



Fig. 4. *Hymenophyllum lyallii*, with *Metrosideros perforata*, on a tree fern trunk, Fletcher Track. Photo: Philip Moll, 15 Sep 2012.



Fig. 5. *Brachyglottis kirkii* on a tree fern trunk. Note the long curiously kinked stem, possibly due to repeated damage to the growing tip, and subsequent growth of a lateral bud. Photo: Joshua Salter, 15 Sep 2012.

parataniwha (*Elatostema rugosum*), a splendid specimen of pukatea (*Laurelia novae-zelandiae*), and a large, double-trunked northern rata (*Metrosideros robusta*). In places there were groves of mamangi (*Coprosma arborea*), the occasional large puriri

(*Vitex lucens*), and a sprinkling of nikau (*Rhopalostylis sapida*) in the subcanopy. Several in the group noticed and remarked on the peculiar appearance of the kanuka trunks, here being comparatively pale and smooth.

Swamp Maire Forest, Pukekohe

Steve Benham

Within 3.5 km of travelling west from Pukekohe town centre there is situated a most remarkable example of swamp maire (*Syzygium maire*) forest. Predominantly surrounded by prime market gardening land, this is a privately owned and covenanted swamp, owned and cared for by Lloyd Robinson, and tag named 'Robinson's Swamp'.

I first became involved with this wetland in May 2010 when the Department of Conservation (DoC) was approached by the then Franklin District Council (FDC) as to whether we were interested in the

purchase of this property, considering the planned rezoning of this area of Pukekohe known as Belmont. The proposal is for 72 ha of prime market garden soils to be scheduled for residential development. Robinson's Swamp lies within this designated area.

The planned rezoning and redevelopment would clearly have an impact on what has been recognised as the largest example of swamp forest surveyed within the Manukau Ecological District and a site of "High Conservation Value" (McEwen 1987, Emmett *et al.* 1998).

The site was assessed by Wildland Consultants Ltd. for Hosken & Associates Ltd, Auckland on behalf of the Belmont Residents and Landowners Association Inc. (Martin & Shaw 2009). The study area is in the headwaters of the Whangapouri Creek, which flows into the Drury Creek Inlet and then the Pahurehure Inlet of the Manukau Harbour and is classified as a threatened land environment as per Walker *et al.* (2006).

The original vegetation of the area under discussion, prior to burning and forest clearance was probably diverse podocarp-broadleaf forest. This forest type was extensive on the fertile Manukau Ecological District, and was characterized by tall trees of kahikatea (*Dacrycarpus dacrydioides*), totara (*Podocarpus totara*), and rimu (*Dacrydium cupressinum*), emergent over a canopy of puriri (*Vitex lucens*), taraire (*Beilschmiedia tarairi*), kohekohe (*Dysoxylum spectabile*), and tawa (*Beilschmiedia tawa*) (Emmett *et al.* 1998). Areas of poorly drained soils within the site, on edges of streams and wetlands, probably supported small areas of swamp forest, including pukatea (*Laurelia novaezelandiae*) and swamp maire.

This covenanted part of the property is a remarkable surviving relic of an original swamp maire ecosystem. Kahikatea and pukatea are present, albeit in small numbers. Putaputaweta (*Carpodetus serratus*) and *Coprosma tenuicaulis* are prominent in the understorey.

Since my initial visit in May 2010 there was an opportunity in June 2010 to revisit with the FDC Parks Officer and Mike Wilcox. A thorough botanical survey was undertaken on this visit, which enhanced the one provided by Wildland Consultants Ltd. (Martin & Shaw 2009) (see Appendix).

David Havell and I visited in November 2010, resulting in the addition of the regionally uncommon bryophyte *Sphagnum flexuosum*.

Approximately 27 mature swamp maire, as well healthy numbers of juveniles were recorded. The largest tree measured 46 cm d.b.h. with a height of approximately 15 m.

At the time of my first visit, several environmental weed species threatened the integrity of this fragile ecosystem. Tradescantia (*Tradescantia fluminensis*), Japanese honeysuckle (*Lonicera japonica*), crack willow (*Salix fragilis*) and woolly nightshade (*Solanum mauritianum*) were recorded as the major threats. On my visit in July 2012 (Fig. 1) it was very encouraging to see that Lloyd had very successfully cleared the blankets of tradescantia, poisoned the mature willows and controlled the Japanese honeysuckle and woolly nightshade within the covenanted swamp.



Fig. 1. L-R: Lloyd Robinson (landowner), Richard Dahlenburg and Mike Wilcox. Photo: Steve Benham, 1 July 2012.

There are two small ponds within the vicinity of the covenanted swamp which do support a few native species but the overall biodiversity values are relatively low. Exotic plantings include swamp cypress (*Taxodium distichum*) and sweet gum (*Liquidambar styraciflua*).

A substantial buffer zone of native vegetation needs to be established and planted between this significant wetland and the proposed subdivision. A detailed hydrological survey of the swamp and its environs is of paramount importance for its long-term wellbeing. The source of the water that feeds this swamp needs to be known and protected before any form of development commences.

At the time of writing (August 2012) there appear to be major issues around storm-water management, to be resolved by Auckland Council before this proposed 72 ha subdivision can proceed.

DoC has advocated that Auckland Council investigates the various current funding options available for acquiring the Robinson's property and designating the area as a Reserve.

Karl Flavell of Ngati Te Ata visited the property with Rosaleen Ward in March 2011 and was very supportive of the proposed acquisition.

Acknowledgments

Firstly, I would like to recognise Lloyd Robinson for his passion in protecting this regionally scarce ecosystem, and for his herculean efforts in its restoration; secondly, Mike Wilcox for his infectious enthusiasm in agreeing to visit the site and for his encouragement to write and record these notes; thirdly, Auckland Council staff who have shown interest for long term protection of 'Robinson's Swamp'; finally, Nick Goldwater, at Wildland Consultants Ltd. for making available their report.

References

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Appendix: List of Vascular Native Plant Species at 'Robinson's Swamp'.

P - planted

W - Wildland report (Martin & Shaw 2009)

Ferns and fern allies			
<i>Asplenium flaccidum</i>		<i>Dysoxylum spectabile</i>	
<i>Asplenium oblongifolium</i>		<i>Geniostoma ligustrifolium</i>	
<i>Asplenium polyodon</i>		<i>Haloragis erecta</i>	W
<i>Blechnum novae-zelandiae</i>	W	<i>Hoheria populnea</i>	P, W
<i>Cyathea dealbata</i>	W	<i>Kunzea ericoides</i>	
<i>Cyathea medullaris</i>	W	<i>Laurelia novaezelandiae</i>	
<i>Deparia petersenii</i>		<i>Melicytus ramiflorus</i>	
<i>Dicksonia squarrosa</i>	W	<i>Metrosideros excelsa</i>	W
<i>Doodia australis</i>	W	<i>Metrosideros perforata</i>	
<i>Histiopteris incisa</i>	W	<i>Muehlenbeckia australis</i>	W
<i>Hymenophyllum flabellatum</i>		<i>Myrsine australis</i>	
<i>Hypolepis distans</i>		<i>Pittosporum crassifolium</i>	P, W
<i>Microsorium pustulatum</i>		<i>Pittosporum eugenioides</i>	P, W
<i>Microsorium scandens</i>		<i>Pseudopanax arboreus</i>	
<i>Pneumatopteris pennigera</i>		<i>Syzygium maire</i>	W
<i>Pteridium esculentum</i>	W	<i>Vitex lucens</i>	W
<i>Pteris comans</i>		Monocots	
<i>Tmesipteris lanceolata</i>		<i>Carex geminata</i>	
Gymnosperms		<i>Carex secta</i>	W
<i>Dacrydium cupressinum</i>	W	<i>Cordyline australis</i>	W
<i>Phyllocladus trichomanoides</i>	W	<i>Cyperus ustulatus</i>	
<i>Podocarpus totara</i>	P, W	<i>Gahnia xanthocarpa</i>	
Dicots		<i>Lemna minor</i>	W
<i>Alectryon excelsus</i>		<i>Oplismenus hirtellus</i>	
<i>Beilschmiedia tarairi</i>		<i>Potamogeton ochreatus</i>	W
<i>Carpodetus serratus</i>	W	<i>Rhopalostylis sapida</i>	W
<i>Centella uniflora</i>		<i>Ripogonum scandens</i>	
<i>Coprosma robusta</i>	W	<i>Typha orientalis</i>	W
<i>Coprosma tenuicaulis</i>		<i>Uncinia uncinata</i>	