

John's significant contribution to the furtherance of the study of hepatics in Australasia, and the broader understanding of the New Zealand hepatic flora, has been highlighted recently in a special tribute to his achievements by Rod Seppelt and others, entitled: "Excellent, now I can concentrate on the liverworts" – A testimony to the work of John Braggins.' *Australasian Bryological Newsletter* 61: 2–8, 2012.

Over the years John has often given a lecture to the Auckland Botanical Society on liverworts and/or ferns. The talks were always accompanied by his exceptionally good close-up plant images. Many of his postgraduate students have also given lectures to the Society including: Anthony Wright, Elizabeth Brown, Mark Large, Matt von Konrat, Matt Renner

and Joshua Salter. Matt Renner also received our Society's Lucy Cranwell Grant to enable him to travel around New Zealand to collect liverworts.

The presentation was followed by a wonderful talk from Teresa Lebel, the inaugural Ross Beever Fellow, on 'Intriguing interactions: Fungi-plants-insects & other mycophagists'. Teresa was introduced by Jessica Beever, a bryophyte colleague and friend of John Braggins. It was a wonderful night of old and new relationships and connections! At the end of the evening the Mere was handed back so it could be returned and displayed at the Allan herbarium (CHR), Landcare Research at Lincoln, where it resides (originally gifted by Lucy Moore).

Raventhorpe Scenic Reserve and Mill Road private reserve, Bombay, 18 May 2013

Jennifer Shanks

Participants: *Chris Ashton, Jan Butcher, Bruce Calvert, Ewen Cameron, Rhys Gardner, Peter Hutton, Christine Major, Juliet Richmond, Stella and John Rowe, Joshua Salter, Jenni Shanks (leader), Valerie Tomlinson, Alison Wesley, Mike Wilcox, Angelina Young and Maureen Young.*

Two bush reserves in Bombay (South Auckland) were visited: Raventhorpe Scenic Reserve which is administered by the Department of Conservation (DoC) and David Lawrie's private reserve on his property in Mill Road.

Raventhorpe Scenic Reserve (Fig. 1)

Raventhorpe is a collection of five forest remnants totalling approximately 24 ha on the hills to the west of the Southern Motorway and Great South Road near St Stephen's School. The largest of the remnants is 14 ha (Fig. 1). Historically all of the Raventhorpe remnants have been grazed and several have only been securely fenced within the last 3–4 years. These remnants collectively comprise the largest area of native forest in the Manukau Ecological District, a lowland environment with fertile soils and gentle topography where only 1.5% of the land remains in indigenous vegetation. There is almost no naturally occurring kauri (*Agathis australis*) in the Ecological District and tanekaha (*Phyllocladus trichomanoides*), its associate species, is also rare. Mixed kauri forest did originally occur in the district but the rapacity with which kauri was historically sought as timber has resulted in its being almost absent today (ARC 2004).



Fig. 1. Map showing Raventhorpe Scenic Reserve and the large puriri and rata.

We visited Raventhorpe Bush first, parking our cars at the gate of Martyn Farm Estate on Great South Road and walking up a long drive through private property and a locked gate to reach the bush. As we went up the drive we botanised a small remnant

(Block 5) on the left where puriri (*Vitex lucens*) and taraire (*Beilschmiedia taraire*) form the dominant canopy trees with nikau (*Rhopalostylis sapida*), *Coprosma areolata*, kawakawa (*Piper excelsum*), hangehange (*Geniostoma ligustrifolium*) and other species in the understorey. Other canopy trees include pukatea (*Laurelia novae-zelandiae*), rewarewa (*Knightia excelsa*), kahikatea (*Dacrycarpus dacrydioides*), totara (*Podocarpus totara*), tawa (*Beilschmiedia tawa*) and mangeao (*Litsea calicaris*). Ferns include silver fern (*Cyathea dealbata*), black ponga (*C. medullaris*) and ground ferns such as *Asplenium lamprophyllum* and *Lastreopsis glabella*. Epiphytes such as *Collospermum hastatum*, *Astelia solandri*, *Asplenium polyodon*, *Microsorium pustulatum*, *Griselinia lucida* and *Earina mucronata* festoon the trees. All of these species are very typical of the forest remnants in this southernmost district of the Auckland Ecological Region which was historically renowned for its magnificent puriri trees on the fertile soils (Morris 1965).

On reaching the top of the hill we climbed the fence into Block 3 which consists of a fairly steep-sided gully with a creek. This block has been fenced relatively recently and parts of it are in the early stages of recovery after grazing. Here there is a sizeable colony of king ferns (*Ptisana salicina*) of about 50 plants which some people succeeded in locating, although the group was scattered through the bush and not everyone was lucky enough to see these. Also here are some large populations of *Asplenium lamprophyllum*, a very handsome fern that forms patches of shiny green fronds on the ground. Understorey shrub species are often lost from these remnants due to grazing and may not re-colonize them once fencing occurs (Shanks 2011) so it was particularly good to see a variety of shrubs here including putaputaweta (*Carpodetus serratus*), mamangi (*Coprosma arborea*) and mingimingi (*Leucopogon fasciculatus*), although some species are only occasional. Kiekie (*Freycinetia banksii*) is present in some of the damper patches and the New Zealand passion vine (*Passiflora tetrandra*) climbs the trees in the forest edges, forming some large old stems. After crossing the small stream we had a rather soggy lunch in the sifting rain and continued on into the largest remnant, Block 4 (14 ha).

Block 4 has a small raupo (*Typha orientalis*) wetland on the western side which also contains rautahi (*Carex geminata* agg.). The canopy of mainly puriri and taraire is fairly well closed in this block and the understorey is rather sparse making for an easy ramble through the trees to a large northern rata tree (*Metrosideros robusta*) on the northern side (Fig. 2) and some good sized puriri on the eastern side near the drive. The damp autumn weather had brought forth the forest fungi which brightened the ground with their fruiting bodies. These included the



Fig. 2. Large rata tree in Raventhorpe Scenic Reserve. Photo: Mike Wilcox 18 May 2013.



Fig. 3. Favolaschia calocera (orange poreconch fungus) on a log. Photo: Mike Wilcox 18 May 2013.

globose pouch fungus *Weraroa novaezelandiae*, the rose waxgill (*Hygrocybe versicolor*) and the orange poreconch (*Favolaschia calocera*) (Fig. 3). See Appendix 1 for the vascular plant species list.

David Lawrie's Bush (Mill Road private reserve) (Fig. 4)

After returning to the cars we took a short trip to David Lawrie's property where he welcomed us and guided through his impressive forest (Appendix 2). David Lawrie's Bush comprises some 8 ha of bush in a sheltered gully system that has been fenced for close to 50 years and is protected by a QEII covenant. There is a wide range of canopy tree,



Fig. 4. Map showing David Lawrie's Bush, south side of Mill Road, Bombay.



Fig. 5. David Lawrie's bush at Mill Road, Bombay. Photo: Mike Wilcox 18 May 2013.



Fig. 6. Giant bamboo in David Lawrie's bush. Photo: Josh Salter 18 May 2013.

species, puriri and taraire being two of the most dominant, but also good numbers of tawa, totara rewarewa, kohekohe (*Dysoxylum spectabile*), miro (*Prumnopitys ferruginea*) and rimu (*Dacrydium cupressinum*). There are some large gnarly-rooted old titoki (*Alectryon excelsum*) and many splendid pukatea with buttress roots in the damp stream gullies. Most of these trees are regenerating to some degree and their young seedlings and saplings are found in light gaps and forest edges. Tanekaha also occurs here – an uncommon species for the area.

There are many ground ferns including several favourites such as *Lygodium articulatum*, *Leptopteris hymenophylloides* and *Lastreopsis hispida*. *Blechnum fraserii* is here, however there is no king fern. Epiphytes abound, with most of the more common monocots and epiphytic ferns being present; also *Tmesipteris elongata* and several *Hymenophyllum* species including *H. dilatatum*. Bamboo orchid (*Earina mucronata*) droops like long hair from tree branches in some places. Kiekie and supplejack (*Ripogonum scandens*) are present in some of the damper spots. Young nikau is a very common component of the understorey (Fig. 5) and there is a good range of dicot shrubs and small trees here as well.

With the light fading on a drizzly winter afternoon our time here was curtailed; however to finish off the tour David took us to view a large spreading grove of very tall bamboo on the edge of the bush which fascinated many people (Fig. 6). What species was it? There was much head-scratching and photographs were taken. A few days later it was confirmed as being *Bambusa oldhamii* (giant bamboo) by Bill Sykes. It is certainly an impressive stand with stems up to 100 mm diameter and around 10 m tall. There were few weeds within the forest.

Although the showery weather was not particularly conducive to "bush bashing" we otherwise had an enjoyable ramble through two of the most botanically diverse and intact forest remnants in the Manukau Ecological District. Their diversity, despite their small size speaks loudly for the preservation of these remnants and all others like them in this intensively farmed landscape.

Acknowledgements

Our thanks to Steve Benham (DoC) for arranging access over private property for us and to John Sutherland for allowing us access over his property. Thanks to Ewen Cameron and Bill Sykes for identification of the giant bamboo.

References

- Auckland Regional Council 2004: Awhitu and Manukau Ecological Districts: Indigenous Vegetation Survey, Volume I. Auckland.
Morris, N. 1965: *Early Days in Franklin*. The Franklin County Council.
Shanks, Jennifer C. 2011: *The effects of fragmentation on forest plant communities in a highly fragmented agricultural landscape: taraire forest remnants in southern Auckland*. Unpublished MSc thesis. University of Auckland.

Appendix I: List of Vascular Plant Species in Raveithorpe Scenic Reserve, Bombay.

Compiled by Steve Benham, Department of Conservation, March 2013; additional species seen by Auckland Botanical Society, 18 May 2013, marked +

Ferns and fern allies

Adiantum hispidulum
Asplenium bulbiferum
Asplenium flabellifolium
Asplenium flaccidum +
Asplenium lamprophyllum
Asplenium oblongifolium
Asplenium polyodon
Blechnum chambersii
Blechnum discolor
Blechnum filiforme
Blechnum fluviatile
Blechnum fraseri
Blechnum membranaceum
Blechnum minus
Blechnum novae-zelandiae
Cyathea ?smithii
Cyathea dealbata
Cyathea medullaris
Deparia petersenii
Dicksonia squarrosa +
Diplazium australe +
Doodia australis
Histiopteris incisa
Hymenophyllum demissum
Hymenophyllum revolutum
Lastreopsis glabella
Lastreopsis hispida
Lastreopsis microsora +
Leptopteris hymenophylloides +
Lygodium articulatum +
Microsorium pustulatum
Microsorium scandens +
Paesia scaberula
Pellaea rotundifolia
Phlegmariurus varius
Pteridium esculentum
Pteris macilenta +
Pteris tremula
Ptisana salicina
Pyrrosia eleagnifolia
Pneumatopteris pennigera
Rumohra adiantiformis
Tmesipteris elongata
Tmesipteris lanceolata +
Trichomanes venosum +

Gymnosperms

Dacrydium cupressinum
Dacrydium dacrydioides

Podocarpus cunninghamii
Podocarpus totara
Prumnopitys ferruginea
Prumnopitys taxifolia

Dicotyledons

Acaena anserinifolia
Alectryon excelsus
Beilschmiedia tarairi
Beilschmiedia tawa
Brachyglottis repanda
Carpodetus serratus
Clematis paniculata
Coprosma arborea
Coprosma areolata
Coprosma robusta
Corynocarpus laevigatus
Dysoxylum spectabile
Geniostoma ligustrifolium
Griselinia lucida
Haloragis erecta
Hedycarya arborea
Knightia excelsa
Kunzea ericoides
Laurelia novae-zelandiae
Leptospermum scoparium
Leucopogon fasciculatus
Litsea calicaris
Piper excelsum
Meliccytus ramiflorus
Metrosideros diffusa +
Metrosideros fulgens +
Metrosideros perforata
Metrosideros robusta
Muehlenbeckia australis
Myrsine australis
Nestegis lanceolata
Olearia rani
Parsonsia heterophylla
Passiflora tetrandra
Pittosporum eugenioides
Pittosporum tenuifolium
Pseudopanax crassifolius
Rubus australis
Rubus cissoides agg.
Solanum nodiflorum
Passiflora tetrandra
Veronica plebeia
Vitex lucens

Monocotyledons

Astelia solandri
Carex dissita
Carex lambertiana
Carex geminata agg.
Carex solandri
Carex secta
Collospermum hastatum
Cordyline australis
Cordyline australis × *C. pumilio*
Dianella nigra
Earina ? autumnalis
Earina mucronata
Freycinetia banksii
Isolepis reticularis +
Microlaena stipoides
Oplismenus hirtellus
Rhopalostylis sapida
Ripogonum scandens
Typha orientalis
Uncinia banksii
Uncinia distans
Uncinia uncinata
Uncinia zotovii +

Exotic Plants

Actinidia deliciosa
Araujia hortorum
Asparagus scandens
Berberis glaucocarpa
Calystegia sepium ×
C. sylvatica
Carex divulsa +
Elaeagnus × reflexa
Euonymus japonicus
Jacobaea vulgaris +
Leycesteria formosa
Ligustrum lucidum
Ligustrum sinense
Lonicera japonica
Passiflora caerulea
Pinus radiata (large trees
poisoned and dying)
Prunus campanulata
Selaginella kraussiana
Solanum mauritanium
Syzygium smithii
Ulex europaeus

Appendix II: List of Vascular Plant Species in David Lawrie's Bush, Mill Road, Bombay.

Compiled by J Shanks in 2010; + = additional species seen by Auckland Botanical Society on 18 May 2013.

Ferns and fern allies

Asplenium bulbiferum
Asplenium flaccidum
Asplenium gracillimum
Asplenium lamprophyllum
Asplenium oblongifolium
Asplenium polyodon
Blechnum chambersii
Blechnum discolor
Blechnum filiforme
Blechnum fraserii
Blechnum membranaceum
Blechnum novae-zelandiae
Cyathea dealbata
Cyathea medullaris
Cyathea smithii +
Dicksonia squarrosa
Doodia australis
Hymenophyllum demissum +
Hymenophyllum dilatatum
Hymenophyllum revolutum +
Lastreopsis glabella
Lastreopsis hispida
Leptopteris hymenophylloides
Loxogramme dictyopteris +
Lygodium articulatum
Microsorium pustulatum
Microsorium scandens
Plegmariurus varius
Pneumatopteris pennigera
Pteridium esculentum
Pteris macilenta +
Pyrrosia eleagnifolia

Rumohra adiantiformis +
Tmesipteris elongata
Tmesipteris lanceolata
Trichomanes venosum

Gymnosperms

Dacrycarpus dacrydioides
Dacrydium cupressinum
Phyllocladus trichomanoides
Podocarpus totara
Prumnopitys ferrugineus

Dicotyledons

Acaena novae-zealandiae
Alectyron excelsus
Aristotelia serrata
Bielschmeidia tarairi
Bielschmeidia tawa
Coprosma grandifolia
Coprosma spathulata
Corynocarpus laevigatus
Dysoxylum spectabile
Entelea arborescens
Geniostoma ligustrifolium
Hedycarya arborea
Knightia excelsa
Laurelia novae-zealandiae
Melicytus ramiflorus
Metrosideros diffusa
Metrosideros fulgens
Metrosideros perforata
Muehlenbeckia australis
Mysine australis
Nestegis cunninhamii

Nestegis lanceolata
Olearia rani
Peperomia urvilleana
Piper excelsum +
Pittosporum cornifolium
Pseudopanax crassifolius
Schefflera digitata
Vitex lucens

Monocotyledons

Astelia solandri
Carex dissita
Carex secta
Carex virgata
Collopermum hastatum
Earina mucronata
Freycinetia banksii
Microlaena avenacea
Oplismenus hirtellus
Rhopalostylis sapida
Ripogonum scandens
Uncinia zotovii +

Exotic Plants

Asparagus scandens
Bambusa oldhamii
Berberis glaucocarpa
Camellia japonica
Delairea odorata
Fatsia japonica
Rhododendron ponticum
Tradescantia fluminescens

Flora of Dingle Dell Reserve, St Heliers

Mike Wilcox, Ewen Cameron, John Braggins, Jessica Beever,
Dan Blanchon, Rick Kooperberg and Clive Shirley

Dingle Dell Reserve in St Heliers, Auckland, is an Auckland Council reserve of 9 ha (Fig. 1). It is popular for walking, a venue for outdoor concerts, it protects the headwaters of a stream draining into the sea at St Heliers Bay via an underground pipe down Dingle Road and the Parade, and it is an ecologically significant fragment of urban forest.

History

Wikimapia gives the following account of Dingle Dell (wikimapia.org/5142421/Dingle-Dell-Reserve):

"Prior to 1840 the vegetation on Tamaki Isthmus consisted of fern and manuka on the ridges and slopes, forest remnants in the gullies and flax and raupo in the swamps. All the significant original vegetation had been destroyed by pre European occupation and cultivation. The area now known as Dingle Dell was once part of one of Major Thomas Bunbury's four farms purchased by him in 1842. During his occupation he planted hawthorn hedges and shelter belts, oaks, weeping willows and other exotics. Many of these plantings and other