

<i>R. multicystidiata</i>	FH	<i>Trametes velutina</i>	FS
<i>R. purpureotincta</i>	LR	<i>T. versicolor</i>	Ca, FS, LR, Wa
<i>R. roseopileata</i>	Ca	<i>Tremella fuciformis</i>	EV
<i>R. roseostipitata</i>	EV, Wa	<i>T. cf. mesenterica</i>	FS
<i>R. subvinosa</i>	Ca, FS	<i>Tricholoma</i> 7, an undescribed	EV
<i>R. tricholomopsis</i>	Wa	Tricholoma	
<i>Schizophyllum commune</i>	WG	<i>T. atosquamosum</i>	Ca, RI, RT, RV
<i>Scleroderma</i> sp.	FS, RV	<i>T. elegans</i>	RT
<i>Scopuloides hydroides</i>	EV	<i>T. saponaceum</i> *	RI
<i>Steccherinum</i> sp.	EV	<i>T. sp.5</i> , a new species	LR
<i>Stereopsis hiscens</i>	RI	<i>T. terreum</i>	RI
<i>Stereum ostrea</i>	EV	<i>Tympanella galanthina</i>	FS
<i>Stropharia aurantiaca</i>	MC	<i>Volvariella speciosa</i> *	LM, LR
<i>Suillus granulatus</i> *	FS, RI, Wa	<i>Vuilleminia</i> sp.	Ca, TR
<i>S. grevillei</i> *	Ca	<i>Weraroa erythrocephala</i>	EV
<i>S. lakei</i>	GD	<i>Zelleromyces</i> sp.	FS
<i>S. luteus</i>	Ca, FS, RH, RV		

## Field trip: Murphy's Bush. 15/05/04

Lisa Clapperton

Murphy's Bush is situated beside Murphy's Road, Flat Bush, Manukau City. It is a Manukau City Council Reserve comprising two blocks of bush on flat land. The larger, western block of c. 13 ha, was opened to the public in July 1977. It was owned by Mr Conway Murphy and had been in his family since 1881. The smaller, eastern block of c. 9 ha was only recently acquired by the Manukau City Council.

The Auckland Botanical Society visited Murphy's Bush on 15 May 2004 to explore the forest and record the plant species present. Those taking part were Jan Butcher, Lisa Clapperton (recorder), Gael Donaghy (recorder), Graeme Jane, Rick Kooperberg, Leslie Haines, Peter Hutton, Annette Lindsay, Carol Lockett, Alistair McArthur, Morag McDonald, Elaine Marshall, Helen Preston-Jones, Matt Renner, Juliet Richmond, Josh Salter, Pat Seyb, Alison Wesley, Mike Wilcox (leader), Tony Williams and Maureen Young.

Murphy's Bush is Auckland's finest example of kahikatea (*Dacrycarpus dacrydioides*) dense pole forest, developed from early logging and clearing in the 1880s but subsequently protected and allowed to regenerate and develop into secondary natural forest. The forest is predominantly kahikatea from 25-35 m tall, with a general canopy height of 30 m. Most kahikatea trees are 40-60 cm in diameter and we found no old trees that could have been part of the original forest. Rimu (*Dacrydium cupressinum*), matai (*Prumnopitys taxifolia*) and totara (*Podocarpus totara*) are present throughout as subsidiary canopy trees. The rimu and totara are generally of fine form, but the matai are mostly double- or multiple-stemmed. One large totara is 1 metre in diameter. Miro (*Prumnopitys ferruginea*) is very scarce, and kawaka (*Libocedrus plumosa*) is represented by a single large specimen at the far end of the eastern block.



Figure 1. Kahikatea forest

Broadleaved trees are prominent in the sub-canopy. Pukatea (*Laurelia novae-zelandiae*) occupies some of the stream margins; titoki (*Alectryon excelsus*) is scattered throughout and reaches c. 15 m in height; taraire (*Beilschmiedia tarairi*), puriri (*Vitex lucens*) and karaka (*Corynocarpus laevigatus*) are locally dominant on sloping well-drained sites; and tawa (*Beilschmiedia tawa*), kohekohe (*Dysoxylum spectabile*), white maire (*Nestegis lanceolata*), kanuka (*Kunzea ericoides*) and rewarewa (*Knightia excelsa*) are relatively uncommon.

Epiphytes and climbers were much in evidence, with native passion vine (*Passiflora tetrandra*) being particularly common. Supplejack (*Ripogonum scandens*) forms tangles in the eastern block. The white-flowered rata vine *Metrosideros perforata* is also frequent. The only two perching epiphytes of note were bush lily (*Collospermum hastatum*), and the orchid *Earina mucronata*, this latter exhibiting a preference for the high branches of titoki. The

climbing ferns *Microsorium scandens* and *Blechnum filiforme* were especially abundant on the trunks of nikau.

Mamangi (*Coprosma arborea*), pigeonwood (*Hedycarya arborea*) and nikau (*Rhopalostylis sapida*) are perhaps the most prominent lower sub-canopy and understorey trees over much of the reserve. All three of these species regenerate well in the shade. Mahoe (*Melicytus ramiflorus*) and ponga (*Cyathea dealbata*) are also prominent in the lower sub-canopy.

An outstanding feature of Murphy's Bush is the diversity and vigour of the understorey and the remarkable absence of weeds. Understorey shrubs of particular abundance are *Coprosma areolata* and *Melicytus micranthus*, together with mapou (*Myrsine australis*), hangehange (*Geniostoma ligustrifolium*), striplings of mamangi and pigeonwood, and young nikau. We less frequently encountered *Coprosma rhamnoides*, *Coprosma spathulata*, *Melicope simplex*, *Mida salicifolia*, *Pennantia corymbosa*, and *Streblus heterophyllus*.

The ground cover on the forest floor was notable for the absence of filmy ferns and moss carpets save for the occasional patch of the umbrella moss *Hypnodendron comatum*. However, sedges were prominent, with *Uncinia distans* being particularly common.

The only widespread weed in the reserve is *Selaginella kraussiana*. Wandering jew (*Tradescantia fluminensis*) is sporadic, and several weedy tree species – lilly pilly or monkey apple (*Acmena smithii*), Chinese privet (*Ligustrum sinensis*), tree privet (*Ligustrum lucidum*), and Japanese spindle tree (*Euonymus japonica*) – occur in the eastern block, mainly as seedlings beneath totara trees used as bird roosts. It was also of interest to find under these roost trees saplings of an “introduced native”, houpara (*Pseudopanax lessonii*) –

no doubt brought in as seed by birds. Kereru (native pigeon), tui, blackbird, and eastern rosella were recorded during our visit.

Murphy's Bush shares many features with other kahikatea forest remnants, such as Claudelands Bush in Hamilton (Boase 1985; Whaley, Clarkson & Smale 1997), white pine bush in the eastern Bay of Plenty (Smale 1984), and Te Ngae white pine bush in Rotorua (Shaw 2000). Core tree species associated with kahikatea in all these forests are *Alectryon excelsus*, *Beilschmiedia tawa*, *Coprosma areolata*, *Geniostoma ligustrifolium*, *Hedycarya arborea* and *Laurelia novae-zelandiae*. Murphy's bush differs, however, in the abundant presence of *Coprosma arborea*, and *Uncinia distans*, and also in having taraire and puriri.



Figure 2. Lichen workshop lead by Rick Kooperberg

Investigations were also made in Murphy's Bush during this visit of fungi (Clive Shirley), lichens (Rick Kooperberg and Carol Lockett), and bryophytes (Matt Renner and Josh Salter). These are reported below.

## References

- Boase, M. R. 1985. The flora and vegetation of Jubilee Park (Claudelands Bush), Hamilton. *Rotorua Botanical Society Newsletter* 4:10-19.  
 Shaw, W. B. 2000. Field trip to Te Ngae tawa forest remnant and kahikatea stand. *Rotorua Botanical Society Newsletter* 36:33-46.  
 Smale, M. C. 1984. White Pine Bush – an alluvial kahikatea (*Dacrycarpus dacrydioides*) forest remnant, eastern Bay of Plenty, New Zealand. *New Zealand Journal of Botany* 22:201-298.  
 Whaley, P.T.; Clarkson, B. D.; Smale, M. C. 1997. Claudelands Bush: ecology of an urban kahikatea (*Dacrycarpus dacrydioides*) forest remnant in Hamilton, New Zealand. *Tane* 36:131-155.

## Species list

### \*exotic

#### Ferns and fern allies

*Anarthropteris lanceolata*  
*Asplenium flaccidum*  
*Asplenium lamprophyllum*  
*Asplenium oblongifolium*  
*Asplenium polyodon*  
*Blechnum filiforme*  
*Blechnum fraseri*  
*Blechnum membranaceum*

*Blechnum novae-zelandiae*  
*Cyathea dealbata*  
*Cyathea medullaris*  
*Deparia petersenii*  
*Dicksonia squarrosa*  
*Doodia australis*  
*Lastreopsis glabella*  
*Lastreopsis hispida*  
*Microsorium pustulatum*

*Microsorium scandens*  
*Paesia scaberula*  
*Pellaea rotundifolia*  
*Pneumatopteris pennigera*  
*Pteridium esculentum*  
*Pteris tremula*  
*Pyrrosia eleagnifolia*  
 \**Selaginella kraussiana*

**Conifers**

*Dacrycarpus dacrydioides*  
*Dacrydium cupressinum*  
*Libocedrus plumosa*  
*Podocarpus totara*  
*Prumnopitys ferruginea*  
*Prumnopitys taxifolia*

**Dicots**

\**Acmena smithii*  
*Alectryon excelsus*  
*Beilschmiedia tarairi*  
*Beilschmiedia tawa*  
\**Berberis glaucocarpa*  
*Carpodetus serratus*  
*Centella uniflora*  
*Coprosma arborea*  
*Coprosma areolata*  
*Coprosma repens* (planted)  
*Coprosma rhamnoides*  
*Coprosma robusta*  
*Coprosma spathulata*  
*Corynocarpus laevigatus*  
*Dysoxylum spectabile*  
\**Euonymus japonicus*  
*Geniostoma ligustrifolium*  
*Griselinia littoralis* (planted)  
*Haloragis erecta*  
*Hedycarya arborea*  
*Hoheria populnea* (planted)  
*Knightia excelsa*  
*Kunzea ericoides*

*Laurelia novae-zelandiae*  
*Leucopogon fasciculatus*  
\**Ligustrum lucidum*  
\**Ligustrum sinense*  
*Macropiper excelsum*  
*Melicope simplex*  
*Melicytus micranthus*  
*Melicytus ramiflorus*  
*Metrosideros diffusa*  
*Metrosideros fulgens*  
*Metrosideros perforata*  
*Mida salicifolia*  
*Muehlenbeckia australis*  
*Myrsine australis*  
*Nestegis lanceolata*  
*Olearia rani*  
*Parsonsia heterophylla*  
*Passiflora tetrandra*  
*Pennantia corymbosa*  
*Pittosporum tenuifolium*  
*Polygonum salicifolium*  
*Pseudopanax crassifolius*  
*Pseudopanax lessonii*  
\**Prunella vulgaris*  
*Rubus cissoides*  
\**Solanum mauritianum*  
*Streblus heterophyllus*  
\**Ulex europaeus*  
*Vitex lucens*

**Monocots**

*Astelia solandri*

\**Axonopus fissifolius*  
*Carex dissita*  
\**Carex divulsa*  
*Carex lambertiana*  
*Carex lessoniana*  
*Carex secta*  
*Collospermum hastatum*  
*Cordyline australis*  
*Cyperus ustulatus*  
*Earina mucronata*  
*Eleocharis gracilis*  
*Freycinetia banksii*  
*Gahnia lacera*  
*Gahnia setifolia*  
*Gahnia xanthocarpa*  
\**Juncus effusus*  
\**Iris foetidissima*  
*Isolepis reticularis*  
\**Isolepis sepulcralis*  
*Microlaena avenacea*  
*Microlaena stipoides*  
*Oplismenus hirtellus* subsp.  
*imbecillis*  
*Rhopalostylis sapida*  
*Ripogonum scandens*  
*Schoenus maschalinus*  
*Uncinia banksii*  
*Uncinia distans*  
*Uncinia uncinata*

## An annotated Bryophyte species list for Murphy's Bush, Manukau

Matt A. M. Renner

### Introduction

Murphy's Bush is a small bush remnant growing on moderately drained alluvial soil in flat to gently rolling country within the Otara Creek catchment, Manukau. The forest canopy is dominated by kahikatea and taraire, with a thick sub-canopy component of nikau. The forest structure and composition suggest that the soils are of reasonable fertility, because, like other floodplain forests growing on fertile, reasonably drained alluvial soils in the northern North Island, this forest is reasonably tall, has a preponderance of nikau, and lacks well developed shrub and ground layers, giving a very open character. This is in stark contrast to kahikatea-dominated forests on the West Coast of the South Island that grow on very poorly drained soils developed over glacial moraine deposits, where kiekie typically dominates the shrub layer. It is generally accepted that this open character is simply a hangover from days prior to stock exclusion (Cameron *et al.* 1997).

The present study records the mosses and liverworts collected in the northern half of Murphy's Bush during an Auckland Botanical Society field trip in May 2004. To the best of my knowledge, no prior collecting of bryophytes has occurred in this reserve. Voucher specimens of all species collected have been lodged with the Herbarium of the Auckland War Memorial Museum (AK).

Species are arranged alphabetically under major groups (classification follows Schuster 1984). Nomenclature follows that presented in Beever *et al.* (1992) for mosses and Glennly (1998) for liverworts.

### Methods

Three hours were spent noting habitats and collecting material within Murphy's Bush. Subjective assessments of habitat types and microsites were made, and efforts made to sample from each. The author is indebted to Josh Salter for her assistance in the field. In case anyone is wondering, bryophytes are best collected with a knife, so that part of the