

<i>Lagurus ovatus</i>	haretail
<i>Lolium arundinaceum</i>	tall fescue
<i>Lolium perenne</i>	rye grass
<i>Paspalum dilatatum</i>	paspalum
<i>Paspalum vaginatum</i>	saltwater paspalum
<i>Poa annua</i>	annual poa
<i>Sporobolus africanus</i>	ratstail
<i>Stenotaphrum secundatum</i>	buffalo grass
<i>Vulpia</i> sp.	

Monocots - Sedges

<i>Cyperus congestus</i> (M. Wilcox pers. comm.)	purple umbrella sedge
<i>Cyperus eragrostis</i>	umbrella sedge
<i>Cyperus esculentus</i>	yellow nut grass

Monocots - Rushes

<i>Juncus articulatus</i>	jointed rush
<i>Juncus bufonius</i> var. <i>bufonius</i>	toad rush

Monocots - Herbs (except grasses, sedges, and rushes)

<i>Agapanthus praecox</i>	agapanthus
<i>Alisma plantago-aquatica</i>	water plantain
<i>Aloe arborescens</i>	aloe
<i>Aloe</i> sp.	aloe
<i>Amaryllis belladonna</i>	naked lady
<i>Anigozanthos</i> sp.	kangaroo paws
<i>Arum italicum</i>	Italian arum
<i>Canna indica</i>	canna lily, Indian shot
<i>Crocasmia</i> × <i>crocosmiiflora</i>	montbretia
<i>Gladiolus undulatus</i>	gladiolus
<i>Hedychium gardnerianum</i>	kahili ginger, wild ginger
<i>Iris</i> sp.	iris
<i>Kniphofia praecox</i>	red hot poker
<i>Lilium formosanum</i>	Formosan lily
<i>Tradescantia fluminensis</i>	tradescantia
<i>Watsonia</i> sp.	watsonia
<i>Zantedeschia aethiopica</i>	arum lily

BRYOPHYTES

MOSSES (supplied by Mike Wilcox)

<i>Kindbergia praelonga</i>
<i>Rosulabryum capillare</i>
<i>Tortella rubripes</i>

A botanical visit to Miranda, Firth of Thames

Bec Stanley, Mike Wilcox, Maureen Young

While many of us had previously visited Miranda to look at shorebirds, the Auckland Botanical Society's first field trip to Pūkoro Miranda took place on 20 April 2019. Our group was : *Jenny Andrew, Lawrence Blount, Wendy Blount, Jan Butcher, Neil Davies, Frances Duff, Shelley Heiss-Dunlop, Christine Major, Philip Moll, Helen Preston Jones, Peter Moosberger, Juliet Richmond, John Rowe, Stella Rowe, Joshua Salter, Peter Scott, Rebecca Stanley* (leader), *Ian Whitehouse, Mike Wilcox, Pam Wilcox, Keith Woodley* (resident manager, Shorebird Centre), *Maureen Young*.

The most well-known attractions of the site are roosting shorebirds and the chenier plains they inhabit. The vegetation is predominantly exotic but is well-known in botanical circles for two native

species: green mistletoe (*Ileostylus micranthus*) and the small saltmarsh herb *Thyridia repens*.

Our base for the trip was the Pūkoro Miranda Shorebird Centre which sits on one of fourteen shell chenier ridges that make up the chenier plains of Miranda, an internationally significant landform (Hayward 2013). The ridges are wave-driven successional geological features which form a time series (the oldest c.2 km inland, the youngest at the seaward edge) made of shell and sediment. The newest ridge is described by Hayward (2013) as having formed since 1960 at the southernmost tip of the shorebird area. The whole area is low-lying at around 2–3m above sea level. Between the ridges, mud builds up and some parts eventually become dry land as plants colonise and the area is more and



Fig. 1. Glasswort (*Salicornia quinqueflora*), the most prominent native salt meadow plant, Miranda, 31 Aug 2019. All photos by Mike Wilcox.



Fig. 2. Glasswort with the introduced salt marsh sedge (*Carex divisa*) – the worst weed at Miranda, 31 Aug 2019.

more isolated from the tides (others are still tidal channels, with mangroves, or modified into ponds). The chenier plains here are the most extensive in New Zealand (Clarkson et al. 2014) and are regarded as a critically endangered threatened ecosystem (Holdaway *et al.* 2012).

A botanical survey by the Waikato Botanical Society (Merrett & Clarkson 1997) described seven vegetation types here: mangrove forest; herbfields (a glasswort type and a bachelors button type); sedgeland, grassland and saltmarsh shrubland. Native saltmarshes are not naturally highly botanically diverse ecosystems but most major native saltmarsh species are present. The vegetation in most of these types is highly modified, particularly the grassland and sedgeland which are almost entirely composed of exotic vegetation (Figs. 1–6). The area is the site of an old lime works, has been farmed (from the mid 1950s to the early 2000s, Keith Woodley *pers. comm.*) and a road bisects the chenier plains. This complexity of habitats driven by its low-lying geology and natural tidal variations, overlaid by a range of modifications, make the area botanically interesting for its unique plant assemblages. It is a dynamic place, with habitats shifting with the changing geology as well as notable changes in the exotic vegetation dominance in recent memory (possibly in response to the removal of cattle). The herb and grass meadow noted by Merrett & Clarkson (1997) as the dominant vegetation type still appears to be what covers much of the area, though some plants once characteristic of this type e.g. *Echium* sp. which formed fields of blue when in flower (Keith Woodley *pers. comm.*). Today this herb is hard to find, and fennel now dominates with its bright yellow blooms.

The king tides (notably the early January 2018 storm event) have affected the small population of *Ileostylus micranthus* (Fig. 7) by killing its hosts



Fig. 3. Seablite (*Suaeda novaezelandiae*) – red colour, and glasswort, Miranda, 28 Feb 2013.



Fig. 4. *Bolboschoenus caldwellii*, a plentiful native salt meadow sedge (Type locality nearby at Waitakaruru), Miranda, 20 Apr 2019.

(*Plagianthus divaricatus* and *Coprosma propinqua*) with saltwater inundation. The mistletoes are adjacent to a small planted area across the road from the Shorebird Centre. This planting (1997–1999) by DOC and Auckland Botanic Gardens aimed to increase the hosts available to the mistletoe. All seeds were eco-sourced from the Miranda coastline. Sadly, much of this native planting has also succumbed to the saltwater though some hosts and perhaps a few mistletoe may persist in this block. However, we did not survey here on this trip. Mosses on the shellbank (Figs. 8, 9) are worthy of more attention in our opinion and could be similar to those noted on the shellbank in the Te Matuku Scenic Reserve on Waiheke Island (Beever 1995). Lichens are recorded by Blanchon et al. (2013). We were delighted to see populations of two interesting rarer plants in the newly acquired block (Goldwater 2019): *Oxybasis ambigua* (Amaranthaceae) and *Thyridia repens*. Another interesting record at the site includes the abundance of wild silverbeet (*Beta vulgaris* subsp. *vulgaris*).

The Pūkoro Miranda Naturalists' Trust vision for the saltmarsh area is that the existing saltmarsh be restored (in appropriate areas, that is, where this will not affect shorebirds) to increase habitat for other species of birds (such as fernbirds) and invertebrates. Most exotic plants present are not environmental weeds, although some are potential 'ecosystem engineers' such as *Carex divisa* which will affect restoration. Control of some exotic plants might be possible using tidal inundation, drainage, grazing and or fencing. Experimental management to weaken the dominance of *C. divisa* for example, by saltwater inundation, might be a useful exercise, as observations by the Trust staff are that this species does not do well in standing saltwater after very high tides. Two exotic salt-tolerant trees (*Tamarix chinensis* and *Casuarina glauca*) were planted in the reserve in the 1970s by the Trust, to create a screen from the road for an observatory area (Keith Woodley *pers. comm*). They are now (both?) naturalising in the reserve. The garden at the shorebird centre also contains numerous plants, and naturalised species, that could potentially spread into the saltmarsh (e.g. *Ehrharta erecta*) and therefore none of the plants at the garden should be used to source seed for restoration.

The plant list (Appendix 1) presented here encompasses all land managed by the Shorebird Trust, the mudflats, and DOC-managed land (Taramaire) contiguous with this, as well as the roadsides that run through this area. We have attempted to compile all known lists (published



Fig. 5. Wild silver beet (*Beta vulgaris*), common on the seaward edge of shell banks, Miranda, 30 Sep 2014.



Fig. 6. White stonecrop (*Sedum album*), a succulent (Crassulaceae), abundantly naturalised on shell banks, Miranda, 21 Jan 2007.

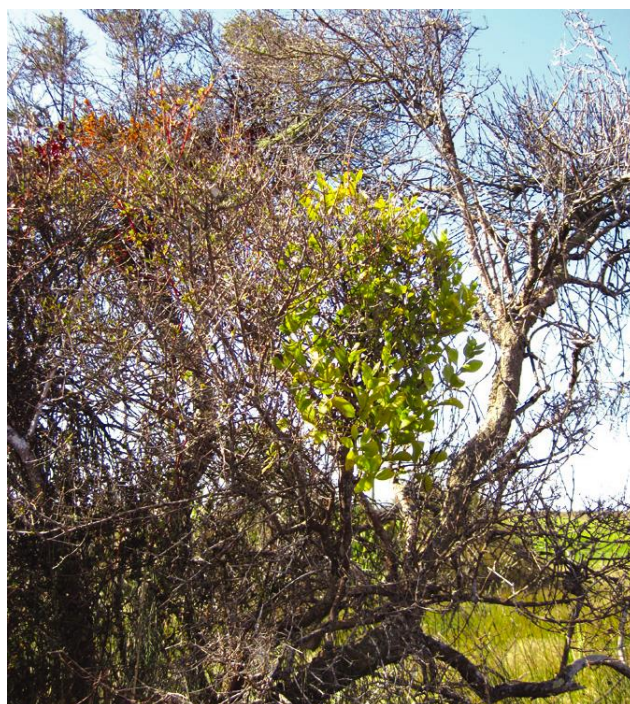


Fig. 7. Mistletoe (*Ileostylus micranthus*) on manuka, Miranda, 20 Apr 2019.



Fig. 8. Mossfield under wild carrot (*Daucus carota*) canopy on shellbanks south of the main bird hide, Miranda, 31 Aug 2019.



Fig. 9. *Tortella flavovirens*, a yellow-green moss forming mats on shellbanks, Miranda, 31 Aug 2019.

and unpublished) for the area to establish a flora, however, we acknowledge that unless there is a specimen many records are not able to be verified by us at the time of writing. We envisage this list as a basis for further additions and corrections and advocate the value of herbarium specimens for any new records. Merrett & Clarkson (1987) is the most comprehensive reference we relied upon. The flora presented here totals 272 taxa (76 seen on this trip). The shorebird centre garden is listed separately in Appendix 2.

Acknowledgements

Thanks to Keith Woodley for hosting us, and to Peter Maddison for sharing the BioBlitz list (as well as the attendees at the BioBlitz for their plant records) published here for the first time.

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Postscript: Sequel

On 31 August 2019 *Bec Stanley* and *Mike Wilcox* took part in a meeting and field visit at Miranda to discuss environmental restoration. Others present were *Keith Woodley* (convenor), *Ray* and *Anne Buckmaster*, *Steve Benham*, *Nick Goldwater*, *David Havell*, *Catherine Beard*, *Ken Brown* (DOC, Thames), *Peter Maddison*, *Chris Longson* (Ecoquest), *Warwick* and *Krishna Buckman* (Waihi). During this visit Mike Wilcox noted the abundance of the freshwater alga *Spirogyra varians* in ponds at Taramaire and the extensive moss gardens of *Triquetrella papillosa*, *Tortella flavovirens* (Fig. 9), *Rosulabryum campylothecium*, *R. capillare* and *Syntrichia antarctica* on the shell banks south of the main bird hide.

Appendix 1. Native and Naturalised Plants Recorded at Miranda.

The base list used for this trip was Merrett & Clarkson (1997), with revised scientific names where necessary. If no additional reference is cited, the species is from Merrett & Clarkson (1997). All species on the BioBlitz 2013 (BB) list are included as are all plants recorded for Miranda in Ogle (1984), Maddison & Brejaart (2004) and Strahan (1997). Species recorded on this trip are identified by a # hashtag. Further records are added as personal communications (Mike Wilcox 2000 & 2007 and Steve Benham 2019). Plants in the Shorebird Centre garden, or only naturalised there, are listed separately in Appendix 2.

Key

* non-native	BB BioBlitz 2013	O Ogle 1984
+ planted	M&B Madison & Brejaart 2004	S Strahan 1997
# recorded by ABS Apr 2019	MW Mike Wilcox 2000 & 2007	SB Steve Benham 2019

Mosses (12)

<i>Barbula unguiculata</i>	#
<i>Bryum argenteum</i>	BB
<i>Didymodon torquatus</i>	BB
<i>Funaria hygrometrica</i>	BB
<i>Rosulabryum campylothecium</i>	#
<i>Rosulabryum capillare</i>	#
<i>Rosulabryum subtomentosum</i>	BB
<i>Syntrichia antarctica</i>	#
<i>Thuidium furfursum</i>	BB
<i>Tortella flavovirens</i>	BB
<i>Tortella muralis</i>	BB
<i>Triquetrella papillata</i>	#

Ferns (2)

<i>Pteridium esculentum</i>	BB
<i>Pyrrosia elaeagnifolia</i>	BB

Dicots - Shrubs/Trees (24)

<i>Avicennia marina</i>	#
<i>Casuarina glauca</i> * (naturalising)	+ #
<i>Coprosma propinqua</i>	#
<i>Coprosma propinqua</i> × <i>C. robusta</i>	
<i>Coprosma repens</i> (naturalising)	#
<i>Coprosma robusta</i>	BB
<i>Crataegus monogyna</i> *	BB
<i>Eriobotrya japonica</i> *	+
<i>Ficus carica</i> *	+
<i>Ileostylus micranthus</i>	#
<i>Juglans nigra</i> *	BB
<i>Leptospermum scoparium</i>	+ #
<i>Lonicera japonica</i> *	BB
<i>Lycium ferocissimum</i> *	BB
<i>Malus</i> × <i>domestica</i> *	BB
<i>Myoporum insulare</i> *	+
<i>Olearia lineata</i> *	+
<i>Olearia traversii</i> *	+
<i>Plagianthus divaricatus</i>	#
<i>Rosa rubiginosa</i> *	

<i>Salix alba</i> var. <i>vitellina</i> *	BB
<i>Salix cinerea</i> *	BB
<i>Tamarix chinensis</i> *	+
<i>Ulex europaeus</i> *	

Dicots - Climbers (8)

<i>Calystegia sepium</i> *	#
<i>Calystegia sepium</i> ssp. <i>roseata</i> *	BB
<i>Calystegia soldanella</i> *	
<i>Calystegia silvatica</i> *	M&B
<i>Calystegia tuguriorum</i>	BB
<i>Jasminum mesnyi</i> *	BB
<i>Muehlenbeckia complexa</i>	#
<i>Rubus fruticosus</i> agg.*	BB

Dicots - Herbs (156)

<i>Amaranthus deflexus</i> *	BB
<i>Amaranthus powellii</i> *	BB
<i>Anagallis arvensis</i> *	
(syn. <i>Lysimachia arvensis</i>)	
<i>Anthemis arvensis</i> *	BB
<i>Anthemis cotula</i> *	BB
<i>Aphanes inexpectata</i> *	
<i>Apium nodiflorum</i> *	
<i>Apium prostratum</i>	S
<i>Arenaria serpyllifolia</i> *	
<i>Atriplex patula</i> *	#
<i>Atriplex prostrata</i> *	#
<i>Beta vulgaris</i> subsp. <i>vulgaris</i> *	#
<i>Bidens</i> sp.*	S
<i>Brassica rapa</i> *	BB
<i>Capsella bursa-pastoris</i> *	
<i>Cardamine hirsuta</i> *	#
<i>Carduus tenuiflorus</i> *	
<i>Carduus pycnocephalus</i> *	M&B
<i>Centaureum erythraea</i> *	
<i>Cerastium glomeratum</i> *	
<i>Chenopodium album</i> *	BB
<i>Cichorium intybus</i> *	M&B
<i>Ciclospermum leptophyllum</i> *	#

<i>Cirsium arvense</i> *	BB	<i>Medicago arabica</i> *	
<i>Cirsium vulgare</i> *		<i>Medicago lupulina</i> *	
<i>Cotula coronopifolia</i>	#	<i>Medicago nigra</i> *	
<i>Crepis capillaris</i> *		<i>Medicago sativa</i> *	BB
<i>Daucus carota</i> *	#	<i>Melilotus indicus</i> *	
<i>Diplotaxis muralis</i> *	#	<i>Melilotus officinalis</i> *	
<i>Dipsacus fullonum</i> * (syn. <i>D. sylvestris</i>)	BB	<i>Mentha pulegium</i> *	
<i>Echium plantagineum</i> *		<i>Modiola caroliniana</i> *	
<i>Echium vulgare</i> *		<i>Oenanthe pimpinelloides</i> *	#
<i>Epilobium ciliatum</i> *	BB	<i>Oenothera biennis</i> *	BB
<i>Erigeron bonariensis</i> *	#	<i>Oenothera glazioviana</i> *	BB
<i>Erigeron sumatrensis</i> *		<i>Orobanche minor</i> *	
(syn. <i>Conyza albida</i>)		<i>Osteospermum jucundum</i> *	SB
<i>Erodium cicutarium</i> *		<i>Osteospermum fruticosum</i> *	SB
<i>Euphorbia peplus</i> *		<i>Oxybasis ambigua</i>	#
<i>Euphorbia lathyris</i> *	M&B	<i>Papaver dubium</i> *	SB
<i>Euphorbia maculata</i> *	#	<i>Parentucellia viscosa</i> *	
(syn. <i>Chamaesyce maculata</i>)		<i>Pelargonium × hortorum</i> *	BB
<i>Foeniculum vulgare</i> *	#	<i>Persicaria hydropiper</i> *	#
<i>Fumaria capreolata</i> *	#	<i>Phytolacca octandra</i> *	
<i>Fumaria bastardii</i> *	#	<i>Plantago australis</i> *	#
<i>Galium aparine</i> *	O	<i>Plantago coronopus</i> *	#
<i>Galium divaricatum</i> *	#	<i>Plantago lanceolata</i> *	
<i>Galium palustre</i> *	#	<i>Plantago major</i> *	#
<i>Galium propinquum</i>		<i>Polygonum arenastrum</i> *	#
<i>Geranium dissectum</i> *	BB	<i>Polygonum aviculare</i> *	
<i>Geranium molle</i> *		<i>Polycarpon tetraphyllum</i> *	BB
<i>Geranium potentilloides</i>	BB	<i>Portulaca oleracea</i> *	
<i>Geranium purpureum</i> *		<i>Potentilla reptans</i> *	#
<i>Geranium robertianum</i> *		<i>Prunella vulgaris</i> *	
<i>Haloragis erecta</i>		<i>Pseudognaphalium luteoalbum</i>	M&B
<i>Helminthotheca echioides</i> *		<i>Pyrus communis</i> *	SB
<i>Hypochaeris radicata</i> *		<i>Ranunculus parviflorus</i> *	BB
<i>Jacobaea vulgaris</i> *	BB	<i>Ranunculus repens</i> *	#
<i>Leontodon saxatilis</i> *	#	<i>Ranunculus sardosus</i> *	#
<i>Lepidium africanum</i> *		<i>Ranunculus sceleratus</i> *	#
<i>Lepidium bonariense</i> *	#	<i>Raphanus raphanistrum</i> *	
<i>Lepidium didymum</i> *		<i>Rumex conglomeratus</i> *	M&B
<i>Lepidium pseudotasmanicum</i> *		<i>Rumex crispus</i> *	
<i>Lilaeopsis novae-zelandiae</i>		<i>Rumex obtusifolius</i> *	M&B
<i>Linaria arvensis</i> *		<i>Rumex pulcher</i> *	
<i>Linaria purpurea</i> *	M&B	<i>Samolus repens</i>	#
<i>Linum bienne</i> *		<i>Salicornia quinqueflora</i>	#
<i>Lotus pedunculatus</i> *		(syn. <i>Sarcocornia quinqueflora</i>)	
<i>Lotus suaveolens</i> *		<i>Sedum album</i> *	#
<i>Lythrum hyssopifolia</i> *	#	<i>Selliera radicans</i>	
<i>Malva neglecta</i> *		<i>Senecio bipinnatisectus</i>	M&B
<i>Malva nicaeensis</i> *	BB	<i>Senecio diaschides</i>	BB
<i>Malva sylvestris</i> *	BB	<i>Senecio lautus</i>	BB
<i>Malva pseudolavatera</i> *	#	<i>Senecio glomeratus</i> subsp. <i>glomeratus</i>	
(syn. <i>Lavatera cretica</i>)			

<i>Senecio skirrhodon</i> *	BB	<i>Bromus hordeaceus</i> *	
<i>Senecio sylvaticus</i> *	BB	<i>Bromus sterilis</i> *	
<i>Senecio vulgaris</i> *		<i>Catapodium rigidum</i> *	
<i>Sherardia arvensis</i> *		<i>Cenchrus clandestinus</i> *	
<i>Sison amomum</i> *	#	<i>Cortaderia jubata</i> *	BB
<i>Sisymbrium officinale</i> *		<i>Cortaderia selloana</i> *	BB
<i>Solanum chenopodioides</i> *	BB	<i>Critesion hystrix</i> *	MW 2000
<i>Solanum nigrum</i> *	#	<i>Critesion marinum</i> *	M&B
<i>Soliva sessilis</i> *	#	<i>Critesion murinum</i> *	M&B
<i>Sonchus asper</i> *	#	<i>Cynodon dactylon</i> *	#
<i>Sonchus oleraceus</i> *		<i>Cynosurus cristatus</i> *	BB
<i>Spergularia marina</i> *	# (O 1984, as <i>Spergularia media</i>)	<i>Dactylis glomerata</i> *	#
<i>Stellaria media</i> *		<i>Dichelachne crinita</i>	
<i>Suaeda novae-zelandiae</i>	#	<i>Digitaria sanguinalis</i> *	#
<i>Symphyotrichum subulatum</i> *		<i>Echinochloa crus-galli</i> *	BB
<i>Taraxacum officinale</i> * agg.		<i>Eleusine indica</i> *	#
<i>Thyridia repens</i> (syn. <i>Mimulus repens</i>)	#	<i>Eragrostis brownii</i> *	#
<i>Torilis arvensis</i> *		<i>Holcus lanatus</i> *	
<i>Tragopogon porrifolius</i> *	MW 2007	<i>Lagurus ovatus</i> *	#
<i>Trifolium cernuum</i> *	M&B	<i>Lolium arundinaceum</i> *	#
<i>Trifolium dubium</i> *		<i>Lolium perenne</i> *	
<i>Trifolium fragiferum</i> *		<i>Parapholis incurva</i> *	
<i>Trifolium glomeratum</i> *		<i>Parapholis strigosa</i> *	
<i>Trifolium pratense</i> *		<i>Paspalum dilatatum</i> *	#
<i>Trifolium repens</i> *		<i>Paspalum distichum</i> *	
<i>Trifolium resupinatum</i> *		<i>Phalaris aquatica</i> *	#
<i>Trifolium scabrum</i> *		<i>Phalaris canariensis</i> *	BB
<i>Verbascum virgatum</i> *	#	<i>Poa annua</i> *	
<i>Verbena bonariensis</i> *	BB	<i>Poa pratensis</i> *	
<i>Verbena littoralis</i> *	#	<i>Poa trivialis</i> *	M&B
<i>Verbena officinalis</i> *	M&B	<i>Polypogon monspeliensis</i> *	#
<i>Veronica arvensis</i> *		<i>Puccinellia stricta</i>	
<i>Veronica persica</i> *		<i>Rytidosperma biannulare</i>	BB
<i>Vicia</i> sp.*		<i>Setaria pumila</i> *	#
Monocots - Grasses (52)		<i>Sporobolus africanus</i> *	#
<i>Agrostis capillaris</i> *	BB	<i>Stenotaphrum secundatum</i> *	BB
<i>Agrostis stolonifera</i> *		<i>Vulpia bromoides</i> *	
<i>Alopecurus ?geniculatus</i> *	BB	<i>Vulpia myuros</i> *	O
<i>Alopecurus pratensis</i> *	BB		
<i>Anthoxanthum odoratum</i> *	BB		
<i>Arrhenatherum elatius</i> *			
<i>Austrostipa stipoides</i>			
<i>Avena barbata</i> *	BB		
<i>Avena fatua</i> *			
<i>Briza maxima</i> *			
<i>Briza minor</i> *			
<i>Bromus catharticus</i> *	(O 1984, as <i>B. uniloides</i>)		
<i>Bromus diandrus</i> *			
		Monocots - Sedges & Rushes (19)	
		<i>Apodasmia similis</i>	S
		<i>Bolboschoenus caldwellii</i>	#
		<i>Bolboschoenus medianus</i>	
		<i>Carex divisa</i> *	#
		<i>Carex divulsa</i> *	S
		<i>Cyperus congestus</i> *	BB

<i>Cyperus eragrostis</i> *		<i>Schoenoplectus tabernaemontani</i>	#
<i>Ficinia nodosa</i>	#	<i>Typha orientalis</i>	MW 2000
<i>Isolepis cernua</i>	#		
<i>Isolepis sepulcralis</i> *	M&B		
<i>Juncus acuminatus</i> *	BB		
<i>Juncus bufonius</i> *			
<i>Juncus gerardii</i> *			
<i>Juncus kraussii</i> subsp. <i>australiensis</i>	#		
<i>Lepidosperma australe</i>			
<i>Machaerina juncea</i>	MW 2000		

Monocots - Other (7)

<i>Allium vineale</i> var. <i>compactum</i> *	
<i>Agapanthus praecox</i> *	BB
<i>Amaryllis belladonna</i> *	BB
<i>Asparagus asparagoides</i> *	#
<i>Crocasmia</i> × <i>crocosmiiflora</i> *	BB
<i>Phormium tenax</i>	+
<i>Triglochin striata</i>	

Appendix 2. Plants recorded in the Garden at the Shorebird Centre, Miranda

Most plants in this list were recorded during the BioBlitz (2013). Plants that have naturalised widely, including at the Centre, are recorded in Appendix 1. There are a handful of naturalised plants at the Shorebird Centre not yet found in any other areas which are listed separately ("Naturalised in the Garden"). # recorded by ABS Apr 2019.

Naturalised in the Garden

<i>Bellis perennis</i> *	#
<i>Ehrharta erecta</i> *	#
<i>Euphorbia peplus</i> *	#
<i>Oxalis corniculata</i> ssp. <i>corniculata</i> *	#
<i>Oxalis latifolia</i> *	BB
<i>Sison amomum</i> *	#

Dicots

<i>Aeonium arboreum</i> *	
<i>Aquilegia</i> sp. *	
<i>Arctotis</i> sp. *	
<i>Bergenia</i> sp. *	
<i>Callistemon</i> sp. *	
<i>Choisya ternata</i> *	
<i>Cistus</i> sp. *	
<i>Convolvulus sabatius</i> *	
<i>Coprosma</i> × <i>kirkii</i> 'Goldstream'	
<i>Coprosma propinqua</i>	#
<i>Coprosma propinqua</i> × <i>C. robusta</i>	
<i>Coprosma propinqua</i>	
<i>Coprosma repens</i>	
<i>Coprosma</i> hybrid	
<i>Corokia buddleioides</i> × <i>C. cotoneaster</i>	
<i>Corynocarpus laevigatus</i>	
<i>Cotyledon orbicularis</i> *	
<i>Crassula multicaulis</i> *	

Crassula ovata

<i>Crassula ovata</i> *	
<i>Dodonaea viscosa</i>	#
<i>Fuchsia procumbens</i>	
<i>Galium aparine</i> *	
<i>Hebe diosmifolia</i> cv.	
<i>Hebe speciosa</i> cv.	
<i>Hebe stricta</i>	
<i>Hedera helix</i> 'Variegata' *	
<i>Hydrangea quercifolia</i> *	
<i>Lavatera arborea</i> *	
<i>Lavendula angustifolia</i> *	
<i>Lavendula stoechas</i> *	
<i>Lychinis</i> sp. *	
<i>Lycopersicon esculentum</i> *	
<i>Melicytus crassifolius</i>	
<i>Mentha spicata</i> var. <i>spicata</i> *	
<i>Metrosideros excelsa</i>	#
<i>Muehlenbeckia complexa</i>	#
<i>Myoporum laetum</i>	#
<i>Nandina domestica</i> *	
<i>Ocimum basilicum</i> *	
<i>Oenothera glazioviana</i> *	
<i>Osteospermum</i> sp. *	
<i>Parahebe catarractae</i> cv.	
<i>Pelargonium</i> × <i>hortorum</i> *	

Petroselinum crispum

<i>Petroselinum crispum</i> var. <i>neapolitanum</i> *	
<i>Pittosporum crassifolium</i>	#
<i>Pittosporum tenuifolium</i>	
<i>Prunus</i> × <i>domestica</i> *	
<i>Pseudopanax discolor</i>	
<i>Pseudopanax</i> hybrid	
<i>Rosa</i> cv. *	
<i>Salvia</i> sp. *	
<i>Salvia elegans</i> *	
<i>Schinus molle</i> *	
<i>Sedum morganianum</i> *	
<i>Sophora microphylla</i>	#

Monocots

<i>Agapanthus praecox</i> *	
<i>Apodasmia similis</i>	
<i>Arecaceae</i> sp. (a palm) *	
<i>Arthropodium bifurcatum</i>	#
<i>Arthropodium cirratum</i>	
<i>Astelia banksii</i>	
<i>Beaucarnea recurvata</i> *	
<i>Cordyline australis</i>	#
<i>Dracaena reflexa</i> var. <i>marginata</i> *	
<i>Lemna minor</i>	
<i>Monstera deliciosa</i> *	
<i>Phormium cookianum</i>	
<i>Phormium tenax</i>	