

**HISTORICAL AND RECENT OBSERVATIONS OF THE FLORA OF
GARDEN ISLAND, WESTERN AUSTRALIA**

By N.G. Marchant* and I. Abbott**

* Western Australian Herbarium, SOUTH PERTH, W.A.
6151.

** Zoology Dept., University of Western Australia,
NEDLANDS, W.A. 6009.

(Present Address: Institute of Forest Research
and Protection, Hayman Road, COMO, W.A. 6152).

ABSTRACT

We provide a checklist of 188 species collected since 1829 on Garden Island, an island of 1100 ha near Perth, Western Australia. Early observations of the island (1801-1833) emphasised the impenetrability of the vegetation, which conforms well with the vegetation found at present. This is in noted contrast with nearby Rottnest Island, parts of which have been altered considerably since 1829. The flora (native species only) of Garden Island has a 0.71 similarity with that of Rottnest Island.

INTRODUCTION

Garden Island, originally called Meeandip by the Aborigines (Lyon 1833: p. 64) and Ile Buache by the French (Péron, 1807) is 45 km south-west of Perth and southward of Rottnest and Carnac Islands. It is 9.5 km from north to south and only 2 km across at its widest point. The total area is approximately 1100 hectares compared with approximately 1900 ha of Rottnest Island (including 200 ha of salt lakes). The nearest part of the mainland is Point John on Cape Peron which is 2 km from the south-eastern point of Garden Island. The intervening water as well as that between Garden and Carnac Islands is less than 5 m deep. These islands have probably been separated from the mainland for 6,000-7,000 years (Main 1961). Since 1973 Garden Island has been connected to the mainland by a causeway to facilitate access to the naval base, HMAS Stirling.

A ridge-like line of sandy hills runs the entire length of the western part of the island. The sheltered eastern side is gently undulating with extensive flat areas facing Cockburn Sound and the mainland. Most of the surface soil consists of recently formed dunes of calcareous sand. Areas of calcareous dune rock (aeolianite) commonly occur in the western and southern littoral zones.

Climatically the area is Mediterranean with hot, dry summers and cool,

wet winters. The rainfall at Rockingham on the mainland 3 km east of the southern part of Garden Island averages 836 mm per annum (Bureau of Meteorology (1975)). Between 1st April and 30th September, 87% of the rainfall of Rockingham is received. The wettest months, May-August provide 73% of the total annual average rainfall. Temperatures on the island are usually mild, even in summer, and sea breezes and strong winds are commonly experienced. Winter storms with gale-force north-west and south-west winds are frequent and salt spray may fall over the entire island.

The island is almost completely vegetated; there are only a few bare-sand areas caused by blowouts. The most widespread plant cover is dense scrub of *Acacia rostellifera*. Forest-like stands of Rottneest Island Pine, *Callitris preissii* occur in the north of the island along with the only other tree species present, *Melaleuca lanceolata*. Garden Island does not have extensive steppe-like plains characteristic of the western parts of Rottneest Island.

Garden Island, like other islands adjacent to south-western Australia, was not inhabited by Aborigines and so was not subject to frequent firing (Seddon 1972: p. 212). Fires could only have been caused by lightning strikes.

HISTORY OF BOTANICAL INVESTIGATIONS

The French Corvette *Le Naturaliste* visited Garden Island in June 1801, and it was recorded that:

"The interior is completely wooded; the trees on the whole are high and there are shrubs of a very attractive appearance..." (Péron 1807: p. 190; our translation).

In March 1827 Charles Fraser visited Garden Island during the James Stirling expedition to examine the Swan River area.

"The island of Buache is composed principally of low ridges of light sandy loam, traversing the island from north to south, and terminating on the south with high cliffs or banks of sand, the loftiest parts of which are thickly covered with Cypress, (*Calytris*) {*Callitris preissii*; our interpretation} and the surface towards the sea is considerably interrupted by limestone rocks. The soil, though light, appears to me, from the immense thickets of a species of *Solanum* {*Solanum symonii*} which it produces, and which attains a height of ten feet, to be capable of producing any description of light garden crop." (Fraser 1830: p. 233).

The valley-like depressions and northern part of the island were described as:

"covered with gigantic *Solana* {*Solanum symonii*} and a beautiful species of *Brunonia* {*Trachymene caerulea*}."

"The north side of the island is in many places covered with extensive thickets of arborescent *Metrosideros* {*Melaleuca lanceolata*} ..."

In 1829 C.H. Fremantle noted:

"...the found there {on Garden Island} some dry kind of grass and a species of Rushes, the Island barren." (27th April).

"...fire wood was found on Garden Island in great abundance, the island being covered with a small kind of pine {*Callitris*} and fit for no other use." (28th April).

"...went on shore and tried to walk over the Island, but from the thickness of the trees and undergrowth it was impossible to move...The Island is covered with a small kind of Pine wood {*Callitris*} and appears to have been burnt all over, as there is a quantity of young wood coming up." (28th April).

"I determined to return by walking across the Island, and altho the distance does not exceed 3/4 of a mile it occupied us at least an hour, the wood being so thick with quantities of trees burnt and blown down." (7th May).

"On the Island there are a great many small trees which work up well, the wood is excessively hard, a Species of Pine, having the appearance of Cedar, {*Callitris*} and a good deal of Fir: {probably *Melaleuca lanceolata*} it does not run large, and what does is of little value as the inside about the heart is completely decayed." (19th May) (Cottesloe 1928: pp. 32, 34, 43, 51).

The first European settlement of the western coast of Western Australia was established at Garden Island in June 1829. Gardens were established with great difficulty and with little success until efforts were abandoned in late 1830 (Seddon 1972: p. 214). After the settlement of Fremantle and Perth in 1829 three more observations on the indigenous vegetation of Garden Island were made by visiting naturalists. On the 12th November 1829 Thomas Braidwood Wilson noted:

"Arriving nearly at the southern extremity of the island, we landed, intending to penetrate across it; but from the thickly interwoven underwood, our progress being painful and slow, the attempt was abandoned." (Wilson 1835: p. 218).

Later, in November and December 1833 Karl von Huegel visited the island and observed in his diary:

"The island forms unbroken hills through which it is never easy to penetrate; overgrown with thick stands tightly intertwined with *Clematis* {*Clematis microphylla*} and a species of *Viscum* {probably *Cassytha glabella*} it is often the work of an hour to cover a few hundred feet." (Napier 1975: p. 61 and personal communication).

Ludwig Preiss collected on the offshore islands including Garden Island in November and December 1839 but there is no published account of the vegetation, only records of the species collected some of which were cited by Bentham (1863-1878) in "Flora Australiensis" and by Lehmann (1844-48) in "Plantae Preissianae".

In December 1919 the Royal Society in W.A. held an excursion to Garden Island. This was reported on by W.B. Alexander (1921). Describing the view

from Mt. Haycock, a high hill near the northern end of the island, the report stated:

"The whole interior of this part of the island was seen to be thickly covered with cypress pines *Callitris* interlaced with various creepers forming a dense matted jungle. Nearer the coast, on the slopes of the hills, thickets of wattles *Acacia cyclops* with occasional tea trees *Melaleuca* occur, and in places there are open tracts covered mainly with grasses." (Alexander 1921: p. 55).

Thirty species of flowering plants were recorded.

Because Garden Island is long and narrow and accessible along its eastern side the early European visitors were able to view most of the island from close proximity and their published accounts thus provide a reliable baseline for comparison with recent observations. This is in contrast to nearby Rottneest Island, for which early accounts of its vegetation give conflicting views. This is largely due to the lack of suitable boat landing sites on the latter island. Most early observations on the vegetation of Rottneest were made from landings on the southern and eastern parts of the island at Porpoise Bay and the well-wooded Thomson Bay area (Marchant 1977).

T.B. Wilson (1835 pp. 198-202) gave the following account of a walk to the centre of Rottneest when he visited that island on the 25th and 26th October 1829, a month before he visited Garden Island. Wilson makes no mention of any difficulty in travelling from Porpoise Bay to Salmon Bay and to the centre of the island. He wrote:

"The hummocks are sand hills, many of which are entirely destitute of any kind of herbage {probably the sand blow-out from Barnett Gully}, in the valleys are some stunted trees and shrubs, and a very little grass. It appeared astonishing to us that Vlaming could speak in raptures of this island which we found so miserably barren." (Wilson 1835: p. 202).

This important early account was overlooked by Storr (1963), Ferguson and O'Connor (1977) and Marchant (1977). The accounts by the Dutch as well as those of the French and the English probably only refer to the eastern part of Rottneest.

RECENT BOTANICAL STUDIES

Floristic comparisons of Rottneest, Carnac and Garden Island were presented by W. McArthur (1957). Fire regeneration studies were made by A.M. Baird (1958) and in 1974 a detailed, unpublished report on the island, including observations on the vegetation and a vegetation map, was prepared by J.M. Miles for the Garden Island Working Group (Department of Conservation and the Environment). W.M. McArthur has prepared detailed soil and vegetation maps of the island for publication in 1981.

We commenced preparing a species list for Garden Island in 1978. Additional information on recent collections of the vascular plants of Garden Island was collected from both the literature and collections at the W.A. Herbarium (PERTH) and at the Herbarium, University of W.A. (UWA) (see

Appendix). This included the following plant collections in addition to those of L. Preiss, W.B. Alexander and W.M. McArthur previously mentioned:- A.M. Baird (published 1958), G.M. Storr 1958-60, R.M. Humphries 1969, J.P. Kelsall 1960, T.E.H. Aplin 1960, T.B. Humphries 1969, I. Abbott 1975, I. Abbott, R. Cranfield and N. Marchant 1978-79 and W.M. McArthur 1978-79.

PLANT SPECIES RICHNESS OF GARDEN ISLAND COMPARED
WITH ADJACENT LARGE ISLANDS

Garden Island, although 600 ha less in area than Rottneest Island (excluding the salt lakes), has only two native plant species fewer than Rottneest (Table 1).

TABLE 1

Numbers of native and alien plant species present on Garden, Rottneest and Carnac Islands.

Island	Area ha	Plant species	
		No. native species*	No. alien species**
Garden	1100	103	71
Rottneest	1700	105†	71†
Carnac	16	44***	53***

* excluding native species introduced by man to the islands

** excluding species in plantations

† based on Storr (1962) with additions supplied by him (Storr ms.) and one addition and several corrections supplied by us

*** based on Abbott (1980a)

Such similarity in species richness is surprising because Rottneest has greater habitat variety than Garden Island. The most striking difference is that salt lakes and associated vegetation are present on Rottneest but absent from Garden Island. Rottneest, however, is more distant from the mainland than is Garden Island. We would expect this factor would tend to reduce plant species richness of Rottneest.

Some of the native plant species present on Rottneest in 1829, the start of European settlement of the adjacent mainland, may have since become extinct. For example Preiss made a small collection of about 50 native species on Rottneest in 1839; six of these were not listed by McArthur (1957) or Storr (1962) and may therefore be extinct on Rottneest. It is likely that three of these species (*Lepidium pseudoruderale*, *Sida hookeriana* and *Gnaphalium japonicum*) represent misidentifications of species still present on Rottneest or adjacent stacks. Between 1839 and 1955 the vegetation of the eastern sector of Rottneest was altered considerably through frequent fires, clearing, and a massive increase in numbers of quokkas (wallabies) about 1930 (Storr 1963). None of these gross changes occurred on Garden Island.

FLORISTIC COMPARISONS BETWEEN GARDEN,
ROTTNEST AND CARNAC ISLANDS

A comparison of the numbers of native plant species occurring on these islands is given in Table 2.

TABLE 2

Analysis of similarities between the floras (native species only) of Garden, Rottneest and Carnac Islands

Species occurring on	No. species
Rottneest only	27
Garden only	23
Carnac only	1
all three islands	34
Rottneest and Garden	40
Garden and Carnac	5
Rottneest and Carnac	4

This table shows that most species are found in one of four categories: on Rottneest only, or Garden Island only, on Rottneest and Garden but not Carnac, or on all three islands. Coefficients of similarity for the native species, based on Sorensen's formula, are: 0.71 (Rottneest and Garden Island), 0.53 (Garden and Carnac Islands), and 0.51 (Rottneest and Carnac Islands). This shows that the native plant floras of Garden and Rottneest Islands are more alike than either is to the smaller Carnac Island.

Reference to our checklist and Storr (1962) will enable the species in the seven categories to be readily identified. Of most interest here are the 23 native species found on Garden Island but not on Rottneest or Carnac. Eight of these were recorded only by McArthur in 1952 and island populations may now be extinct. Eleven other species, particularly *Crassula* species 1 & 2, *Cassytha glabella*, *Acacia cochlearis*, *A. saligna*, *Melaleuca huegelii*, *Hardenbergia comptoniana*, *Exocarpos sparteus*, *Leptomeria preissiana*, *Lasiopetalum oppositifolium* and *Waitzia citrina*, are either locally common or widespread over the island. We are unable to explain their restriction to Garden Island. Actually the occurrence of 27 species on Rottneest but not on Garden or Carnac and of another 23 on Garden Island but not on Rottneest or Carnac, parallels well-known faunistic differences, also not yet convincingly explained. Such differences include the occurrence of different species of wallabies, snakes and passerine landbirds on the two islands (Abbott 1980b).

Concerning the 40 species of native plants common to Garden and Rottneest, the simplest explanation for their absence from Carnac Island is that a 16 ha island is too small to permit their survival. However, this cannot be the full explanation as sixteen of these species occur on Penguin Island (area 12 ha) and some stacks close to Rottneest, and another eight species are found on islands elsewhere along the western coast that are very close to the mainland. It seems likely, therefore, that Carnac Island is too far from Garden and Rottneest Islands for successful dispersal of the missing species to occur.

ACKNOWLEDGEMENTS

The authors wish to thank Dr. G.M. Storr for allowing us to consult his manuscript on the floras of Rottnest and Garden Island. Thanks are also due to W.M. McArthur and R. Cranfield for collecting specimens on Garden Island to enable us to revise earlier listings. Miss K. Napier kindly allowed us to use manuscript material dealing with von Huegel's visit to Western Australia.

REFERENCES

- Abbott, I. (1980a). The distribution and cover of plant species on Carnac Island, Western Australia. *Journal of the Royal Society of Western Australia* 63: 39-45.
- Abbott, I. (1980b). The avifauna of Garden Island. *Western Australian Naturalist* 14: 189-193.
- Alexander, W.B. (1921). Excursion to Garden Island. *Journal and Proceedings of the Royal Society of Western Australia* 6: 54-56.
- Baird, A.M. (1958). Notes on the regeneration of vegetation of Garden Island after the 1956 fire. *Journal of the Royal Society of Western Australia* 14: 102-107.
- Bentham, G. (1863-78). *Flora Australiensis*. 7 vols. Lovell Reeve, London.
- Bureau of Meteorology (1975). *Climatic Averages*. Bureau of Meteorology, Melbourne.
- Cottesloe, L. (ed.) (1928). *Diary and letters of Admiral Sir C.H. Fremantle G.C.B. relating to the founding of the Colony of Western Australia 1829*. Hazell, Watson and Viney. London.
- Ferguson, R.J. and O'Connor, D. (eds.) (1977). *Rottnest Island: A National Estate Survey of its history, architecture and environment*. Rottnest Island Board. 90 pp.
- Fraser, C. (1830). Remarks on the botany etc. of the banks of Swan River. Isle of Buache, Baie Geographe and Cape Naturalist. *Hooker's Botanical Miscellany* 1: 221-236.
- Lehmann, J.C.G. (1844-48). *Plantae Preissianae*. 2 vols. Hamburg.
- Lyon, R.M. (1833). Glance at the manners, and language of the Aboriginal inhabitants of Western Australia; with a short vocabulary. *Perth Gazette*, 20th April 1833, pps. 51, 56, 58, 60, 63, 64.
- Main, A.R. (1961). The occurrence of Macropodidae on islands and its climatic and ecological implications. *Journal of the Royal Society of Western Australia* 44: 84-89.
- Marchant, N.G. (1977). Plants. In: Meadley G.R.W. (Ed.). *The Natural Features of Rottnest Island*. Rottnest Island Board.
- McArthur, W.M. (1951). *The plant ecology of Garden Island in relation to the neighboring islands and the adjacent mainland*. Unpublished Thesis, Botany Dept., University of Western Australia.
- McArthur, W.M. (1957). Plant ecology of the coastal islands near Fremantle, W.A. *Journal of the Royal Society of Western Australia* 40: 46-64.
- McArthur, W.M. and Bartle, G.A. (in press). *The landforms, soils, and vegetation as a basis for management studies on Garden Island, Western Australia*. CSIRO Australian Division of Land Resource Management Services.
- Miles, J.M. (1974). *Garden Island Report, Western Australian State Working Group*. Department of Conservation and Environment, Perth.
- Napier, K. (1975). New Holland in Europe. Early Days, *Journal of the Royal Western Australian Historical Society* 7(7): 55-68.
- Péron, F. (1807). *Voyage de découvertes aux Terres Australes...* Vol. 1. Imprimerie impériale, Paris.

- Seddon, G. (1972). *Sense of Place*. University of Western Australia Press, Nedlands.
- Storr, G.M. (ms.). *Additions to the vascular flora of Garden, Carnac and Rottneest Islands*.
- Storr, G.M. (1962). Annotated flora of Rottneest Island, Western Australia. *Western Australian Naturalist* 8: 109-124.
- Storr, G.M. (1963). Some factors inducing change in the vegetation of Rottneest Island. *Western Australian Naturalist* 9: 15-22.
- Wilson, T.B. (1835). *Narrative of a Voyage around the World...* Sherwood, Gilbert and Piper, London.

APPENDIX: LIST OF PLANT SPECIES

Abbreviations

CR	Species also present on Carnac or Rottneest Islands respectively
A	I. Abbott 1975
ACM	I. Abbot, R. Cranfield & N. Marchant 1978-79
Alex	W.B. Alexander 1921 (publication)
Aplin	T.E.H. Aplin
B	A.M. Baird 1958 (publication)
H	R.B. Humphries 1969
K	J.P. Kelsall 1960
McA	W.M. McArthur 1957 (publication)
McA 1978	W.M. McArthur 1978
Preiss 1839	L. Preiss in Lehmann (1844-8)
Storr	G.M. Storr 1958-60 (ms)
{}	indicate records which are unsupported by voucher specimens and which we believe represent identification errors for species found by other collectors.
+	Native W.A. species introduced by man to Garden Island
*	Alien species.

TAXON	ISLAND	DATA SOURCE
GYMNOSPERMAE		
ARAUCARIACEAE		
* <i>Araucaria heterophylla</i> (Salisb.) Franco		ACM
CUPRESSACEAE		
<i>Callitris preissii</i> Miq. (previously known as <i>C. robusta</i> (R.Br.) Mirb.)	R	McA, B, A, ACM
ANGIOSPERMAE		
MONOCOTYLEDONAE		
ARACEAE		
* <i>Zantedeschia aethiopica</i> (L.) Spreng.	CR	A, ACM
CYPERACEAE		
<i>Carex preissii</i> Nees	CR	Storr, B, McA, A, ACM
<i>Lepidosperma angustatum</i> R.Br.	R	A, ACM
<i>Lepidosperma gladiatum</i> Labill. { <i>L. squamatum</i> Labill.}	CR	McA, B, A, ACM McA
<i>Scirpus nodosus</i> Rottb.	CR	McA, B, A, ACM
<i>S. marginatus</i> Thunb. (previously known as <i>S. antarcticus</i> L.)	CR	McA, A, ACM

TAXON	ISLAND	DATA SOURCE
HAEMODORACEAE		
<i>Conostylis candidans</i> Endl.	R	Alex, McA, A, ACM
IRIDACEAE		
* <i>Homeria miniata</i> (Andr.) Sweet	R	Storr, ACM
* <i>Watsonia</i> sp.		ACM
JUNCACEAE		
<i>Juncus pallidus</i> R.Br.	R	ACM
JUNCAGINACEAE		
<i>Triglochin trichophora</i> Nees ex Endl.	CR	ACM
LILIACEAE		
* <i>Allium</i> sp.		ACM
* <i>Asparagus asparagoides</i> (L.) W.F. Wight		McA, A, ACM
* <i>Asphodelus fistulosus</i> L.	R	McA, A, ACM
<i>Dianella revoluta</i> R.Br.		McA
<i>Thysanotus patersonii</i> R.Br.	R	McA
* <i>Trachyandra divaricata</i> (N.J. Jacq.) Kunth (previously known as <i>Anthericum</i> <i>divaricatum</i> Jacq.)	CR	McA, A, ACM
MUSACEAE		
* <i>Musa</i> sp.		A
ORCHIDACEAE		
<i>Acianthus reniformis</i> (R.Br.) Schlechter	R	A, ACM
<i>Caladenia ? latifolia</i> R.Br.	R	A, ACM
<i>Eriochilus caber</i> Lindl. (previously known as <i>E. tenuis</i> Lindl.)		McA
POACEAE		
* <i>Aira cupaniana</i> Guss.	R	ACM
* <i>Avena barbata</i> Link.	CR	A, ACM
* { <i>A. fatua</i> L.}		McA
* <i>Bambusa</i> sp.		ACM
<i>Bromus arenarius</i> Labill.	CR	ACM
* <i>B. diandrus</i> Roth (previously known as <i>B. gussonii</i> Parl.)	CR	McA, A, ACM
* <i>B. rubens</i> L.	R	McA 1978, ACM
* <i>Catapodium rigidum</i> (L.) C.E. Hubbard ex Dony	CR	A, ACM
* <i>Cynodon dactylon</i> (L.) Pers.	R	Storr, A, ACM
* <i>Ehrharta longiflora</i> Sm.	CR	ACM
* <i>Hordeum leporinum</i> Link	CR	ACM
* <i>H. vulgare</i> L.		A
* <i>Lagurus ovatus</i> L.	CR	A, McA 1978, ACM
* <i>Lolium</i> sp.	CR	ACM
* <i>Parapholis incurva</i> (L.) C.E. Hubbard	CR	A
* <i>Poa annua</i> L.	CR	McA, ACM
<i>P. poiiformis</i> (Labill.) Druce (previously known as <i>P. caespitosa</i> Forst.)	CR	McA, A, ACM
* <i>Polypogon monspeliensis</i> (L.) Desf.	R	A, McA 1978, ACM
<i>Spinifex hirsutus</i> Labill.	R	Alex, McA, A, ACM
<i>S. longifolius</i> R.Br.	CR	McA, A, ACM
<i>Sporobolus virginicus</i> (L.) Kunth	R	A, ACM
* <i>Stenotaphrum secundatum</i> (Walt.) Kuntze	R	A, ACM
<i>Stipa flavescens</i> Labill. (previously known as <i>S. variabilis</i> Hughes)	CR	McA, B, A
<i>Vulpia myuros</i> (L.) C.C. Gmel.	CR	A, ACM

TAXON	ISLAND	DATA SOURCE
TYPHACEAE		
{ <i>Typha angustifolia</i> L.}		McA
* <i>T. orientalis</i> Presl.		McA 1978
XANTHORRHOEACEAE		
<i>Acanthocarpus preissii</i> Lehm.	CR	McA, B, A, ACM
DICOTYLEDONAE		
AIZOACEAE		
{ <i>Carpobrotus aequilaterus</i> N.E. Br.}		Alex, McA, B
<i>C. virescens</i> (Haw.) Schwantes	CR	A, ACM
<i>Tetragonia amplexicoma</i> (Miq.) Hook.f.	CR	McA, A, McA 1978, ACM
<i>T. decumbens</i> Miller	CR	McA, McA 1978, A, ACM
(previously known as <i>T. zeyheri</i> Fenzl. ex Harv. et Sond.)		
APIACEAE		
<i>Apium prostratum</i> Labill. ex Vent.	CR	Storr, A, ACM
<i>Daucus glochidiatus</i> (Labill.) Fisch. et al.	CR	A, ACM
<i>Hydrocotyle hispidula</i> Bunge	R	ACM
<i>H. tetragonocarpa</i> Bunge	R	Storr (?sp.), A, ACM
<i>Trachymene caerulea</i> (Reichb.) Grah. (previously known as <i>Didiscus coeruleus</i> DC.)	R.	Preiss, Alex, McA, B A, ACM
{ <i>T. cyanopetala</i> (F. Muell.) Benth.}		B
<i>T. pilosa</i> Sm. (previously known as <i>Didiscus pilosus</i> Benth.)	R	McA, A, ACM
APOCYNACEAE		
<i>Alyxia buxifolia</i> R.Br.	R	Preiss, McA, A, ACM
* <i>Nerium oleander</i> L.		ACM
ASTERACEAE		
* { <i>Actites megalocarpa</i> (Hook.f.) N.S. Lander} (previously known as <i>Sonchus asper</i> Hill)		McA
<i>Angianthus cunninghamii</i> (DC.) Benth.		McA
<i>A. humifusus</i> (Labill.) Benth.		McA
* <i>Arctotheca calendula</i> (L.) Levyns (previously known as <i>Cryptostemma</i> <i>calendulaceum</i> (L.) R.Br.)	CR	McA, A, ACM
* <i>A. populifolia</i> (Berg.) T. Norl. (previously known as <i>A. nivea</i> (Less.) Leeuwin)	R	McA, A
<i>Athrixia pulverulenta</i> (Lindl.) Druce		Alex, McA
<i>Calocephalus brownii</i> (Cass.) F. Muell.	CR	McA, A, ACM
* <i>Carduus pycnocephalus</i> L.	CR	Storr, A, ACM
* <i>Conyza bonariensis</i> (L.) Cronquist (previously known as <i>Erigeron crispens</i> Ponnet)	R	McA
** <i>Dittrichia graveolens</i> (L.) W. Greuter	R	ACM
* <i>Hypochoeris glabra</i> L.	CR	McA, A, ACM
<i>Olearia axillaris</i> (DC.) F. Muell. ex Benth.	CR	McA, B, A, ACM
* <i>Osteospermum clandestinum</i> (Less.) Norl. (previously known as <i>Tripteris</i> <i>clandestina</i> Less.)		McA
<i>Senecio lautus</i> Forst.f. ex Willd.	CR	Alex, McA, B, A, ACM
* <i>Sonchus oleraceus</i> L.	CR	Alex, McA, A, ACM
<i>Waitzia citrina</i> (Benth.) Steetz		A, ACM

TAXON	ISLAND	DATA SOURCE
BASELLACEAE		
* ? <i>Bousingaultia baselloides</i> Meirs		ACM
BORAGINACEAE		
<i>Myosotis australis</i> R.Br.	R	W.V. Fitzg, McA, ACM
BRASSICACEAE		
* <i>Cakile maritima</i> Scop.	R	Alex, McA, A, ACM
<i>Hymenolobus procumbens</i> (L.) Nutt ex Shinz et Thell.	CR	A, ACM
<i>Lepidium foliosum</i> Desv.	C	K, Storr
* <i>Nasturtium officinale</i> R.Br.		ACM
* <i>Sisymbrium orientale</i> L.	CR	ACM
CARYOPHYLLACEAE		
* <i>Cerastium glomeratum</i> Thuill.	CR	A, ACM
* <i>Petrohragia prolifera</i> (L.) P.W. Ball et Heywood		McA 1978, ACM
* <i>Polycarpon tetraphyllum</i> (L.) L.	CR	ACM
* <i>Sagina apetala</i> Arduino	CR	A, ACM
* <i>Silene</i> sp.		ACM
* <i>Stellaria media</i> (L.) Vill.	CR	A, ACM
CHENOPODIACEAE		
<i>Atriplex cinerea</i> Poir.	R	ACM
<i>A. isatidea</i> Moq.	R	McA, A, ACM
* <i>Chenopodium murale</i> L.	CR	McA
<i>Enchylaena tomentosa</i> R.Br.	CR	McA
<i>Rhagodia baccata</i> (Labill.) Moq.	CR	Alex, McA, A, ACM
<i>R. radiata</i> Nees		A, ACM
<i>Salsola kali</i> L.	C	McA, A, ACM
<i>Sarcocornia blackiana</i> (Ulbr.) A.J. Scott (previously known as <i>Salicornia blackiana</i> Ulbr.)	R	McA, Aplin, A, ACM
{ <i>Suaeda maritima</i> (L.) Dumont}		McA
(presumably in error for <i>Threlkeldia diffusa</i> which was not listed by McArthur)		
<i>Threlkeldia diffusa</i> R.Br.	CR	Storr, A, ACM
CONVOLVULACEAE		
* <i>Convolvulus</i> sp.		ACM
<i>Dichondra repens</i> Forst. et Forst.f.	R	Storr, ACM
<i>Wilsonia backhousei</i> Hook.f.		McA
CRASSULACEAE		
<i>Crassula colorata</i> (Nees) Ostenfeld	CR	A, ACM
<i>C. glomerata</i> Berg.	C	A, ACM
<i>C. pedicellosa</i> (F. Muell.) Ostenfeld	C	A, ACM
<i>C. sp. 1</i>		ACM
<i>C. sp. 2</i>		ACM
EPACRIDACEAE		
<i>Acrotriche cordata</i> (Labill.) R.Br. (previously known as <i>A. ovalifolia</i> R.Br.)	R	McA, A, ACM
<i>Leucopogon insularis</i> A. Cunn. ex DC.	R	A, ACM
<i>L. parviflorus</i> (Andr.) Lindl. (previously known as <i>L. richiei</i> (Labill.) R.Br.)	R	McA, B, K, A, ACM
{ <i>L. racemulosus</i> DC.}		McA
EUPHORBIACEAE		
<i>Beyeria viscosa</i> (Labill.) Miq.	R	B, H, ACM
{ <i>Euphorbia drummondii</i> Boiss.}		McA
* <i>E. peplus</i> L.	CR	A, ACM

TAXON	ISLAND	DATA SOURCE
EUPHORBIACEAE Cont.		
<i>Phyllanthus calycinus</i> Labill.	R	Alex, McA, B, A, ACM
<i>Poranthera microphylla</i> Brongn.	R	B, ACM
* <i>Ricinus communis</i> L.	R	McA, A, ACM
FRANKENIACEAE		
<i>Frankenia pauciflora</i> DC.	CR	McA, A, ACM
FUMARIACEAE		
* <i>Fumaria muralis</i> Sond. ex Koch		A, ACM
GENTIANACEAE		
* <i>Centaurium erythraea</i> Rafn. (previously known as <i>Erythraea</i> <i>centaurium</i> Pers.)	R	Alex, McA, A, ACM
GERANIACEAE		
* <i>Erodium cicutarium</i> (L.) L'Hér. ex Ait.	CR	McA, ACM
* <i>Geranium molle</i> L.	CR	A, ACM
<i>G. pilosum</i> Forst.		McA
<i>Pelargonium capitatum</i> (L.) L'Hér. ex Ait. (previously known as <i>P. australe</i> Willd.)	CR	Alex, McA, B, A, ACM
GOODENIACEAE		
<i>Scaevola crassifolia</i> Labill.	CR	Alex, McA, B, A, ACM
GYROSTEMONACEAE		
<i>Tersonia brevipes</i> Moq.		Alex
LAMIACEAE		
<i>Westringia dampieri</i> R.Br. (previously known as <i>W. rigida</i> R.Br.)	R	Alex, McA, A, ACM
LAURACEAE		
<i>Cassytha glabella</i> R.Br.		McA, A, ACM
LEGUMINOSAE		
<i>Acacia cochlearis</i> (Labill.) H. Wendl.		A, ACM
<i>A. cyclops</i> A. Cunn. ex G. Don	CR	Alex, McA, A, ACM
{ <i>A. heteroclita</i> Meisn.} (presumably in error for <i>Acacia</i> <i>cochlearis</i> which was not listed by McArthur)		McA
<i>A. rostellifera</i> Benth.	CR	McA, B, A, ACM
<i>A. saligna</i> (Labill.) H. Wendl. (previously known as <i>A. cyanophylla</i> Lindl.)		McA, A, ACM
<i>Hardenbergia comptoniana</i> (Andr.) Benth.		McA, A
* <i>Medicago polymorpha</i> L. (Syn. <i>M. denticulata</i> Willd.)	CR	Storr, ACM
* <i>Melilotus indica</i> (L.) All.	CR	Storr, A, ACM
* <i>Trifolium scabrum</i> L.	C	McA 1978
LOBELIACEAE		
<i>Lobelia tenuior</i> R.Br.		McA, A
LORANTHACEAE		
<i>Amyema miraculosum</i> (Miq.) Tiegh. (previously known as <i>Loranthus</i> <i>miraculosus</i> (Miq.) Tiegh. var. <i>melaleucae</i>)		McA, McA 1978
MALVACEAE		
* <i>Lavatera arborea</i> L.	C	McA 1978
<i>L. plebeia</i> Sims	C	A
MELIACEAE		
* <i>Melia azederach</i> L.		ACM
MYOPORACEAE		
<i>Eremophila glabra</i> (R.Br.) Ostenfeld (previously known as <i>E. brownii</i> F. Muell.)	R	Alex, McA, B, A, ACM

TAXON	ISLAND	DATA SOURCE
MYOPORACEAE Cont.		
<i>Myoporum adscendens</i> R.Br. (previously known as <i>M. insulare</i> (R.Br.))	R	McA, A
MYRTACEAE		
+ <i>Agonis flexuosa</i> (Spreng) Schau.		A, ACM
+ <i>Eucalyptus gomphocephala</i> DC.		ACM
<i>Melaleuca huegelii</i> Endl.		McA, B, A, ACM
<i>M. lanceolata</i> Otto (previously known as <i>M. pubescens</i> Schau.)	R	McA, B, A, ACM
ONAGRACEAE		
<i>Epilobium billardierianum</i> Ser. (previously known as <i>E. glabellum</i> Forst.)		McA
OROBANCHACEAE		
<i>Orobanche australiana</i> F. Muell.	R	McA, ACM
OXALIDACEAE		
<i>Oxalis corniculatus</i> L.	R	ACM
* <i>O. pes-caprae</i> L.		ACM
PAPAVERACEAE		
* <i>Argemone mexicana</i> L.		A, ACM
PITTOSPORACEAE		
<i>Pittosporum phylliraeoides</i> DC.	R	McA, A, ACM
POLYGALACEAE		
<i>Comesperma confertum</i> Labill.		McA
<i>C. integerrimum</i> Endl.	CR	Preiss, McA, A, ACM
POLYGONACEAE		
* <i>Emex australis</i> Steinh.		McA, ACM
PORTULACACEAE		
<i>Calandrinia ? brevipedata</i> F. Muell.		A, ACM
PRIMULACEAE		
* <i>Anagallis arvensis</i> L.	CR	McA, A, ACM
<i>Samolus repens</i> (Forst.) Pers.	R	Preiss, McA, A, ACM
PUNICACEAE		
* <i>Punica granatum</i> L.		McA
RANUNCULACEAE		
<i>Clematis microphylla</i> DC.	CR	McA, B, ACM
RHAMNACEAE		
<i>Spyridium globulosum</i> (Labill.) Benth.	CR	McA, B, A, ACM
ROSACEAE		
* <i>Crataegus</i> sp.		ACM
RUBIACEAE		
* <i>Galium murale</i> (L.) All.	CR	Storr, A, ACM
* <i>Sherardia arvensis</i> L.		ACM
RUTACEAE		
<i>Boronia alata</i> Sm.	R	McA, B, A, ACM
<i>Diplolaena dampieri</i> Desf.	R	McA, A, ACM
SANTALACEAE		
{ <i>Exocarpos aphyllus</i> R.Br. }		McA
<i>E. sparteus</i> R.Br.		A, ACM
<i>Leptomeria preissiana</i> (Miq.) DC.		Preiss, Alex, McA, A, AC, M
SAPINDACEAE		
<i>Dodonaea aptera</i> Miq.	R	Preiss, A, ACM
SCROPHULARIACEAE		
* <i>Dischisma arenarium</i> E. Mey. (previously known as <i>D. capitatum</i> (Thunb.) Chois.)	CR	McA, A, ACM
* <i>Parentucellia</i> sp.		ACM

TAXON	ISLAND	DATA SOURCE
SOLANACEAE		
* <i>Nicotiana glauca</i> Grah.	R	Storr, ACM
* <i>Solanum nigrum</i> L.	C	Alex, McA, A, ACM
<i>S. symonii</i> Eichler (previously known as <i>S. simile</i> F. Muell.)	CR	McA, B, A, ACM
STERCULIACEAE		
<i>Guichenotia ledifolia</i> J. Gay	R	McA, B, A, ACM
<i>Lasiopetalum oppositifolium</i> F. Muell. (previously known as <i>L. angustifolium</i> W.V. Fitzg.)		McA, K, A
<i>Thomasia cognata</i> Steud. { <i>T. triphylla</i> (Labill.) J. Gay}	R	Alex, McA, B, A, ACM Huegel in Preiss
URTICACEAE		
<i>Parietaria debilis</i> Forst.f.	CR	McA, A, ACM
* <i>Urtica urens</i> L.	CR	Storr, ACM
VALERIANACEAE		
* <i>Centranthus ruber</i> (L.) DC.		McA 1978
VITACEAE		
* <i>Vitis vinifera</i> L.		McA 1978
ZYGOPHYLLACEAE		
<i>Nitraria billardieri</i> DC. (previously known as <i>N. schoberi</i> L.) <i>Zygophyllum apiculatum</i>	CR	McA, A, ACM
UNIDENTIFIED (omitted from Tables 1 & 2)		
SCROPHULARIACEAE		
? <i>Limosella</i>		
ASTERACEAE		
Two species		