

## Puaiti Bush Scenic Reserve, Atiamuri field trip

Paul Cashmore

Puaiti Bush Scenic Reserve is a 54 ha DOC-administered reserve visible from Te Kopia Rd and not far in a straight line from the much larger and better known Te Kopia Scenic Reserve. Puaiti Bush is surrounded by farmland on all sides with access through the farm race along an unmarked public right of way. Hence the reserve is seldom visited.

The original botanical survey was a brief report and species list by Dave King in 1984 (King 1984). RBS has only visited this reserve once before with Barry Spring Rice on 5 October 1997 soon after he had surveyed the block as part of his work on the Atiamuri Ecological District PNA report. Interestingly, from researching the original Lands and Survey Department file on this block it appears that it was an area of indigenous forest that survived when the surrounding vegetation was cleared around 1959 as it was adjoining the old Puaiti Homestead (now long gone with no trace). With this background in mind this presented a perfect opportunity for another look at this seldom botanised reserve.

Sunday 8 March 2020 was a nice sunny day attracting seven botanists, both local and from as far away as Hamilton for this joint Rotorua and Waikato Botanical Society trip. We headed up the farm access, parked up and headed into the forest in the north-eastern corner of the reserve proceeding south in a clockwise direction around the reserve following the boundary fence.

The forest along this section was rewarewa-mangeao forest with a subcanopy dominated by mahoe (*Melicytus ramiflorus*), pate (*Schefflera digitata*), and tree ferns - wheki (*Dicksonia squarrosa*) and ponga (*Cyathea dealbata*). Supplejack (*Ripogonum scandens*) was common in patches. Of note was a relative abundance of good-sized healthy tree fuschia (*Fuschia excorticata*) throughout. The understorey was relatively open with wheki, gully fern (*Pneumatopteris pennigera*), hen and chicken fern (*Aplenium bulbiferum*), mahoe and *Lastreopsis microsora* common in the understorey. It wasn't long before we came across the only area of the reserve with significant weed infestations present – namely hops (*Humulus lupulus*) (Figure 1), with local patches of Japanese honeysuckle (*Lonicera japonica*) surrounding a large patch of bamboo (*Pseudosasa japonica*). These were probably planted remnants from the original Puaiti homestead which was in the vicinity for many years until the late 1950s. Also noted in the understorey on forest edges here were scattered plants of male fern (*Dryopteris filix-mas*). Of note was a moderate-

sized regenerating rimu (*Dacrydium cupressinum*) and a large old cabbage tree (*Cordyline australis*) on the edge of the clearing. No sign was seen of the kiwifruit (*Actinidia chinensis* var. *deliciosa*) plant recorded previously in this area.

Half the party continued south through more rewarewa-mangao forest until the SE corner of the reserve was reached. The other half of the party got separated and headed inland. The group that split from the main bulk went up a low ridge to the north. Several ferns were noted that were not seen by the others. These included a small epiphytic *Blechnum vulcanicum*, *Hymenophyllum revolutum* and *Trichomanes venosum* growing on tree ferns. Just into the bush from the hop patch several species of *Polystichum* were observed and collected for later identification. The highlight for this group was the finding of a rather large tree (some 70 cm in diameter) which because of its pale vertically grooved bark was initially thought to be a hinau, however, as there were numerous horizontal grooves in the ridges and lack of hinau leaves around the base of the tree further reconsideration was required. Inspection of the trunk revealed a small epicormic branchlet (well out of reach) with narrow ovate leaves and maire (*Nestegis*) came mind. Several leaves were gathered for identification when the groups got together again, and the conclusion was reached that it was white maire (*Nestegis lanceolata*).



Figure 1: An impressive hops infestation on the eastern boundary of the reserve



*Figure 2: Large mahoe dominate the gully near the southern boundary of the reserve.*

The other party following the fenceline headed west through more relatively open forest, soon reaching a gully dominated by large old mahoe trees in the canopy (*Figure 2*). Although we were still in drought conditions with the surrounding pasture very dry there was clear evidence that the gully had very recently run with water as a clear flow path could be seen through the mahoe leaves on the ground. Our group decided to follow the gully up as the walking was relatively easy and the botanising looked potentially more interesting than following the fenceline any further. The entire gully was dominated by mahoe-pate forest with pate, wheki and katote (*Cyathea smithii*) in the subcanopy. Ferns were dominant in the understorey, especially gully fern, hen and chickens fern, nini (*Blechnum chambersii*) and *Lastreopsis microsora*. Several of the party scrambled up the side of the gully into a windfall clearing to confirm the identity of a patch of poroporo (*Solanum aviculare*). After following this gully for some distance the gully forked and we decided it was time to head uphill back to the farm boundary to find a spot for some lunch. We soon reached the fenceline and found a small area in the forest for lunch, only to discover later than we weren't very far away from an active wasp nest!

With still no sign of the other party we decided after lunch to jump the fence and walk along the western reserve boundary in the paddocks so we could cover a bit more ground. We soon crossed one large gully that ran into the reserve. The forest along this margin was still dominated by rewarewa emergent over younger mangaeo (*Litsea calicaris*) and mahoe canopy. The latter two species dominated the canopy in the gully. We lingered on some large kamahi (*Weinmannia racemosa*) in the paddock noting some *Drymoanthus adversus* present on the trunks. A ridge of kamahi-dominated forest running eastwards was also noted at one point.

With not much of significance along the fenceline edge, we continued to the top of the hill to finally come across the other half of the party eating their lunch in the paddock. Relieved to have everyone back together, we surveyed the remainder of the western boundary of the reserve from our vantage point (*Figure 3*).

From here we noted two large wilding radiata pine (*Pinus radiata*) within the reserve – one near us, and the other out on the far north-western boundary of the reserve in the distance. The northern part of the reserve appeared to be strongly dominated by rewarewa forest throughout (*Figure 4*), although we could see some occasional mangaeo and mahoe in the canopy in a few places. We made the decision not to venture further into that area, instead following the fenceline to the corner.



*Figure 3: View across western boundary of the reserve looking east.*

There were signs of an old farm track heading off downhill towards the east. It appeared not to have been used for sometime as it was a mixture of clearings dominated by rank grassland, blackberry and fernland and areas of indigenous shrubland. Before we jumped back across the fence and into the reserve a large emergent tree towering above the canopy half-way up the ridge in front of us caught our attention. Debate over miro (*Prumnopitys ferruginea*) or perhaps a different podocarp tempted us to bush crash up the slope for a closer look.



Figure 4: The NW section of reserve dominated by rewarewa forest

The vegetation on this face is much younger than the remainder of the reserve, with a low canopy of 5-8 m height in many places. The face is dominated by mangeo-kanono-pigeonwood-mahoe forest and scrub. Tree fuschia and tree ferns are common throughout. The subcanopy is comprised of the same species. The understorey is dominated by kanono (*Coprosma grandifolia*) and fern species – gully fern, hen and chicken fern and nini were noted most commonly.

After much searching, we finally found the tree – a large old miro. Those compiling the plant species list were justly rewarded with a good range of epiphytes present including puka (*Griselinia lucida*) and the perching orchid *Earina mucronata*. One

other large emergent tree was noted in the area which turned out to be a tawa (*Beilschmiedia tawa*).

The group headed downhill into the gully where pate again became more common. We broke out of the forest back into a clearing on the old farm track with mostly rank grass only to discover several of us had walked through a wasp nest. A quick retreat back into the forest allowed a lucky escape for all. We made our way downhill through another clearing with an unhealthy abundance of wasps until we soon saw the pasture and fenceline on the eastern side of the reserve. The reserve is at its narrowest here.

Turning in a southerly direction we started heading back along the reserve boundary in the direction of the cars. Most had seen enough forest and opted to rest and walk along the forest edge on the farmland again. We were soon out of the younger forest and back into the larger more open rewarewa-mangeao forest present throughout most of the remainder of the reserve. A small hardcore group stayed in the forest away from the hot sun and walked parallel with the farm walkers.

The few who stayed in the forest were soon surprised to pick up an old farm track/logging road which was wide and able to be easily followed, benched along the face heading in the direction we wanted to go. We continued to follow this back to near the cars, stopping to admire one very large mangeao tree right beside the track. The group then reassembled back at the cars, satisfied with the day's exploration but still leaving further areas of the reserve to be explored in the future. Of particular note was the absence of any animal sign in the reserve. The understorey was in a relatively healthy condition with palatable species such as kanono, pate and hen and chicken fern in abundance. No browsing or rooting from deer or pigs, which are all present in the area, was noted. No sign of cattle within the reserve was seen and no significant possum damage was noted, which was very pleasing to see. The farm manager did comment to me that trappers had been in the reserve in recent years and removed a large number of possums and there had been some follow-up trapping, which seemed to have benefited the reserve. The abundance, size and health of tree fuschia in particular was noticeable throughout much of the reserve, probably reflecting the low browser numbers.

## References

King, D.R. 1984: Botanical survey of Puaiti Scenic Reserve. *Unpublished Report*. D.S.I.R., Rotorua. 5 p.

## Puaiti Bush Scenic Reserve, Atiamuri species list

Graeme Jane and Gael Donaghy

Compiled from observations by:

D King (1984); B Spring-Rice (29-11-1994); B Spring-Rice & RBS (1997);  
and RBS (8-3-2020).

Map: BF37 Grid Ref: 1876880 5742950

**Key:** x = recorded by Spring-Rice (1994 – very similar to King’s list) and RBS (2020);

1 = recorded by King (1984) and RBS (2020) (– not by Spring-Rice;

2 = first recorded by RBS (2020);

\* = naturalised species.

### Gymnosperm trees and shrubs

|     |                               |                        |
|-----|-------------------------------|------------------------|
| x   | <i>Dacrydium cupressinum</i>  | rimu, red pine         |
| x * | <i>Pinus radiata</i>          | Monterey pine; radiata |
| x   | <i>Prumnopitys ferruginea</i> | miro; brown pine       |
| x   | <i>Prumnopitys taxifolia</i>  | matai; black pine      |

### Monocotyledonous trees and shrubs

|   |                            |                                 |
|---|----------------------------|---------------------------------|
| x | <i>Cordyline australis</i> | cabbage tree; ti-kouka          |
| x | <i>Cordyline banksii</i>   | forest cabbage tree; ti ngahere |

### Dicotyledonous trees and shrubs

|     |                                                             |                            |
|-----|-------------------------------------------------------------|----------------------------|
| x   | <i>Aristotelia serrata</i>                                  | wineberry; makomako        |
| x   | <i>Beilschmiedia tawa</i>                                   | tawa                       |
| 2 * | <i>Berberis glaucocarpa</i>                                 | barberry                   |
| x   | <i>Brachyglottis repanda</i>                                | rangiora; bushman’s friend |
| x * | <i>Buddleja davidii</i>                                     | summer lilac; buddleia     |
| x   | <i>Carpodetus serratus</i>                                  | putaputaweta; marbleleaf   |
| x   | <i>Coprosma grandifolia</i>                                 | raurekau; kanono; mamono   |
| x   | <i>Coprosma lucida</i>                                      | karamu; shining karamu     |
| x   | <i>Coprosma robusta</i>                                     | karamu                     |
| x   | <i>Coriaria arborea</i> var. <i>arborea</i>                 | tree tutu                  |
| x * | <i>Cytisus scoparius</i>                                    | broom                      |
| x   | <i>Elaeocarpus dentatus</i> var. <i>dentatus</i>            | hinau                      |
| x   | <i>Fuchsia excorticata</i>                                  | fuchsia; kotukutuku        |
| x   | <i>Gaultheria antipoda</i>                                  | snowberry; tawiniwini      |
| x   | <i>Geniostoma ligustrifolium</i> var. <i>ligustrifolium</i> | hangehange; privet         |
| x   | <i>Griselinia lucida</i>                                    | puka                       |
| x   | <i>Hebe stricta</i> var. <i>stricta</i>                     | koromiko                   |

|   |                                                    |                           |
|---|----------------------------------------------------|---------------------------|
| x | <i>Hedycarya arborea</i>                           | pigeonwood; porokaiwhiri  |
| x | <i>Knightia excelsa</i>                            | rewarewa; NZ honeysuckle  |
| 2 | <i>Kunzea robusta</i>                              | kanuka                    |
| x | <i>Litsea calicaris</i>                            | mangeo                    |
| x | <i>Melicytus ramiflorus</i> ssp. <i>ramiflorus</i> | mahoe                     |
| x | <i>Myrsine australis</i>                           | red matipo; mapou         |
| x | <i>Nestegis cunninghamii</i>                       | black maire               |
| 2 | <i>Nestegis lanceolata</i>                         | white maire               |
| x | <i>Piper excelsum</i> ssp. <i>excelsum</i>         | kawakawa; pepper tree     |
| x | <i>Pittosporum eugenoides</i>                      | lemonwood; tarata         |
| x | <i>Pittosporum colensoi</i>                        | black matipo; kohuhu      |
| 2 | <i>Pittosporum tenuifolium</i>                     |                           |
| x | <i>Pseudopanax arboreus</i>                        | five-finger; whauwhaupaku |
| x | <i>Pseudopanax crassifolius</i>                    | lancewood; horoeaka       |
| 2 | <i>Raukawa edgerleyi</i>                           | raukawa                   |
| x | <i>Schefflera digitata</i>                         | pate; patae; kotete       |
| x | <i>Solanum aviculare</i> var. <i>aviculare</i>     | poroporo                  |
| x | <i>Weinmannia racemosa</i>                         | kamahi; towai; tawhero    |

#### Monocotyledonous lianes

|   |                           |                    |
|---|---------------------------|--------------------|
| x | <i>Ripogonum scandens</i> | supplejack; kareao |
|---|---------------------------|--------------------|

#### Dicotyledonous lianes and related trailing plants

|     |                                                    |                                 |
|-----|----------------------------------------------------|---------------------------------|
| x * | <i>Actinidia chinensis</i> var. <i>deliciosa</i>   | kiwi fruit; Chinese gooseberry  |
| x   | <i>Clematis paniculata</i>                         | clematis; puawhananga           |
| x * | <i>Humulus lupulus</i> var. <i>lupulus</i>         | hop                             |
| x * | <i>Lonicera japonica</i>                           | Japanese honeysuckle            |
| x   | <i>Metrosideros diffusa</i>                        | white climbing rata; akatea     |
| x   | <i>Metrosideros perforata</i>                      | aka; small white rata; torotoro |
| x   | <i>Muehlenbeckia australis</i>                     | pohuehue                        |
| x   | <i>Parsonsia capsularis</i> var. <i>capsularis</i> | small flowered jasmine; akakior |
| 2   | <i>Parsonsia heterophylla</i>                      | Māori jasmine; kaihu; kaiwhiria |
| x   | <i>Passiflora tetrandra</i>                        | passionfruit; kohia             |
| x   | <i>Rubus cissoides</i>                             | bush lawyer; tataramoa          |
| x * | <i>Rubus fruticosus</i> agg.                       | blackberry                      |

#### Psilopsids, Lycopods & Quillworts

|   |                               |                   |
|---|-------------------------------|-------------------|
| x | <i>Lycopodium fastigiatum</i> | mountain clubmoss |
|---|-------------------------------|-------------------|

#### Ferns

|   |                              |                            |
|---|------------------------------|----------------------------|
| x | <i>Adiantum cunninghamii</i> | maiden hair fern           |
| x | <i>Asplenium bulbiferum</i>  | hen-and-chickens fern      |
| x | <i>Asplenium flaccidum</i>   | hanging spleenwort; makawe |

|     |                                                             |                                    |
|-----|-------------------------------------------------------------|------------------------------------|
| x   | <i>Asplenium oblongifolium</i>                              | shining spleenwort                 |
| x   | <i>Asplenium polyodon</i>                                   | sickle spleenwort; petako          |
| x   | <i>Blechnum chambersii</i>                                  | nini; lance fern                   |
| 2   | <i>Blechnum deltoides</i>                                   |                                    |
| x   | <i>Blechnum discolor</i>                                    | crown fern; piupiu; petipeti       |
| x   | <i>Blechnum filiforme</i>                                   | climbing hard fern; thread fern    |
| x   | <i>Blechnum fluviatile</i>                                  | kiwakiwa; kiwikiwi                 |
| x   | <i>Blechnum novae-zelandiae</i>                             | kiokio                             |
| x   | <i>Cyathea cunninghamii</i>                                 | slender tree fern; gully tree fern |
| x   | <i>Cyathea dealbata</i>                                     | ponga; silver fern                 |
| x   | <i>Cyathea medullaris</i>                                   | mamaku; korau; black tree fern     |
| x   | <i>Cyathea smithii</i>                                      | soft-leaved tree fern; katote      |
| 1   | <i>Dicksonia fibrosa</i>                                    | wheki-ponga; kuripaka              |
| x   | <i>Dicksonia squarrosa</i>                                  | wheki; harsh tree fern             |
| x   | <i>Diplazium australe</i>                                   |                                    |
| 2 * | <i>Dryopteris filix-mas</i>                                 | male fern                          |
| x   | <i>Histiopteris incisa</i>                                  | water fern                         |
| 2   | <i>Hymenophyllum demissum</i>                               | piripiri; irirangi                 |
| 2   | <i>Hymenophyllum dilatatum</i>                              | lop-sided filmy fern               |
| 2   | <i>Hymenophyllum flabellatum</i>                            | fan fern                           |
| x   | <i>Hymenophyllum nephrophyllum</i>                          | kidney fern; raurenga              |
| 2   | <i>Hymenophyllum revolutum</i>                              |                                    |
| x   | <i>Hymenophyllum sanguinolentum</i>                         | blood-scented filmy fern           |
| x   | <i>Hypolepis ambigua</i>                                    |                                    |
| x   | <i>Lastreopsis glabella</i>                                 | felted fern                        |
| x   | <i>Lastreopsis hispida</i>                                  | hairy legs                         |
| 2   | <i>Lastreopsis microsora</i> ssp.<br><i>pentangularis</i>   |                                    |
| x   | <i>Lastreopsis velutina</i>                                 | velvet fern                        |
| x   | <i>Leptolepia novae-zelandiae</i>                           | lacey fern                         |
| x   | <i>Leptopteris hymenophylloides</i>                         | single crepe fern; heruheru        |
| 2   | <i>Loxogramme dictyopteris</i>                              | sexy fern                          |
| x   | <i>Microsorium pustulatum</i> ssp.<br><i>pustulatum</i>     | hound's tongue                     |
| x   | <i>Microsorium scandens</i>                                 | mokimoki; fragrant fern            |
| x   | <i>Paesia scaberula</i>                                     | scented fern; matata; ring fern    |
| x   | <i>Pneumatopteris pennigera</i>                             | gully fern; pakau; pakauharoha     |
| x   | <i>Polystichum neozelandicum</i> ssp.<br><i>zerophyllum</i> |                                    |
| 1   | <i>Polystichum vestitum</i>                                 | prickly shield fern; punui         |
| 2   | <i>Polystichum wawranum</i>                                 | common shield fern; pikopiko       |
| x   | <i>Pteridium esculentum</i>                                 | bracken; rauaruhe                  |
| x   | <i>Pteris macilenta</i>                                     | sweet fern                         |
| x   | <i>Pyrrosia elaeagnifolia</i>                               | leather-leaf fern                  |

|     |                              |                         |
|-----|------------------------------|-------------------------|
| x   | <i>Rumohra adiantiformis</i> | butcher's fern          |
| 2   | <i>Tmesipteris elongata</i>  |                         |
| 2   | <i>Trichomanes venosum</i>   | veined bristle fern     |
| x * | <i>Sonchus oleraceus</i>     | sow thistle; puha; puka |
| x * | <i>Taraxacum officinale</i>  | dandelion               |

#### Daisy-like herbs

|     |                                  |                         |
|-----|----------------------------------|-------------------------|
| x * | <i>Achillea millefolium</i>      | yarrow                  |
| 2 * | <i>Cirsium vulgare</i>           | Scotch thistle          |
| 2 * | <i>Crepis capillaris</i>         | hawksbeard              |
| 2 * | <i>Erechtites hieraciifolius</i> | American fireweed       |
| 2 * | <i>Erigeron sumatrensis</i>      | broad-leaved fleabane   |
| 2 * | <i>Gamochaeta coarctata</i>      |                         |
| x * | <i>Hypochaeris radicata</i>      | catsear                 |
| x * | <i>Jacobaea vulgaris</i>         | ragwort                 |
| 2 * | <i>Lactuca serriola</i>          | prickly lettuce         |
| 2 * | <i>Lapsana communis</i>          | nipplewort              |
| x   | <i>Senecio bipinnatisectus</i>   | Australian fireweed     |
| 2 * | <i>Sonchus arvensis</i>          | perennial sow thistle   |
| x * | <i>Sonchus oleraceus</i>         | sow thistle; puha; puka |
| x * | <i>Taraxacum officinale</i>      | dandelion               |

#### Dicotyledonous herbs other than Daisies

|     |                                                                         |                                 |
|-----|-------------------------------------------------------------------------|---------------------------------|
| 2   | <i>Acaena anserinifolia</i>                                             | bidibid                         |
| x * | <i>Acaena novae-zelandiae</i>                                           | red bidibid; piripiri           |
| x * | <i>Bellardia viscosa</i>                                                | tarweed                         |
| x   | <i>Cardamine debilis</i>                                                |                                 |
| x * | <i>Cerastium glomeratum</i>                                             | annual mouse-eared chickweed    |
| 2 * | <i>Conium maculatum</i>                                                 | hemlock                         |
| x * | <i>Digitalis purpurea</i>                                               | foxglove                        |
| 2   | <i>Epilobium insulare</i>                                               |                                 |
| x * | <i>Euphorbia peplus</i>                                                 | milkweed                        |
| x * | <i>Galium aparine</i>                                                   | cleavers                        |
| x * | <i>Geranium robertianum</i>                                             | herb Robert                     |
| 2   | <i>Geranium solanderi</i>                                               |                                 |
| 2   | <i>Hydrocotyle heteromeria</i>                                          | wax weed                        |
| x * | <i>Lotus pedunculatus</i>                                               | lotus major                     |
| 2 * | <i>Lysimachia arvensis</i> ssp. <i>arvensis</i><br>var. <i>arvensis</i> | scarlet pimpernel               |
| x * | <i>Mentha piperita</i> var. <i>piperita</i>                             | peppermint; bergamot mint       |
| 2   | <i>Parietaria debilis</i>                                               |                                 |
| 2   | <i>Persicaria decipiens</i>                                             |                                 |
| 2 * | <i>Persicaria maculosa</i>                                              |                                 |
| x * | <i>Plantago australis</i>                                               | swamp plantain                  |
| x * | <i>Plantago lanceolata</i>                                              | ribwort; narrow-leaved plantain |

|     |                                   |                         |
|-----|-----------------------------------|-------------------------|
| x * | <i>Plantago major</i>             | broad-leaved plantain   |
| x * | <i>Prunella vulgaris</i>          | selfheal                |
| x   | <i>Ranunculus reflexus</i>        | maruru; hairy buttercup |
| 2 * | <i>Ranunculus repens</i>          | creeping buttercup      |
| 2 * | <i>Rumex acetosella</i>           | sheep's sorrel          |
| 2 * | <i>Rumex obtusifolius</i>         | broad-leaved dock       |
| 2 * | <i>Sherardia arvensis</i>         | field madder            |
| 2 * | <i>Sisymbrium officinale</i>      | hedge mustard           |
| x * | <i>Solanum nigrum</i>             | black nightshade        |
| x * | <i>Stellaria media ssp. media</i> | chickweed               |
| x * | <i>Trifolium pratense</i>         | red clover              |
| x * | <i>Trifolium repens</i>           | white clover            |
| x   | <i>Urtica sykesii</i>             | stinging nettle         |
| x * | <i>Verbascum thapsus</i>          | woolly mullein          |

## Okareka mistletoe restoration project

### Weed control/plant releasing work day for 2020

Come and join Rotorua Botanical Society to control weeds threatening mistletoe sites and plant new host trees. Activities will involve hand-pulling, cutting, sawing of vines, climbers and small trees.

**When: Sat 17 October – Weed control/plant releasing  
work day**

**Meet: Corner Summit and Loop Roads (lake end) @ 8:45 am**  
**Grade: medium-hard – activities suitable for all ages  
and abilities will be provided**

**Please contact the organiser Paul Cashmore**  
**027 650 7264 (mob) or 07 349 7432 (work) to RSVP.**  
**Equipment to bring will be advised.**