus oleraceus</i>	sow thistle, puha
* <i>Ulex europaeus</i>	gorse
<i>Weinmannia racemosa</i>	kamahi

Monocotyledons

* <i>Agapanthus praecox</i> subsp. <i>orientalis</i>	pixie cap orchid
<i>Austroderia fulvida</i>	toetoe
* <i>Axonopus fissifolius</i>	narrow-leaved carpet grass
<i>Carex geminata</i>	cuttly grass, rautahi

<i>Carex maorica</i>	Maori sedge
<i>Cordyline banksii</i>	forest cabbage tree, ti ngahere
* <i>Cortaderia selloana</i>	pampas
* <i>Dactylis glomerata</i>	cocksfoot
<i>Dianella nigra</i>	blueberry, turutu
* <i>Hedychium gardnerianum</i>	Kahili ginger
* <i>Holcus lanatus</i>	Yorkshire fog
<i>Juncus edgariae</i>	Edgar's rush, wiwi
<i>Machaerina rubiginosa</i>	common twig-rush
* <i>Miscanthus nepalensis</i>	Himalayan fairy grass
* <i>Paspalum dilatatum</i>	paspalum
* <i>Paspalum urvillei</i>	Vasey grass
<i>Phormium tenax</i>	flax, harakeke
* <i>Tradescantia fluminensis</i>	tradescantia