

Appendix 3. Non-vascular plants recorded from the Ōtuataua lava field 1999 – 2021.

Lichens				
<i>Cladonia confusa</i>	AK240016	DB Rogan (1999)	<i>Campylopus introflexus</i>	Bot Soc field trip, Nov 2021
<i>Cladonia ramulosa</i>	AK240018	DB Rogan (1999)	<i>Ceratodon purpureus</i>	AK300378 JE Beever (2004)
<i>Lecanora campestris</i>	AK239635	DB Rogan (1999)	<i>Fissidens curvatus</i>	AK300385 JE Beever (2004)
<i>Neofuscelia loxodella</i>	AK240017	DB Rogan (1999)	<i>Funaria hygrometrica</i>	AK300380 JE Beever (2004)
<i>Placopsis</i> sp.	AK240019	DB Rogan (1999)	<i>Gertrudiella torquata</i>	AK289735 JE Beever (2005)
<i>Pseudocyphellaria neglecta</i>	AK240014	DB Rogan (1999)	<i>Grimmia pulvinata</i>	AK300374 JE Beever (2004)
<i>Ramalina celastri</i> var. <i>celastri</i>	AK240015	DB Rogan (1999)	<i>Hypnum cupressiforme</i>	AK300386 JE Beever (2004)
			<i>Hypopterygium rotulatum</i>	AK239422 EK Cameron (1999)
			<i>Philonotis tenuis</i>	AK300388 JE Beever (2004)
			<i>Ptychomitrium australe</i>	AK300389 JE Beever (2004)
			<i>Rosulabryum campylothecium</i>	AK300387 JE Beever (2004)
			<i>Rosulabryum subtomentosum</i>	AK300381 JE Beever (2004)
			<i>Syntrichia antarctica</i>	AK300359 JE Beever (2004)
			<i>Syntrichia papillosa</i>	AK300360 JE Beever (2004)
			<i>Thuidiopsis sparsa</i>	AK300379 JE Beever (2004)
			<i>Tortella flavovirens</i>	AK300362 JE Beever (2004)
			<i>Tortula muralis</i>	AK300367 JE Beever (2004)
			<i>Triquetrella papillata</i>	AK300368 JE Beever (2004)
			<i>Weissia</i> "Miranda"	AK332728 JE Beever (2004)
			<i>Weissia controversa</i>	AK332725 JE Beever (2004)
Liverworts				
<i>Chiloscyphus semiteres</i>	AK239423	EK Cameron (1999)		
<i>Metzgeria furcata</i>	AK304298	PJ de Lange et al. (2009)		
Mosses (supplied by Jessica Beever, 2021)				
<i>Barbula calycina</i>	AK289734	JE Beever (2005)		
<i>Barbula convoluta</i>	AK289733	JE Beever (2005)		
<i>Barbula unguiculata</i>	AK300357	JE Beever (2006)		
<i>Bryum argenteum</i>	AK300383	JE Beever (2004)		
<i>Bryum clavatum</i>	AK300377	JE Beever (2004)		
<i>Bryum dichotomum</i>	AK300382	JE Beever (2004)		
<i>Campylopus clavatus</i>	AK300384	JE Beever (2004)		

Christmas pot-luck picnic and field trip to Point Wells, Whangateau, 4 December 2021

Maureen Young and Ewen Cameron

Participants: *Jessica Beever, Duncan Benzie, Steve Cook, Ewen Cameron, Bev & Geoff Davidson, Frances Duff, Leslie Haines, Mei Nee Lee, John Millett, Philip Moll, Helen Preston Jones, Juliet Richmond, Joshua Salter, Lydia & Ian Smith, John Staniland, Claire Stevens, Cheryl Taylor, Alison Wesley, Maureen Young (leader).*

Fortuitously, our Christmas function had been planned for the day after Aucklanders were allowed

out of COVID-19 gaol, and Auckland had just moved to the new traffic light system (red) which allows up to 100 vaccinated people to gather, keeping 1-m physically apart. So, we headed north to the pleasant village of Point Wells, located on a tongue of peat land in the Whangateau Harbour. After meeting at the local hall and setting it up for our meal, we set off on our pre-luncheon walk which took us on a loop, partly through village streets and partly around the harbour's edge (Fig. 1).

Figs. 1–7: 1. Bot Soccers (some with Covid face masks) looking at the saltmarsh species along the Point Wells foreshore. Photo, looking north: Cheryl Taylor. All photos taken on the day of the field trip, unless otherwise stated. 2. *Sphagnum falcatulum*, along with several other interesting mosses, occurred in a street-side ditch at Point Wells. Photo: Joshua Salter. 3. *Selliera* (*Goodenia radicans*) with the split corollas – a common feature of the family, Goodeniaceae. Photo: Philip Moll. 4. Patches of different saltmarsh species: needle tussock at back (pale-coloured); sea rush (erect and dark green); samolus (with white flowers); selliera (bright green and no flowers evident); marsh ribbonwood (shrub, front right); and rank kikuyu in foreground. Photo: Joshua Salter. 5. Flowering saltmarsh celery (*Apium* "white denticles") showing the white denticles on the tips of the leaflet segments, hence its informal name. Photo: Joshua Salter. 6. Young fruit of the marsh ribbonwood, on the edge of the saltmarsh. Photo: Joshua Salter. 7. The attractive but weedy wild gladiolus and knobby clubrush. Photo: Joshua Salter.



Joshua was immediately drawn by a patch of mosses in the quite deep roadside ditch, discovering in the damper, shadier parts *Sphagnum falcatum* (Fig. 2), *Polytrichum* sp., *Philonotis* sp., *Fissidens* sp. and a thalloid liverwort. Jessica was quickly consulted on the identification of the sphagnum. Returning a week later, Joshua was disappointed to find that the ditch had been sprayed with herbicide killing most of the plants.

Some 25 m from the harbour we were surprised to come upon a ditch which had a full suite of saltmarsh turf plants within (margin of the access between 36 and 38 Harbour View Road). These included selliera (*Goodenia radicans*) (Fig. 3), samolus (*Samolus repens*), *Triglochin striata*, bachelor's button (*Cotula coronopifolia*), sea spurrey (*Spergularia marina*, the minute seeds later checked under a microscope confirming the species), saltmarsh celery (the estuarine entity that has the tag name of *Apium* "white denticles") and *Isolepis cernua*. Mixed with these native species were the exotic *Plantago coronopus* and orache (*Atriplex prostrata*) scattered on the margin (see Appendix for a list of the saltmarsh and associated species that we saw). This site, as far as we could estimate, would not be within reach of the saltwater (and the same applied to hollows with the same turf plants that we later found in the mown kikuyu (*Cenchrus clandestinus*) lawns). This puzzle was later explained by an inquisitive local resident (pers. comm.). Evidently, when there is a spring tide, the seawater backs up the drainage pipes and inundates any hollows below the tide level. Puzzle solved! Our unnamed resident also informed us that several of the coastal plants had been planted and in spring she had seen a banded rail there with a chick. Pied stilts and bar-tailed godwits were feeding further out by the water's edge and welcome swallows were busy low-flying, feeding over the water.

Once the beach edge was reached, we discovered that the saltmarsh vegetation there was a real picture. Samolus and selliera were flowering profusely, in places covering areas that were generally monocultures of one or the other (Fig. 4); the bachelor's button, although half way through its flowering period, was never-the-less sporting numerous yellow "bachelor's buttons"; and the saltmarsh celery, with its umbelliferous flower-heads indicating its membership of the carrot family (Fig. 5), would be good for curing scurvy, if that's what ails you. The sea spurrey flowered somewhat earlier, so we missed seeing the pale pink flowers, but the plants were there in profusion, and fruiting well. Where the mown lawns met the sand grew the much taller monocots *Austrostipa stipoides*, *Machaerina juncea*, *Apodasmia similis* and knobby clubrush (*Ficinia nodosa*). Tangles of marsh ribbonwood (*Plagianthus divaricatus*) were also present (Fig. 6). The green-yellow flowers of the weedy wild gladiolus (*Gladiolus undulatus*) were evident among some of them (Fig. 7). Ewen was temporarily stumped by a sterile, stiff sedge (closed leaf sheath), with only leafy bases 2–3 cm tall to go on, that formed quite a carpet of the mown area. His suggested identification was confirmed when Geoff found some tall fertile material that wasn't mown: the invasive exotic divided sedge (*Carex divisa*). The pohutukawa (*Metrosideros excelsa*) trees were largely in flower, but the planted yellow-flowered form drew few words of praise. Commonly in the adjacent mown non-saltmarsh lawns were tiny blue flowers, *Sisyrinchium rosulatum* (= S. "blue"), a South American species in the iris family. We wondered how the low-lying harbourside houses would fare as the sea-level rises. The loop then took us through village streets and back to the hall. Point Wells often names itself a garden village, so Ewen was kept busy identifying various interesting garden shrubs and trees.



Figs. 8–10: 8. Bot Soccers admiring the Adders' tongue population along the forest/road edge for nearly 100 m at Omaha. Photo: Ewen Cameron. 9. Adders' tongues (*Ophioglossum petiolatum*) locally abundant along the forest/road edge at Omaha. Photo: Ewen Cameron. 10. In places the adders' tongues were very dense and the fertile ones had still not dehisced 18 days after our visit; road edge, Omaha. Photo: Sandra Jones, 22 Dec 2021.

The back of the hall opens on to a large deck, so that is where we sat and ate and enjoyed being able to socialise with our botanical friends once again. When time came to clean up and leave, some headed home, but those whose botanical curiosity was still alive and well, headed over the nearby causeway to Omaha. There, on the edge of the Taniko Swamp Forest (Fig. 8), we sought out the population of the summer-green, nationally critical *Ophioglossum petiolatum* that we first visited in 2015 (Wilson 2015: fig. 4). It was originally spotted there by Tim Martin around 2001 (see note on AK 356030). Last summer, after two extremely dry years, only one sickly sterile frond could be

found (MY, pers. obs.), but after this year's warm, wet winter a very large, healthy population has established (Fig. 9). The fertile fronds, or "adders' tongues", were still green and entire (Fig. 10) – an eye will be kept on them to see when they dehisce. We finally departed, with the warm feeling that with camaraderie and good botany, what more could one want from life.

Acknowledgements

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Reference

Wilson, D. 2015: Field trip to Omaha–Taniko Wetlands Scientific Reserve, Omaha, 21 November 2015. *Auckland Botanical Society Journal* 71: 5–9.

Appendix. Saltmarsh and associated species of vascular plants, NE harbour margin of Point Wells, recorded during the ABS visit, 4 Dec 2021. * = naturalised species

Taxon	Common name	Notes
Dicotyledons		
<i>Apium</i> "white denticles"	saltmarsh celery	flowering and green fruit
<i>Atriplex prostrata</i> *	orache	
<i>Avicennia marina</i>	mangrove	
<i>Cotula coronopifolia</i>	bachelor's button	
<i>Goodenia radicans</i>	selliera	flowering
<i>Leptospermum scoparium</i>	manuka	scarce
<i>Lysimachia arvensis</i> s.str. *	scarlet pimpernel	
<i>Metrosideros excelsa</i>	pohutukawa	including one with yellow flowers - planted
<i>Plagianthus divaricatus</i>	marsh ribbonwood	with green fruit
<i>Plantago coronopus</i> *	buck's horn plantain	
<i>Salicornia quinqueflora</i>	glasswort	in patches
<i>Samolus repens</i>	samolus	flowering
<i>Spergularia marina</i>	sea spurrey	fruiting. AK 383609
Monocotyledons		
<i>Apodasmia similis</i>	oioi	
<i>Austrostipa stipoides</i>	needle tussock	
<i>Bromus hordeaceus</i> *	soft brome	local
<i>Carex divisa</i> *	divided sedge	sward
<i>Cenchrus clandestinus</i> *	kikuyu grass	adjacent swards
<i>Ficinia nodosa</i>	knobby clubrush	
<i>Gladiolus undulatus</i> *	wild gladiolus	flowering
<i>Isolepis cernua</i>		
<i>Juncus kraussii</i>	sea rush	
<i>Machaerina juncea</i>		
<i>Parapholis incurva</i> *	sickle grass	
<i>Paspalum vaginatum</i> *	saltwater paspalum	
<i>Polypogon monspeliensis</i> *	beard grass	local
<i>Stenotaphrum secundatum</i> *	buffalo grass	adjacent swards
<i>Triglochin striata</i>	triglochin	