



# Bon Bon Station Reserve SA

24-30 October 2010









# What is Bush Blitz?

Bush Blitz is a four-year, multi-million dollar partnership between the Australian Government, BHP Billiton, and Earthwatch Australia to document plants and animals in selected properties across Australia's National Reserve System.

This innovative partnership harnesses the expertise of many of Australia's top scientists from museums, herbaria, universities, and other institutions and organisations across the country.

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# **Abbreviations**

#### EPBC Ac

Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)

#### **IBRA**

Interim Biogeographic Regionalisation for Australia

#### NPW Act

National Parks and Wildlife Act 1972 (South Australia)

#### NRS

National Reserve System





# Summary

In October 2010 a one-week Bush Blitz biodiversity survey was conducted at Bon Bon Station Reserve, a former sheep station 200 km south of Coober Pedy in South Australia. In total, 631 flora and fauna species were identified, of which 458 were new records for the reserve. Of these, 188 are believed to be new to science, including 1 gecko (Gekkonidae), 51 bees and wasps (Hymenoptera), 120 morphospecies of moths (Lepidoptera) and 16 jumping plantlice (Psyllidae). Including previous records, 767 species have now been recorded at this reserve.

Twenty-two vertebrate species were recorded at Bon Bon Station for the first time during this survey. Some notable range extensions for vertebrates were identified and limits to species ranges further defined. Two vascular plant species listed as rare under South Australia's *National Parks and Wildlife Act* 1972 (NPW Act), Wild Violet (*Swainsona microcalyx*) and Smooth Wallaby-grass (*Rytidosperma laeve*), were found at Bon Bon, both for the first time. Club Speargrass (*Austrostipa nullanulla*), listed as vulnerable under the same Act, was also recorded.

The number of invasive species recorded was low, which might be an indication that the site is relatively stable. Only two vertebrate pest species were identified: House Mice (*Mus musculus*), which were common; and Foxes (*Vulpes vulpes*), only the remains of which were found. Only 19 of the 324 flowering plant species recorded on Bon Bon are considered weeds, but this included Buffel Grass (*Cenchrus ciliaris*), which is considered one of the most extensive and environmentally damaging invasive species in central Australia.



Some of the Bush Blitz Team, M. Preece:
Back Row: Andy Donnelly, Rebecca Kittel, Helen Vonow, Judy West, Sandy Gilmore, Steve Donnellan, Deon Grantham, Jim Radford, Leah Schwartz
Front Row: David Gregory, Nick Neagle, Jo Wood, Kate Gillespie, David Stemmer, Remko Leijs



# Introduction

This is a report of the Bush Blitz program, which aims to survey recent additions to the National Reserve System (NRS). Bush Blitz is an initiative of the Australian Government, through the Australian Biological Resources Study, in partnership with BHP Billiton and Earthwatch Australia. The Bush Blitz objectives are:

- + to promote, publicise and demonstrate the importance of taxonomy through species discovery;
- to undertake a national species discovery program targeted at recently acquired properties of the National Reserve System of Australia;
- to support the science of taxonomy in Australia through training of students and early career researchers, provision of grants for species description and resolution of taxonomically problematic, nationally important groups;

- + to promote partnerships between science, government, industry and non-government organisations; and
- to inform the National Reserve System, reserve managers and other stakeholders of the results of the Bush Blitz Project.

This survey was undertaken during October 2010. Due to poor weather conditions and the size of the property, not all areas were accessed and a comprehensive survey was not possible. It is expected that more intensive sampling in a variety of seasons would result in the detection of many more species.





# Reserve Overview<sup>1</sup>



# Bon Bon Station Reserve Bush Heritage Australia

# Date of purchase

## Area

February 2008

216,700 ha

### Description

Bon Bon Station Reserve is a Bush Heritage Australia property, remotely situated in South Australia between Coober Pedy and Port Augusta. It is located on the sand and calcrete plains between the Great Victoria Desert and the large salt lakes of Eyre, Torrens and Gairdner. These plains are dominated by chenopod and mulga shrublands and have been impacted adversely by pastoralism.

Spanning 216,700 ha, this former sheep station is approximately the size of suburban Sydney. The landscapes and scenery within Bon Bon are beautiful, and include salt lakes, freshwater wetlands, mulga shrublands, bluebush plains and arid-zone woodlands. At its heart is Lake Puckridge, an ephemeral wetland which fills up with water around once a decade and can reach a depth of seven metres.

The traditional owners of the land are the Antakirinja Matu-Yankunytjatjara people.



Typical mulga over kerosene grass (*Aristida* sp.) community, N. Neagle © Department of Environment, Water and Natural Resources

Bush Heritage Australia, accessed 11 February 2013 <a href="http://www.bushheritage.org.au/our\_reserves/">http://www.bushheritage.org.au/our\_reserves/</a> state\_southaustralia/reserves\_bonbon>.



### National Reserve System conservation values

Bon Bon Station Reserve is managed by Bush Heritage Australia in accordance with the intent of the International Union for the Conservation of Nature (IUCN) Category IV, Protected Area, mainly for ecosystem protection.<sup>2</sup> It supports a higher diversity of species than might be expected for such an arid area, possibly because it straddles two major bioregions—the Stony Plains in the north and the Gawler Ranges in the south. Bon Bon supports 11 ecological communities, including three threatened ecosystems listed as vulnerable in South Australia: Mulga (Acacia aneura) low woodlands with a grassy understorey on sand plains; Bullock Bush (Alectryon oleifolius subsp. canescens) tall shrubland on alluvial soils of plains; and Mulga (Acacia aneura) low woodlands with a grassy understorey on ranges.

Vegetation on the property has not been fully mapped but it is known to be diverse, with seven environmental associations recognised (Glendambo, Labyrinth, Monndiepitchnie, Wallabyng, Breakaway, Oodnadatta and Kadlongaroo Hill). These provide

a rich diversity of habitats for the region's flora and fauna. Bon Bon Station Reserve also contains a significant 1,400 ha freshwater wetland. Almost the entire catchment of Lake Puckridge is contained within Bon Bon, which enables the tributaries and wetlands that feed into the lake to be protected and managed.

Despite its 130-year history as a sheep station, approximately 36% of the property is ungrazed. The remainder has been destocked and is expected to adequately regenerate. Significant fires occurred on the property in 1975 and 1990. Recovery from fire appears to have been poor, especially in mulga communities.



White-browed Treecreeper (Climacteris affinis), B. Furby © Department of Sustainability, Environment, Water, Population and Communities

<sup>2</sup> South Australian Department of Environment, Water and Natural Resources, accessed 11 February 2013, <a href="http://www.environment.sa.gov.au/naturelinks/List\_Project/Addressing\_Priority\_Threats\_to\_Native\_Vegetation\_on\_Bon\_Bon\_Station\_Reserve">http://www.environment.sa.gov.au/naturelinks/List\_Project/Addressing\_Priority\_Threats\_to\_Native\_Vegetation\_on\_Bon\_Bon\_Station\_Reserve</a>.



# Methods

Collection and observation sites were selected based on land classes, supplemented by identification of suitable microhabitat during the field visit. Site selection also depended on access, suitability for trapping and time restrictions. Site locations were recorded using global positioning systems.

A number of taxonomic groups were identified as targets for study. Table 1 lists the groups surveyed and the specialists who undertook the field work.



Table 1: Taxonomic groups surveyed and personnel

Group	Common names	Expert	Affiliation
Vertebrates	Mammals, Frogs and Reptiles	Mark Hutchinson, David Stemmer, Chelsea Sims	South Australian Museum
Hymenoptera	Bees	Remko Leijs	South Australian Museum
Hymenoptera	Wasps	Rebecca Kittel, Gary Taylor, Sarah Mantel, Federica Colombo	University of Adelaide
Lepidoptera	Butterflies and Moths	Andy Young	South Australian Museum
Coleoptera	Beetles	Jo Wood	South Australian Museum
Psyllidae	Jumping Plantlice	Gary Taylor	University of Adelaide
Odonata	Dragonflies	Andy Young	South Australian Museum
		Rebecca Kittel	University of Adelaide
Stygofauna	Stygofauna	Remko Leijs	South Australian Museum
Vascular Plants	Vascular Plants	Helen Vonow, Nick Neagle	South Australian Department of Environment, Water and Natural Resources
Fungi	Fungi	Helen Vonow	South Australian Department of Environment, Water and Natural Resources



General field collection methods were used in an attempt to capture a wide variety of taxa. Specific collecting for target groups was also undertaken.

Vertebrates were sampled mainly with pitfall traps, funnel traps and Elliott traps. Reptiles that were encountered were noted or in some instances caught by hand. Mammal remains, such as bones, were identified opportunistically. Bats were surveyed using harp traps.

A variety of techniques were used for sampling invertebrates. Aerial invertebrates were captured using hand nets, sweep nets and Malaise traps, and foliage-dwellers via beating trays. Nocturnal species were caught at light traps, and terrestrial species using pitfall traps. Leaf litter was collected for later extraction of invertebrates using Tullgren/Berlese funnels. Preservation was in alcohol or by pinning, depending on the taxa. Some specimens were preserved in ethanol for DNA study and DNA barcoding.

Major and minor vegetation communities were sampled based on IBRA subregions, and areas with limited grazing history were selected. Access limitations meant that most areas surveyed had been impacted by grazing, however heavily degraded sites were avoided. Vascular plants were collected by hand, then pressed and dried. Fungi were also collected by hand.

Collections were identified using available literature and the holdings of museums and herbaria. Fauna specimens were deposited with the South Australian Museum and flora specimens with the State Herbarium of South Australia. Final species lists were compiled by combining the results of this Bush Blitz



David Stemmer, South Australian Museum, setting a harp trap, M. Preece

with data supplied by the Australian Natural Heritage Assessment Tool. Existing vascular plant data were compiled from several other sources, including collections held in the South Australian Herbarium, the Biological Survey of South Australia website and opportunistic sighting records, and the South Australian Department of Environment, Water and Natural Resources Pastoral Program's observational records.



# Results

The locational data of both collected and observed specimens are available to reserve managers.

### **Species Lists**

Appendix A provides full, updated species lists for the reserve. Names in **bold brown text** are putative new species. Species marked with an asterisk (\*) have not been previously recorded in the reserve. Species without an asterisk have been recorded previously and were identified again during this survey. Species shown in blue text were not recorded on this survey, but are known from previous studies. Table 2 provides a summary of the number of new flora and fauna records and putative new species for the reserve.

Nomenclature and taxonomy used in this report are consistent with the Australian Faunal Directory, the Australian Plant Name Index and the Australian Plant Census.



Bon Bon Station Reserve SA 2010



Table 2: Summary of flora and fauna records and putative new species

		Total number	Species new	Putative
Group	Common name	of species	to reserve	new species
Mammalia	Mammals	10	6	0
Aves	Birds	89	0	0
Amphibia	Frogs	1	0	0
Reptilia	Reptiles	37	16	1
Hymenoptera	Ants	5	5	0
Hymenoptera	Bees	48	48	44
Hymenoptera	Wasps	13	13	7
Lepidoptera	Butterflies	4	3	0
Lepidoptera	Moths	166	166	120³
Trichoptera	Caddisflies	1	1	0
Diptera	Flies	2	2	0
Coleoptera	Beetles	11	10	0
Psyllidae	Jumping Plantlice	16	16	16
Heteroptera	True Bugs	1	1	0
Blattodea	Termites	3	0	0
Orthoptera	Crickets	1	1	0
Embioptera	Web Spinner Insects	1	1	0
Odonata	Dragonflies	2	2	0
Scorpiones	Scorpions	1	1	0
Araneae	Spiders	2	2	0
Crustacea	Crustaceans	2	2	0
Gastropoda	Snails and slugs	0	0	0
Flowering Plants	Flowering Plants	332	147	0
Ferns	Ferns	3	3	0
Mosses	Mosses	2	1	0
Fungi	Fungi	10	10	0
Protista	Green Algae	1	1	0
Total		767	458	188

<sup>3</sup> Most of the moth species surveyed could only be identified to morphospecies, the majority of which are likely to represent new or previously undescribed species.



### **Threatened Species**

Appendix B gives the species listed as threatened under the NPW Act of South Australia and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* recorded from the reserve. A summary of threatened species identified during the study is provided in Table 3.

Table 3: Summary of threatened species identified

Group	Total number of species	Species new to reserve
Fauna	0	0
Flora	3	2

### **Exotic and Pest Species**

Appendix C lists the exotic and pest species known from the reserve. A summary of exotic and pest species identified during the study is provided in Table 4.

Table 4: Summary of exotic and pest species identified

Group	Total number of species	Species new to reserve
Fauna	2	0
Flora	19	15





### Putative new species

A total of 458 species were added to those previously known from the reserve and 188 putative species new to science were discovered. A putative species new to science is one that has been recognised by an expert as never having been named or described in the scientific literature. Until a species is named and its description published, it is not confirmed as a new species. A breakdown of the groups in which putative new species were discovered is given in Table 5.

A putative new reptile species discovered at Bon Bon is one of several new web-toed geckos (*Gehyra* spp.) known from inland Australia, all previously identified as Tree Dtella (*Gehyra variegata*). Work in

progress indicates that eastern populations may be taxonomically distinct from western populations. A manuscript is in preparation (M. Sistrom *et al.*) with submission anticipated in 2013.

Most of the species of bees and wasps (Hymenoptera), moths (Lepidoptera) and jumping plantlice (Psyllidae) collected during the survey were new records for the reserve, and many of them are, putatively, new to science. Most of the moth species surveyed could only be identified to morphospecies, the majority of which are likely to represent new or previously undescribed species. A morphospecies is a group of individuals that are considered to belong to the same species on the grounds of physical features alone, but futher study is needed to confirm their species status.



Table 5: Putative new species by group

Group	Common name	Total number of species	Species new to reserve	Putative new species
Lepidoptera	Moths	166	166	120
Hymenoptera	Bees	48	48	44
Hymenoptera	Wasps	13	13	7
Psyllidae	Jumping Plantlice	16	16	16
Reptilia	Reptiles	37	16	1
Total		280	259	188

### **Threatened Species**

Two vascular plant species listed as rare in South Australia under the NPW Act were recorded on Bon Bon during the 2010 survey: Wild Violet (Swainsona microcalyx) and Smooth Wallaby-grass (Rytidosperma laeve). These two species were recorded at Bon Bon Station Reserve for the first time during this survey. Club Spear-grass (Austrostipa nullanulla), which is listed as vulnerable under the same Act, was also recorded.

Four bird species listed as rare under the NPW Act—Chestnut-breasted Whiteface (Aphelocephala pectoralis), White-browed Treecreeper (Climacteris affinis), Grey Falcon (Falco hypoleucos) and Gilbert's Whistler (Pachycephala inornata)—and one listed as endangered under the NPW Act and vulnerable under the Commonwealth EPBC Act—Plainswanderer (Pedionomus torquatus)—had previously been recorded at Bon Bon Station. Birds were not a target taxon for this survey and as a result a bird specialist was not present. Therefore, none of these species were recorded during this survey.

### **Exotic and Pest Species**

Invasive species have a major impact on Australia's environment, threatening our unique biodiversity and reducing overall species abundance and diversity.<sup>4</sup> The number of vertebrate pest species recorded on Bon Bon Station Reserve during the 2010 survey was considered low. The paucity of pest species may indicate that the site is relatively stable, however populations need to be monitored over time to confirm this. House Mice (Mus musculus) were common and sighted at all trapping sites. In contrast, only the remains of Foxes (Vulpes vulpes) were found, and they were uncommon. Rabbits (Oryctolagus cuniculus) were not recorded during the survey, however they have been identified in Bon Bon's Property Management Plan as one of the five major threats to the Key Conservation Targets. 5 Under Bon Bon's Property Management Plan, active and non-active warrens will be mapped to determine appropriate control methods.

Weeds have also been identified as a major threat to the Key Conservation Targets of Bon Bon Station

<sup>4</sup> Department of Sustainability, Environment, Water, Population and Communities, accessed 11 February 2013, <a href="http://www.environment.gov.au/biodiversity/invasive/index.html">http://www.environment.gov.au/biodiversity/invasive/index.html</a>.

<sup>5</sup> South Australian Department of Environment, Water and Natural Resources, accessed 11 February 2013, <a href="http://www.environment.sa.gov.au/naturelinks/List\_Project/Addressing\_Priority\_Threats\_to\_Native\_Vegetation\_on\_Bon\_Bon\_Station\_Reserve">http://www.environment.sa.gov.au/naturelinks/List\_Project/Addressing\_Priority\_Threats\_to\_Native\_Vegetation\_on\_Bon\_Station\_Reserve</a>.



Reserve. Nineteen of the 324 plant taxa recorded on Bon Bon are considered weeds, of which 15 are new records for the property. The previous scarcity of exotic plant records is most likely a result of undercollection, rather than an indication of their absence. Exotic species are often overlooked during botanical surveys unless systematic collections or targeted surveys are conducted.

Buffel Grass (*Cenchrus ciliaris*) was the most serious weed species detected during the survey. It is considered a threat to biodiversity and poses a major threat to South Australia's arid and semi-arid rangelands. The root system is robust and the burrs are readily distributed, and the plant can form dense monocultures, change natural fire regimes, and displace native plants, making it one of the most extensive and environmentally serious alien species in central Australia. The location of high-risk invasive species (including Buffel Grass) will be mapped and controlled at priority sites as part of Bon Bon's Property Management Plan.



### Other Points of Interest

#### **Vertebrates**

Terrestrial vertebrates have been extensively surveyed in South Australia since the 1980s. Bon Bon Station Reserve is on the fringe of areas surveyed in the early 1990s and the Lake Eyre South Survey undertaken later in the same decade. However, detailed information on the total diversity and patterns of habitat use within Bon Bon are still unavailable, so this Bush Blitz vertebrate survey was exploratory in nature.

Few vertebrate species were added to the existing species lists. Even so, Bon Bon Station provided some interesting records with 22 vertebrate species recorded there for the first time. Two of the new records, the Gibber Earless Dragon (*Tympanocryptis intima*) and the Eyrean Earless Dragon (*T. tetraporophora*), represent Lake Eyre Basin species at their south-western limits, while the Central Deserts Robust Slider (*Lerista desertorum*) and the Little Long-tailed Dunnart (*Sminthopsis dolichura*) represent sandy desert species at their eastern limits. The one individual of Little Long-tailed Dunnart was caught at the limit of its distribution. The record closes the gap between two previous records either side of Bon Bon Station.

### **Invertebrates**

Research on Australian invertebrates has increased significantly over the last 20 years, but it is estimated that less than 15% of species have been formally described. In general, about a third of the collected species in any area is found to be new to science. No invertebrate surveys had been undertaken on Bon Bon Station prior to this Bush Blitz, therefore all findings represent new records for the reserve.



#### **Bees**

Native bees are important pollinators of Australian plants, and are therefore essential for ecosystem health and maintaining biodiversity. Forty-eight species of native bees from five different families were collected from Bon Bon Station Reserve, of which 44 species are believed to be new to science. Although the diversity of bee species was higher than expected, most species were found in relatively low numbers. This might be due to low population sizes caused by prolonged drought, coupled with large numbers of plants flowering after recent rain causing populations to disperse. This could also explain why the majority of species were found in only a few localities, and suggests that the figure of 48 species recorded is an underestimate of the total number occurring within the reserve. One species, Amegilla chlorocyanea, a blue-banded bee species common in the southern half of Australia, was found throughout the reserve, foraging on nightshades (Solanum), Westringia species and Bluerod (Stemodia florulenta). This bee is an important natural native pollinator of many agricultural crops and has been investigated as a potential natural replacement for manual pollination in greenhouse-grown tomatoes.6

#### Wasps

About 160 wasp specimens were collected at Bon Bon Station, representing at least 13 species. Of these, seven are believed to be new species, including six belonging to the subfamily Cheloninae. Prior to this Bush Blitz, 42 species of native wasps belonging to the subfamily Cheloninae had been described in Australia, of which only two were previously recorded in South Australia. Due to insufficient species descriptions of Chelonine wasps, it is difficult to identify specimens to species level.

This survey and the following research will help to revise the naming protocols for the Australian chelonine group.

#### Moths

During the survey, 166 morphospecies of moths (Lepidoptera) were recorded. These were further identified to species where possible. Preliminary results suggest that many of the specimens collected represent new or undescribed taxa. For example, only one of the 39 cosmet moth species (Cosmopterigidae) identified on the survey is believed to be previously named. Other putative new species include:

- + a species of *Taxeotis* that appears to be similar to some of the Western Australian goldfield moths;
- + two species of *Paramelora* that appear to represent previously unnamed taxa; and
- + a specimen of the Boarmiini tribe that appears to be a new species.

A particularly exciting find was a single specimen of a moth that appears to be *Anomocentris crystallota* or a very closely related cryptospecies. All previous records of this species are from the Gascoyne region of Western Australia. Should the specimen prove to be *A. crystallota*, it would represent a range extension of around 3,000 km.

### **Jumping Plantlice**

Psyllids, or jumping plantlice, are small plant-feeding insects that tend to be host specific, feeding on only one or two species. Surprisingly, a number of psyllid species were collected from more than one plant species, although it may be possible to identify the preferred host plant from the number of individuals captured on a particular plant.

<sup>6</sup> Hogendoorn, K., Bartholomaeus, F. and Keller, M. A. 2010, 'Chemical and sensory comparison of tomatoes pollinated by bees and by a pollination wand', *Journal of Economic Entomology* **103**(4): 1286–1292.



Sixteen morphospecies were collected at Bon Bon, all of which are expected to represent new, undescribed species.

The data collected from this Bush Blitz survey will contribute significantly to the study of the psyllid taxa and psyllid/plant host relationships. For example, 15 of the 16 new species discovered at Bon Bon belong to the genus *Acizzia*. This genus is very diverse, with over 200 species worldwide, but only about 20 Australian species have been described. The 16<sup>th</sup> psyllid specimen was from the genus *Trioza*, within which only five species have so far been described in Australia. Furthermore, most of the psyllid/host plant combinations collected on this survey have not been documented before.

#### Vascular plants and fungi

Much of Bon Bon Station Reserve was accessible, so sampling of vascular plants and macrofungi was possible in most areas with the exception of the far north-west of the property; the Lookout, Glendambo and Christie land systems; and mallee communities in the vicinity of Scorpion Lake.

The survey team collected 324 distinct flowering plant taxa, of which 305 were native and 19 exotic. In total, 467 plant specimens were vouchered and lodged with the State Herbarium of South Australia, and a further 715 specimens were recorded but not collected.

The survey added significantly to known flora of the reserve, with 162 species recorded for the first time: 147 flowering plants, three ferns, one alga and one moss. Ten species of macrofungi were also recorded on the reserve for the first time. Four species were of particular interest as their occurrence is either at the margin of their known distribution—Smooth

Angianthus (*Angianthus glabratus*), Channel Burrdaisy (*Calotis porphyroglossa*) and Small Poached-egg Daisy (*Myriocephalus squamatus*)—or represented a range extension—*Sida* sp. B (C. Dunlop, 1739).

Six flowering plant species were collected that had not been recorded previously within the Gairdner Torrens Herbarium Region. These included the native species Smooth Ruby Saltbush (Enchylaena tomentosa var. glabra), Desert Sneezeweed (Centipeda crateriformis subsp. compacta) and Furrowed New Holland Daisy (Vittadinia sulcata), and the exotic species Bladder Ketmia (Hibiscus trionum var. vesicarius), Sida sp. B (C.Dunlop 1739) and Branched Centaury (Centaurium tenuiflorum). One species, Corrugated Sida (Sida corrugata), had not been recorded in the region in nearly a century, while two others had previously only had single doubtful records for the region—Smooth Wallabygrass (Rytidosperma laeve) and Cotton Panic (Digitaria ammophila).

Several macrofungi were collected but the specimens could only be assigned with certainty to genus, and the most probable species match has been suggested. Further collecting of macrofungi is required on Bon Bon to enable accurate identification of the taxa present on the reserve.

At least 40 taxa known to occur on the property were not identified during this survey. This was not surprising given the size and diversity of Bon Bon, the limited time available for sampling, and that the visit was limited to a single season. It is expected that more intensive sampling would result in the detection of many more species.



# Appendix A: Species Lists

Nomenclature and taxonomy used in this appendix are consistent with that from the Australian Faunal Directory (AFD), the Australian Plant Name Index (APNI) and the Australian Plant Census (APC).

Current at February 2013



# Fauna

### **Vertebrates**

Mammals		
Family	Species	Common name
Canidae	Vulpes vulpes ^	Fox, Red Fox
Dasyuridae	Sminthopsis crassicaudata *	Fat-tailed Dunnart
	Sminthopsis dolichura *	Little Long-tailed Dunnart
Leporidae	Oryctolagus cuniculus ^	Rabbit
Macropodidae	Macropus fuliginosus	Western Grey Kangaroo
	Macropus robustus	Common Wallaroo
	Macropus rufus	Red Kangaroo
Muridae	Leggadina forresti *	Forrest's Mouse
	Mus musculus ^	House Mouse
	Notomys alexis *	Spinifex Hopping-mouse
	Pseudomys bolami *	Bolam's Mouse
Vespertilionidae	Nyctophilus geoffroyi *	Lesser Long-eared Bat
	Vespadelus baverstocki	Inland Forest Bat





Key

\* = New record for this reserve

 $\wedge$  = Exotic/Pest

# = EPBC listed

~ = NPW listed

Colour coding for entries:

Black = Previously recorded on the reserve and found on

this survey

**Brown** = **Putative** new species



	Birds			
Family	Species	Common name		
Acanthizidae	Acanthiza apicalis	Inland Thornbill		
	Acanthiza chrysorrhoa	Yellow-rumped Thornbill		
	Acanthiza uropygialis	Chestnut-rumped Thornbill		
	Aphelocephala leucopsis	Southern Whiteface		
	Aphelocephala pectoralis ~	Chestnut-breasted Whiteface		
	Pyrrholaemus brunneus	Redthroat		
Accipitridae	Aquila audax	Wedge-tailed Eagle		
	Circus assimilis	Spotted Harrier		
	Haliastur sphenurus	Whistling Kite		
	Hieraaetus morphnoides	Little Eagle		
	Milvus migrans	Black Kite		
Acrocephalidae	Acrocephalus australis	Australian Reed Warbler		
Aegothelidae	Aegotheles cristatus	Australian Owlet-nightjar		
Alcedinidae	Todiramphus pyrrhopygius	Red-backed Kingfisher		
Anatidae	Anas gracilis	Grey Teal		
Artamidae	Artamus cinereus	Black-faced Woodswallow		
	Artamus personatus	Masked Woodswallow		
	Cracticus nigrogularis	Pied Butcherbird		
	Cracticus tibicen	Australian Magpie		
	Cracticus torquatus	Grey Butcherbird		
Cacatuidae	Cacatua sanguinea	Little Corella		
	Eolophus roseicapillus	Galah		
	Lophochroa leadbeateri	Major Mitchell's Cockatoo		
	Nymphicus hollandicus	Cockatiel		
Campephagidae	Coracina maxima	Ground Cuckoo-shrike		
	Coracina novaehollandiae	Black-faced Cuckoo-shrike		
Casuariidae	Dromaius novaehollandiae	Emu		
Charadriidae	Elseyornis melanops	Black-fronted Dotterel		
	Erythrogonys cinctus	Red-kneed Dotterel		
	Vanellus tricolor	Banded Lapwing		
Climacteridae	Climacteris affinis ~	White-browed Treecreeper		
Columbidae	Ocyphaps lophotes	Crested Pigeon		
	Phaps chalcoptera	Common Bronzewing		
Corvidae	Corvus bennetti	Little Crow		
	Corvus coronoides	Australian Raven		
Cuculidae	Cacomantis pallidus	Pallid Cuckoo		
	Chalcites basalis	Horsfield's Bronze-Cuckoo		
Estrildidae	Taeniopygia guttata	Zebra Finch		



Birds			
Family	Species	Common name	
Falconidae	Falco berigora	Brown Falcon	
	Falco cenchroides	Nankeen Kestrel	
	Falco hypoleucos ~	Grey Falcon	
	Falco longipennis	Australian Hobby	
	Falco subniger	Black Falcon	
Hirundinidae	Cheramoeca leucosterna	White-backed Swallow	
	Hirundo neoxena	Welcome Swallow	
	Petrochelidon ariel	Fairy Martin	
	Petrochelidon nigricans	Tree Martin	
Maluridae	Malurus lamberti	Variegated Fairy-wren	
	Malurus leucopterus	White-winged Fairy-wren	
	Malurus splendens	Splendid Fairy-wren	
Megaluridae	Cincloramphus cruralis	Brown Songlark	
	Cincloramphus mathewsi	Rufous Songlark	
	Megalurus gramineus	Little Grassbird	
Meliphagidae	Acanthagenys rufogularis	Spiny-cheeked Honeyeater	
	Certhionyx variegatus	Pied Honeyeater	
	Epthianura albifrons	White-fronted Chat	
	Epthianura aurifrons	Orange Chat	
	Epthianura tricolor	Crimson Chat	
	Gavicalis virescens	Singing Honeyeater	
	Manorina flavigula	Yellow-throated Miner	
	Ptilotula penicillatus	White-plumed Honeyeater	
	Purnella albifrons	White-fronted Honeyeater	
	Sugomel niger	Black Honeyeater	
Meropidae	Merops ornatus	Rainbow Bee-eater	
Monarchidae	Grallina cyanoleuca	Magpie-lark	
Motacillidae	Anthus novaeseelandiae	Australasian Pipit, Australian Pipit	
Nectariniidae	Dicaeum hirundinaceum	Mistletoebird	
Neosittidae	Daphoenositta chrysoptera	Varied Sittella	
Pachycephalidae	Colluricincla harmonica	Grey Shrike-thrush	
	Oreoica gutturalis	Crested Bellbird	
	Pachycephala inornata ~	Gilbert's Whistler	
	Pachycephala rufiventris	Rufous Whistler	
Pedionomidae	Pedionomus torquatus ~	Plains-wanderer	

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	Bird	S
Family	Species	Common name
Petroicidae	Drymodes brunneopygia	Southern Scrub-robin
	Melanodryas cucullata	Hooded Robin
	Petroica goodenovii	Red-capped Robin
Pomatostomidae	Pomatostomus superciliosus	White-browed Babbler
Psittacidae	Barnardius zonarius	Australian Ringneck
	Melopsittacus undulatus	Budgerigar
	Neopsephotus bourkii	Bourke's Parrot
	Northiella haematogaster	Blue Bonnet, Bluebonnet
	Psephotus varius	Mulga Parrot
Psophodidae	Cinclosoma cinnamomeum	Cinnamon Quail-thrush
	Psophodes cristatus	Chirruping Wedgebill
	Psophodes occidentalis	Chiming Wedgebill
Rallidae	Tribonyx ventralis	Black-tailed Native-hen
Rhipiduridae	Rhipidura fuliginosa	New Zealand Fantail
	Rhipidura leucophrys	Willie Wagtail
Tytonidae	Tyto javanica	Eastern Barn Owl





		Amphibians	
Family	Species		Common name
Myobatrachidae	Neobatrachus sudellae *		Sudell's Frog





Reptiles			
Family	Species	Common name	
Agamidae	Ctenophorus cristatus	Bicycle Lizard, Crested Dragon	
	Ctenophorus nuchalis *	Central Netted Dragon	
	Ctenophorus reticulatus	Western Netted Dragon	
	Pogona vitticeps	Central Bearded Dragon	
	Tympanocryptis intima *	Gibber Earless Dragon,	
		Smooth-snouted Earless Dragon	
	Tympanocryptis lineata	Lined Earless Dragon	
	Tympanocryptis tetraporophora *	Eyrean Earless Dragon	
Diplodactylidae	Diplodactylus conspicillatus *	Fat-tailed Diplodactylus, Fat-tailed Gecko	
	Rhynchoedura ornata	Western Beaked Gecko	

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Reptiles		
Family	Species	Common name
Elapidae	Brachyurophis fasciolatus	Narrow-banded Shovel-nosed Snake,
		Narrow-banded Snake
	Neelaps bimaculatus	Black-naped Snake
	Parasuta monachus	Monk Snake
	Pseudonaja aspidorhyncha	Strap-snouted Brown Snake
	Pseudonaja modesta	Ringed Brown Snake
	Simoselaps bertholdi	Jan's Banded Snake
Gekkonidae	Gehyra purpurascens *	Purplish Dtella
	Gehyra n. sp. *	Dtella
	Gehyra cf. variegata	Tree Dtella
	Heteronotia binoei *	Bynoe's Gecko
	Lucasium stenodactylum *	Crowned Gecko, Sand-plain Gecko
	Underwoodisaurus milii	Barking Gecko, Thick-tailed Gecko
Pygopodidae	Pygopus nigriceps	Hooded Scaly-foot,
		Western Hooded Scaly-foot
Scincidae	Ctenotus leonhardii *	Leonhardi's Ctenotus
	Ctenotus regius *	Pale-rumped Ctenotus, Royal Ctenotus
	Ctenotus schomburgkii	Barred Wedgesnout Ctenotus,
		Schomburgk's Ctenotus
	Ctenotus strauchii	Eastern Barred Wedgesnout Ctenotus
	Eremiascincus richardsonii *	Broad-banded Sand-swimmer
	Lerista desertorum *	Central Deserts Robust Slider
	Lerista labialis *	Southern Sandslider
	Lerista timida *	Dwarf Three-toed Slider
		Dwarf Three-toed Slider  Common Dwarf Skink, Grey's Menetia
	Lerista timida *	
	Lerista timida *  Menetia greyii	Common Dwarf Skink, Grey's Menetia  Saltbush Morethia Skink  Boulenger's Snake-eyed Skink,
	Lerista timida *  Menetia greyii  Morethia adelaidensis *  Morethia boulengeri	Common Dwarf Skink, Grey's Menetia  Saltbush Morethia Skink  Boulenger's Snake-eyed Skink,  South-eastern Morethia Skink
	Lerista timida *  Menetia greyii  Morethia adelaidensis *	Common Dwarf Skink, Grey's Menetia  Saltbush Morethia Skink  Boulenger's Snake-eyed Skink,  South-eastern Morethia Skink  Bobtail, Boggi, Pinecone Lizard,
	Lerista timida *  Menetia greyii  Morethia adelaidensis *  Morethia boulengeri  Tiliqua rugosa	Common Dwarf Skink, Grey's Menetia  Saltbush Morethia Skink  Boulenger's Snake-eyed Skink, South-eastern Morethia Skink  Bobtail, Boggi, Pinecone Lizard, Shingle-back, Sleepy Lizard, Stumpy-tail
Typhlopidae	Lerista timida *  Menetia greyii  Morethia adelaidensis *  Morethia boulengeri  Tiliqua rugosa  Ramphotyphlops bicolor	Common Dwarf Skink, Grey's Menetia  Saltbush Morethia Skink  Boulenger's Snake-eyed Skink, South-eastern Morethia Skink  Bobtail, Boggi, Pinecone Lizard, Shingle-back, Sleepy Lizard, Stumpy-tail Dark-spined Blind Snake
Typhlopidae Varanidae	Lerista timida *  Menetia greyii  Morethia adelaidensis *  Morethia boulengeri  Tiliqua rugosa	Common Dwarf Skink, Grey's Menetia  Saltbush Morethia Skink  Boulenger's Snake-eyed Skink, South-eastern Morethia Skink  Bobtail, Boggi, Pinecone Lizard, Shingle-back, Sleepy Lizard, Stumpy-tail



### Invertebrates

Ants	
Family	Species
Formicidae	Camponotus aurocinctus *
	<i>Iridomyrmex</i> sp. *
	Melophorus sp. *
	Myrmecia desertorum *
	Rhytidoponera sp. *

Bees	
Family	Species
Apidae	Amegilla sp. *
	Amegilla chlorocyanea *
Colletidae	unid sp. 1 (subfamily
	Euryglossinae) *
	unid sp. 2 (subfamily
	Euryglossinae) *
	unid sp. 3 (subfamily
	Euryglossinae) *
	unid sp. 4 (subfamily Euryglossinae) *
	Hylaeus sp. 4 *
	Hylaeus sp. 7 *
	Hylaeus sp. 8 *
	Hylaeus sp. 9 *
	Leioproctus (subgenus
	Colletellus) sp. 1 *
	Leioproctus (subgenus
	Colletellus) sp. 2 *
	Leioproctus (subgenus
	Colletellus) sp. 3 *
	Leioproctus (subgenus
	Colletellus) sp. 4 *
	Leioproctus (subgenus
	Euryglossidia) sp. 1 *
	Leioproctus (subgenus
	Goniocolletes) sp. 2 *
	Leioproctus capito *  Leioproctus sp. 6 *
	Leioproctus sp. 7 *
	Leioproctus sp. 9 *
	Leioproctus sp. 10 *
	Leioproctus sp. 11 *
	Leioproctus sp. 12 *
	unid. sp. *
	unia. sp.



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Bees	
Family	Species
Halictidae	Chilalictus sp. 1 *
	Chilalictus sp. 2 *
	Chilalictus sp. 4 *
	Chilalictus sp. 5 *
	Chilalictus sp. 6 *
	Homalictus sp. 2 *
	Homalictus sp. 4 *
	Homalictus sp. 5 *
	Homalictus sp. 6 *
	Homalictus sp. 7 *
	Homalictus sp. 9 *
	Homalictus sp. 10 *
	Nomia sp. 1 *
Megachilidae	Chalicodoma sp. 2 *
	Chalicodoma sp. 3 *
	Chalicodoma sp. 5 *
	Chalicodoma sp. 6 *
	Chalicodoma sp. 7 *
	Chalicodoma sp. 8 *
	Chalicodoma sp. 10 *
	Chalicodoma sp. 11 *
	Chalicodoma sp. 14 *
	Megachile sp. 1 *
Stenotritidae	indet. genus
	(Ctenocolletes sp.?) *

Wasps		
Family	Species	
Braconidae (Cheloninae)	Ascogaster sp. (caudata)? *	
	Ascogaster sp. 1 *	
	Chelonus sp. (coriaceus?) *	
	Chelonus sp. (scrobiculatus?) *	
	Chelonus sp. 1 *	
	Phanerotoma sp. (behriae?) *	
	Phanerotoma sp.	
	(hendecasisella?) *	
	Phanerotoma sp. (leeuwinensis?) *	
	Phanerotoma sp. 1 *	
	Phanerotoma sp. 2 *	
	Phanerotoma sp. 3 *	
	Phanerotoma sp. 4 *	
Tiphiidae	Thynninae sp. *	

Butterflies	
Species	
Nacaduba biocellata *	
Theclinesthes serpentata *	
Vanessa kershawi	
Eurema smilax *	





Moths		Moths	
Family	Species	Family	Species
Anthelidae	unid. n. sp. *	Cosmopterigidae	unid. sp. AJ *
Arctiidae	Anestia sp. (ombrophanes?) *		unid. sp. AK *
	Cheliosea cosmeta *		unid. sp. AL *
	Thallarcha sp. *		unid. sp. AM *
Carposinidae	Carposinidae sp. A *	_	unid. sp. AN *
Coleophoridae	unid. sp. *		unid. sp. AO *
Cosmopterigidae	Limnoecia sp. *	_	unid. sp. AP *
	Macrobathra sp. 1 *	_	unid. sp. AQ *
	Macrobathra sp. 2 *	_	unid. sp. AS *
	Macrobathra sp. 3 *	Cossidae	Archaeoses polygrapha *
	Macrobathra sp. 4 *		Xyleutes sp. *
	Macrobathra sp. 5 *	Gelechiidae	Ardozyga haemaspila *
	Macrobathra sp. 6 *	_	Ardozyga sp. 1 *
	Macrobathra sp. 7 *		Ardozyga sp. 2 *
	Macrobathra sp. 8 *	_	Catameces sp. *
	Macrobathra sp. 9 *		Decatopseustis sp. (cataphanes?) *
	Mimodoxa sp. 1 *	_	Decatopseustis xanthastis *
	unid. genus (Morphomima?) *		Dichomeris cirrhostola *
	unid. sp. B *		Dorycnopa sp. *
	unid. sp. P *	_	Ephysteris sp. (silignitis?) *
	unid. sp. Q *	_	Pexicopia nephelombra *
	unid. sp. U *		Pexicopia sp. (desmanthes?) *
	unid. sp. V *		unid. genus ( <i>Thiotricha</i> sp.?) 1 *
	unid. sp. W *		unid. genus ( <i>Thiotricha</i> sp.?) 2 *
	unid. sp. X *	_	unid. genus ( <i>Thiotricha</i> sp.?) 3 *
	unid. sp. Y *	_	unid. sp. A *
	unid. sp. Z *	_	unid. sp. B *
	unid. sp. AA *		Xerometra sp. *
	unid. sp. AB *	Geometridae	Anomocentris sp. (crystallota?) *
	unid. sp. AC *	_	Cleora sp. *
	unid. sp. AD *		Euloxia pyropa *
	unid. sp. AE *		Godonela gratularia *
	unid. sp. AF *		Idaea sp. 1 *
	unid. sp. AG *		Idaea sp. 2 *
	unid. sp. AH *		Lipogya sp. *
	unid. sp. Al *		Nearcha sp. 1 *

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Moths		
Family	Species	
Noctuidae	Eublemma sp. 1 *	
	Prorocopis sp. *	
	Stenoprora sp. *	
	Tathorhynchus exsiccata *	
	unid. sp. (subfamily Heliothinae) *	
	Xenognes sp. *	
Oecophoridae	Chalarotona melipnoa *	
	Chrysonoma sp. 1 *	
	Chrysonoma sp. 2 *	
	Cryptophasa sp. 1 *	
	Cryptophasa sp. 2 *	
	Euchaetis sp. *	
	Lichenaula sp. *	
	Phytotrypa sp. (anachorda?) *	
	Procometis sp. *	
	Trisyntopa euryspoda *	
	unid. genus (Barea sp?) *	
	unid. genus	
	(Nephogenes sp?) *	
	unid. sp. A	
	(Xyloryctid assemblage) *	
	unid. sp. B	
	(Xyloryctid assemblage) *	
	unid. sp. A * unid. sp. B *	
	unid. sp. C*	
	unid. sp. D *	
	unid. sp. E *	
	unid. sp. F *	
	unid. sp. G *	
	unid. sp. H *	
	uma. 3p. 11	

Moths	
Family	Species
Geometridae	Nearcha sp. 2 *
	Paramelora sp. 1 *
	Paramelora sp. 2 *
	Scioglyptis sp. 1 *
	Scioglyptis sp. 2 *
	Scopula lydia *
	Scopula sp. 1 *
	Taxeotis sp. 4 *
	Boarmiini sp. *
	unid. sp. A
	(subfamily Ennominae) *
	Xanthorhoe sp. (argodesma?) *
	Xenochlaena porphyropa *
Gracillariidae	unid. sp. A *
	unid. sp. C *
	unid. sp. F *
Hypertrophidae	Eupselia sp. 2 *
	Eupselia sp. 3b *
Lymantriidae	unid. genus (Acyphas sp?) *

unid. sp. I \*
unid. sp. J \*
unid. sp. K \*
unid. sp. L \*
unid. sp. X \*
unid. sp. Y \*
unid. sp. Z \*
unid. sp. AA \*



	Moths
Family	Species
Oecophoridae	unid. sp. AB *
оссорнопаас	unid. sp. AC *
	unid. sp. (Philobota group) 1a *
	unid. sp. (Wingia group 2) *
	Xylorycta sp. *
Opostegidae	unid. sp. B *
Psychidae Psychidae	unid. sp. A *
1 sycilidae	unid. sp. B *
Pterophoridae	unid. sp. B *
тегорионаае	unid. sp. C*
Pyralidae	Pyraustinae sp. A *
i yiaiidae	Pyraustinae sp. B *
	Pyraustinae sp. C *
	Pyraustinae sp. E *
	Faveria tritalis *
	unid. sp. *
	Nephopterix melanostyla *
	Titanoceros sp. *
	•
	unid. sp. B (subfamily Crambinae) *
	unid. sp. C
	(subfamily Crambinae) *
	unid. sp. D
	(subfamily Crambinae) *
	unid. sp. E
	(subfamily Crambinae) *
	unid. sp. F
	(subfamily Crambinae) *
	unid. sp. l
	(subfamily Crambinae) *
	unid. sp.
	(subfamily Epipaschiinae) *
	unid. sp. 1
	(subfamily Phycitinae) *
	unid. sp. 2 (subfamily Phycitinae) *
	(Subtaining Phycicinae)

Moths	
Family	Species
Roeslerstammiidae	unid. sp. *
Tineidae	Monopis argillacea *
	unid. sp. *
	unid. sp. A *
	unid. sp. B *
	unid. sp. E *
	unid. sp. G *
Tortricidae	Tortricinae sp. B *
	Crocidosema plebejana *
	Cryptophlebia ombrodelta *
	Epiphyas sp. 1 *
	Notocydia sp. *

Caddisflies	
Family	Species
Ecnomidae	unid. sp. *

Flies	
Family	Species
Asilidae	unid. sp. *
Bombyliidae	unid. sp. *

unid. sp. B \*

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Jumping Plantlice	
Family	Species
Psyllidae	Acizzia sp. 1 *
	Acizzia sp. 2 *
	Acizzia sp. 3 *
	Acizzia sp. 4 *
	Acizzia sp. 5 *
	Acizzia sp. 6 *
	Acizzia sp. 8 *
	Acizzia sp. 9 *
	Acizzia sp. 10 *
	Acizzia sp. 13 *
	Acizzia sp. 14 *
	Acizzia sp. 15 *
	Acizzia sp. 16 *
	Acizzia sp. 17 *
	Acizzia sp. 18 *
Triozidae	Trioza sp. 1 *

True Bugs	
Family	Species
(order Heteroptera)	unid. sp. *

Beetles	
Family	Species
Brentidae	unid. sp. *
Buprestidae	unid. sp. *
Carabidae	Megacephala australis *
	Megacephala whelani *
	Pogonus sp. *
Cleridae	unid. sp. *
Curculionidae	unid. sp. *
Curculionoidea	unid. sp. *
Dytiscidae	Antiporus gilbertii
Mordellidae	unid. sp. *
Staphylinidae	unid. sp. *

	Termites
Family	Species
Rhinotermitidae	Schedorhinotermes reticulatus
Termitidae	Amitermes perarmatus
	Microcerotermes distinctus

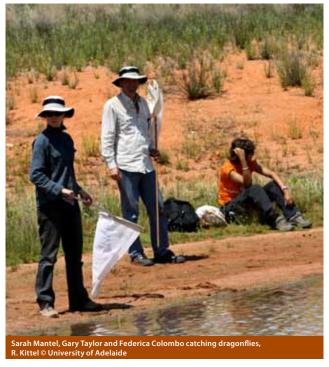
Crickets	
Family	Species
(order Orthoptera)	unid. sp. *



Web Spinner Insects	
Family	Species
Oligotomidae	unid. sp. *

Dragonflies	
Family	Species
Libellulidae	Orthetrum caledonicum *
	unid. sp. *

Scorpions	
Family	Species
Buthidae	Australobuthu xerolimniorum *





Spiders	
Family	Species
Desidae	unid. sp. *
Theridiidae	Steatoda sp. *

Crustaceans	
Family	Species
Thamnocephalidae	Branchinella sp. *
Triopsidae	unid. sp. *

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# Flora

Flowering Plants	
Family	Species
Aizoaceae	Disphyma crassifolium subsp. clavellatum *
	Gunniopsis quadrifida *
	Gunniopsis septifraga *
	Gunniopsis zygophylloides
	Sarcozona praecox *
	Tetragonia eremaea
	Trianthema triquetra
Amaranthaceae	Alternanthera denticulata *
	Alternanthera nodiflora *
	Hemichroa diandra *
	Ptilotus gaudichaudii var. gaudichaudii
	Ptilotus nobilis var. nobilis
	Ptilotus obovatus
	Ptilotus polystachyus
	Ptilotus sessilifolius
	Ptilotus sp.
Apiaceae	Daucus glochidiatus *
Apocynaceae	Rhyncharrhena linearis *
Asparagaceae	Thysanotus baueri
	Thysanotus exiliflorus *
Asphodelaceae	Bulbine alata *
Asteraceae	Angianthus glabratus *
	Brachyscome ciliaris var. ciliaris *
	Brachyscome ciliaris var.
	lanuginosa *
	Brachyscome lineariloba *
	Brachyscome trachycarpa *
	Calocephalus platycephalus *
	Calotis cymbacantha





	Flowering Plants	F	lowering Plants
Family	Species	Family	Species
Asteraceae	Calotis hispidula *	Asteraceae	Pterocaulon sphacelatum *
	Calotis multicaulis *		Pycnosorus pleiocephalus
	Calotis plumulifera *		Reichardia tingitana ^ *
	Calotis porphyroglossa *		Rhodanthe charsleyae
	Carthamus lanatus ^ *		Rhodanthe floribunda *
	Centaurea melitensis ^ *		Rhodanthe microglossa *
	Centipeda crateriformis subsp.		Rhodanthe moschata
	compacta *	_	Rhodanthe stricta
	Chrysocephalum pterochaetum	_	Rutidosis helichrysoides subsp.
	Cratystylis conocephala	_	helichrysoides
	Dichromochlamys dentatifolia *	_	Schoenia cassiniana
	Dimorphocoma minutula	_	Senecio gregorii *
	Elachanthus pusillus *	_	Senecio lacustrinus *
	Eriochlamys eremaea *	_	Senecio lanibracteus *
	Gnephosis arachnoidea *	_	Sonchus oleraceus ^
	Gnephosis tenuissima *	_	Trichanthodium skirrophorum *
	Helichrysum luteoalbum *	_	Vittadinia eremaea
	Kippistia suaedifolia		Vittadinia sulcata *
	Lawrencella davenportii	_	Waitzia acuminata var.
	Leiocarpa leptolepis *	_	acuminata *
	Leiocarpa websteri *	Boraginaceae	Echium plantagineum ^ *
	Lemooria burkittii	Brassicaceae	Arabidella glaucescens
	Lepidium muelleriferdinandi *	_	Blennodia canescens *
	Lepidium phlebopetalum		Brassica tournefortii ^
	Leptorhynchos baileyi *		Carrichtera annua ^
	Leucochrysum fitzgibbonii *		Sisymbrium erysimoides ^ *
	Leucochrysum molle *		Stenopetalum lineare
	Minuria cunninghamii *	_	Stenopetalum velutinum *
	Minuria leptophylla	Campanulaceae	Wahlenbergia tumidifructa
	Myriocephalus squamatus *	Caryophyllaceae	Sagina apetala ^ *
	Pluchea rubelliflora *		Spergularia marina *
	Podolepis capillaris	Casuarinaceae	Casuarina pauper
	Polycalymma stuartii *	_	

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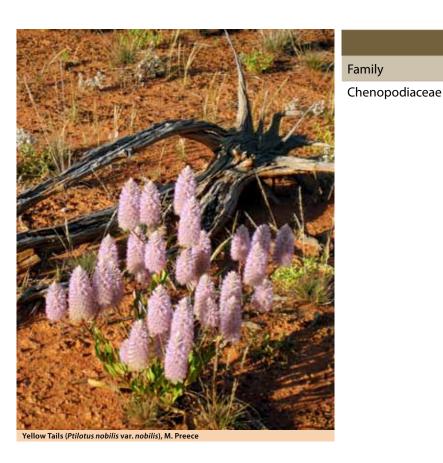
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Flowering Plants



Species
Dysphania plantaginella
Einadia nutans
Einadia nutans subsp. eremaea *
Einadia nutans subsp. nutans *
Enchylaena tomentosa var.
glabra *
Enchylaena tomentosa var.
tomentosa
Eriochiton sclerolaenoides
Maireana aphylla
Maireana appressa
Maireana astrotricha
Maireana erioclada
Maireana georgei *
Maireana integra
Maireana lobiflora
Maireana pyramidata
Maireana schistocarpa *
Maireana sedifolia
Maireana trichoptera
Maireana triptera
Maireana turbinata
Malacocera tricornis
Osteocarpum dipterocarpum
Osteocarpum salsuginosum *
Rhagodia spinescens
Rhagodia ulicina
Salsola australis
Sclerolaena brachyptera *
Sclerolaena cuneata *
Sclerolaena decurrens
Sclerolaena diacantha
Sclerolaena divaricata
Sclerolaena eriacantha
Sclerolaena holtiana *
Sclerolaena intricata

Flowering Plants			
Family	Species		
Chenopodiaceae	Atriplex acutibractea subsp.		
	acutibractea		
	Atriplex fissivalvis *		
	Atriplex holocarpa		
	Atriplex kochiana		
	Atriplex leptocarpa *		
	Atriplex lindleyi subsp. lindleyi *		
	Atriplex quinii		
	Atriplex vesicaria		
	Chenopodium curvispicatum		
	Chenopodium desertorum subsp. desertorum		
	Chenopodium murale ^ *		
	Chenopodium nitrariaceum		
	Dissocarpus biflorus var. villosus *		
	Dissocarpus paradoxus		
	Dysphania cristata		
	Dysphania melanocarpa		

Sclerolaena lanicuspis Sclerolaena longicuspis Sclerolaena obliquicuspis



F	lowering Plants		Flowering Plants
Family	Species	Family	Species
Chenopodiaceae	Sclerolaena parviflora *	Fabaceaee	Acacia aneura var. aneura
	Sclerolaena patenticuspis		Acacia aneura var. intermedia
	Sclerolaena uniflora		Acacia aneura var. major
	Sclerolaena ventricosa		Acacia aneura var. tenuis *
	Tecticornia halocnemoides *		Acacia brachystachya
	Tecticornia indica subsp. bidens *		Acacia calcicola
	Tecticornia medullosa *		Acacia clelandii
	Tecticornia pergranulata subsp.		Acacia minyura
	pergranulata		Acacia oswaldii
	Tecticornia sp.		Acacia papyrocarpa
	Tecticornia tenuis		Acacia ramulosa var. linophylla *
Chloanthaceae	Dicrastylis beveridgei var. lanata *		Acacia sibirica *
Convolvulaceae	Convolvulus clementii		Acacia tarculensis
	Convolvulus remotus *		Acacia tetragonophylla
Crassulaceae	Crassula colorata var. colorata *		Acacia victoriae subsp. victoriae
Cucurbitaceae	Citrullus colocynthis ^ *		Crotalaria eremaea subsp.
Cyperaceae	Cyperus rigidellus		strehlowii *
	Isolepis australiensis *		Cullen cinereum
Euphorbiaceae	Euphorbia drummondii		Glycyrrhiza acanthocarpa
	Euphorbia sp.		Lotus cruentus
	Euphorbia tannensis subsp.		Medicago minima ^ *
	eremophila		Petalostylis labicheoides
	Phyllanthus lacunarius *		



= New record for this reserve

= Exotic/Pest

# = EPBC listed

~ = NPW listed

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**Brown** = **Putative** new species



	Flowering Plants		Flowering Plants
Family	Species	Family	Species
Fabaceae	Senna artemisioides subsp.	Loranthaceae	Amyema maidenii subsp. maidenii
	filifolia *		Amyema preissii
	Senna artemisioides subsp.		Amyema quandang var.
	helmsii *	_	quandang *
	Senna artemisioides subsp.		Lysiana exocarpi subsp. exocarpi
	X artemisioides	Lythraceae	Lythrum wilsonii *
	Senna artemisioides subsp.  X coriacea *	Malvaceae	Abutilon cryptopetalum
		_	Abutilon fraseri subsp.
	Senna artemisioides subsp.  X petiolaris *		diplotrichum *
	Senna artemisioides subsp.	_	Abutilon leucopetalum
	X sturtii		Abutilon malvifolium *
	Senna cardiosperma subsp.	_	Abutilon otocarpum
	gawlerensis		Hibiscus krichauffianus
	Swainsona canescens		Hibiscus sturtii var. grandiflorus *
	Swainsona eremaea		Hibiscus trionum var. vesicarius ^ *
	Swainsona formosa		Lawrencia glomerata
	Swainsona microcalyx ~ *		Lawrencia squamata
	Swainsona oliveri *		Malva parviflora ^ *
	Swainsona purpurea *		Malvastrum americanum var.
	Swainsona stipularis		americanum
	Swainsona tenuis *		Sida ammophila
	Trigonella suavissima *		Sida calyxhymenia *
Frankeniaceae	Frankenia foliosa *	_	Sida corrugata
	Frankenia serpyllifolia *	_	Sida fibulifera
Gentianaceae	Centaurium tenuiflorum ^ *		Sida intricata
Geraniaceae	Erodium aureum ^ *		Sida sp. B (C.Dunlop 1739) *
	Erodium carolinianum *	<ul> <li>Myoporaceae</li> </ul>	Eremophila alternifolia
	Erodium cygnorum		Eremophila deserti *
	Erodium sp.	_	Eremophila duttonii
Goodeniaceae	Goodenia berardiana		Eremophila glabra subsp. glabra
	Goodenia lunata		Eremophila latrobei subsp. glabra
	Goodenia modesta *		Eremophila longifolia
	Goodenia pinnatifida *		Eremophila maculata
	Goodenia pusilliflora *		Eremophila maculata subsp.  maculata *
	Scaevola collaris		Eremophila paisleyi subsp. paisleyi
	Scaevola spinescens		Eremophila rotundifolia
Lamiaceae	Teucrium racemosum		Eremophila scoparia
			Myoporum platycarpum subsp.  platycarpum *



	Flowering Plants		Flowering Plants
Family	Species	Family	Species
Myrtaceae	Calytrix gypsophila	Poaceae	Eragrostis pergracilis *
	Eucalyptus intertexta		Eragrostis setifolia
	Eucalyptus socialis subsp.		Eriachne helmsii
	eucentrica *		Monachather paradoxus
	Eucalyptus socialis subsp. socialis		Neurachne munroi
	Melaleuca interioris *		Paractaenum novae-hollandiae
	Melaleuca uncinata		subsp. reversum *
	Melaleuca xerophila		Paspalidium constricta
Nyctaginaceae	Boerhavia coccinea *		Rytidosperma caespitosum *
	Boerhavia repleta		Rytidosperma laeve ~ *
Oxalidaceae	Oxalis perennans *		Schismus arabicus ^ *
Pittosporaceae	Pittosporum angustifolium *		Sporobolus actinocladus
Plantaginaceae	Plantago drummondii		Thyridolepis mitchelliana *
	Stemodia florulenta *		Tragus australianus
Poaceae	Amphipogon caricinus var.		Tripogon loliiformis
	caricinus *		Triraphis mollis
	Aristida contorta	Polygonaceae	Polygonum plebeium *
	Austrostipa eremophila	Portulacaceae	Calandrinia sp. aff. reticulata
	Austrostipa nitida		Calandrinia eremaea *
	Austrostipa nullanulla ~		Calandrinia ptychosperma *
	Austrostipa scabra subsp. scabra *		Calandrinia sp.
	Cenchrus ciliaris ^		Portulaca oleracea
	Digitaria ammophila *	Proteaceae	Grevillea nematophylla subsp.
	Digitaria brownii		nematophylla
	Enneapogon avenaceus		Hakea leucoptera subsp.
	Enneapogon caerulescens		leucoptera *
	Enneapogon cylindricus	Rubiaceae	Synaptantha tillaeacea var.
	Enneapogon intermedius *		hispidula *
	Enteropogon acicularis *		Synaptantha tillaeacea var.
	Eragrostis dielsii		tillaeacea *
	Eragrostis eriopoda	Santalaceae	Exocarpos aphyllus
	Eragrostis laniflora *		Santalum acuminatum

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Flowering Plants		Flowering Plants	
Family	Species	Family	Species
Sapindaceae	Alectryon oleifolius subsp.	Zygophyllaceae	Tribulus eichlerianus
	canescens *		Tribulus sp.
	Dodonaea microzyga var. microzyga		Zygophyllum aurantiacum subsp.
	Dodonaea viscosa subsp.		aurantiacum *
	angustissima		Zygophyllum aurantiacum subsp.
Solanaceae	Lycium australe		simplicifolium *
	Nicotiana simulans		Zygophyllum compressum
	Nicotiana velutina		Zygophyllum emarginatum *
	Solanum ellipticum		Zygophyllum eremaeum
	Solanum quadriloculatum		Zygophyllum iodocarpum
Thymeleaceae	Pimelea microcephala subsp.		Zygophyllum ovatum *
	microcephala		Zygophyllum prismatothecum
	Pimelea simplex subsp. continua *		Zygophyllum simile
	Pimelea trichostachya *		
Verbenaceae	Verbena supina ^ *		



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Ferns		
Family	Species	
Marsiliaceae	Marsilea hirsuta *	
Pteridaceae	Cheilanthes lasiophylla *	
	Cheilanthes sieberi subsp. sieberi *	

Mosses		
Family	Species	
Bryopsida	unid. sp. *	
Pottiaceae	Crossidium davidai	

Fungi		
Family	Species	
Battarreaceae	Battarrea stevenii *	
Geastraceae	Geastrum minimum *	
Lycoperdaceae	Disciseda verrucosa *	
Podaxaceae	Gyrophragmium inquinans *	
	Montagnea arenaria var.	
	macrospora *	
	Podaxis pistillaris *	
Tulostomataceae	Chlamydopus meyenianus *	
	Tulostoma albicans *	
	Tulostoma pulchellum *	
	Tulostoma sp. *	

Algae		
Family	Species	
Characeae	Chara sp. *	



Key

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## Appendix B: Threatened Species

Nomenclature and taxonomy used in this appendix are consistent with that from the Australian Faunal Directory (AFD), the Australian Plant Name Index (APNI) and the Australian Plant Census (APC).

Current at February 2013



Birds			
Family	Species	Common name	Status
Acanthizidae	Aphelocephala pectoralis	Chestnut-breasted Whiteface	NPW — Rare
Climacteridae	Climacteris affinis	White-browed Treecreeper	NPW — Rare
Falconidae	Falco hypoleucos	Grey Falcon	NPW — Rare
Pachycephalidae	Pachycephala inornata	Gilbert's Whistler	NPW — Rare
Pedionomidae	Pedionomus torquatus	Plains-wanderer	EPBC — Vulnerable, NPW — Endangered

## Flora

Flowering Plants			
Family	Species	Common name	Status
Fabaceae	Swainsona microcalyx *	Wild Violet	NPW — Rare
Poaceae	Austrostipa nullanulla	Club Spear-grass	NPW — Vulnerable
	Rytidosperma laeve *	Smooth Wallaby-grass	NPW — Rare

EPBC = refers to the *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth)

 $\mathsf{NPW} \;\; = \;\; \mathsf{refers} \; \mathsf{to} \; \mathsf{the} \; \textit{National Parks and Wildlife Act 1972} \; (\mathsf{South Australia})$ 

\* = New record for this reserve

Blue = Previously recorded on the reserve but not found on this survey



# Appendix C: Exotic and Pest Species

Nomenclature and taxonomy used in this appendix are consistent with that from the Australian Faunal Directory (AFD), the Australian Plant Name Index (APNI) and the Australian Plant Census (APC).

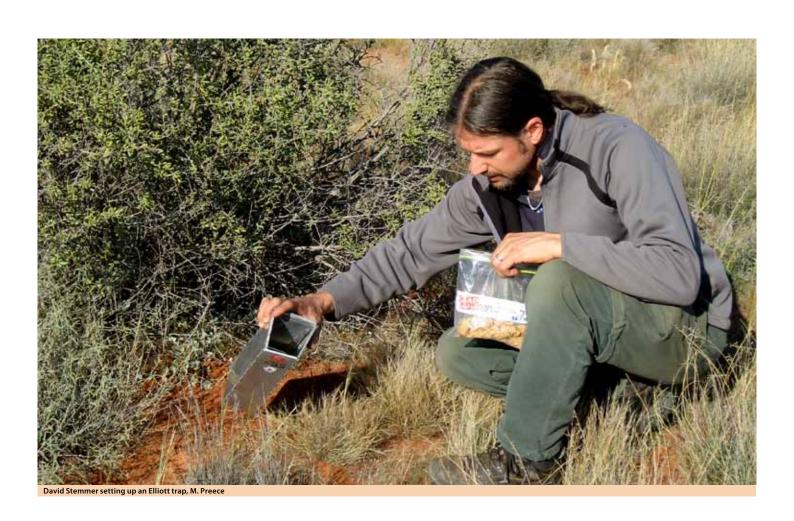
Current at February 2013



# Fauna

Mammals			
Family	Species	Common Name	
Canidae	Vulpes vulpes	Fox, Red Fox	
Leporidae	Oryctolagus cuniculus	Rabbit	
Muridae	Mus musculus	House Mouse	

Blue = Previously recorded on the reserve but not found on this survey





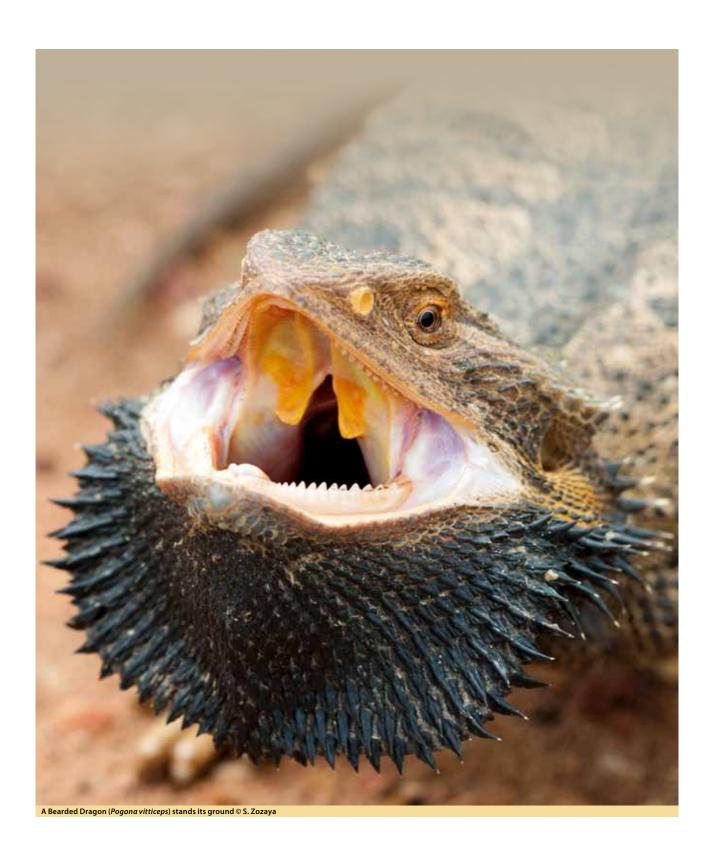
# Flora

Flowering Plants			
Family	Species	Common name	
Asteraceae	Carthamus lanatus *	Saffron Thistle	
	Centaurea melitensis *	Cockspur Thistle, Maltese Cockspur	
	Reichardia tingitana *	False Sow-thistle, Reichardia	
	Sonchus oleraceus	Annual Sowthistle, Common Sowthistle	
Boraginaceae	Echium plantagineum *	Paterson's Curse, Salvation Jane	
Brassicaceae	Brassica tournefortii	Wild turnip, Mediterranean Turnip	
	Carrichtera annua	Ward's Weed	
	Sisymbrium erysimoides *	Smooth Mustard	
Caryophyllaceae	Sagina apetala *	Pearlwort, New Zealand Moss	
Chenopodiaceae	Chenopodium murale *	Green Fat Hen, Nettle-leaf Goosefoot	
Cucurbitaceae	Citrullus colocynthis *	Colocynth	
Fabaceae	Medicago minima *	Little Medic	
Gentianaceae	Centaurium tenuiflorum *	Branched Centaury, Slender Centaury	
Geraniaceae	Erodium aureum *	Heron's Bill	
Malvaceae	Hibiscus trionum var. vesicarius *	Bladder Ketmia	
	Malva parviflora *	Mallow	
Poaceae	Cenchrus ciliaris	Buffel Grass	
	Schismus arabicus *	Arabian Grass	
Verbenaceae	Verbena supina *	Trailing Verbena	

<sup>\* =</sup> New record for this reserve









# Glossary



#### C

#### Cryptospecies (cryptic species)

Species that are physically similar but reproductively isolated from each other.

#### М

#### Macrofungi

Fungi that produce large fruiting bodies, i.e. those visible to the naked eye and generally one centimetre or more in width or height.

#### Morphospecies

A group of individuals that are considered to belong to the same species on the grounds of morphology [physical features] alone.

#### N

### National Reserve System

Australia's network of protected areas, which includes more than 9,700 protected areas covering 13.4% of the country—over 103 million hectares. It is made up of Commonwealth, state and territory reserves, Indigenous lands and protected areas run by non-profit conservation organisations, through to ecosystems protected by farmers on their private working properties.

#### P

#### Putative new species

A species that has been recognised by an expert as never having been named or described in the scientific literature. Note specimens may already be in museum or herbarium collections.

#### Т

### Taxon (plural taxa)

A member of any particular taxonomic group, e.g. a particular species, genus, family.

#### Taxonomy

The categorisation and naming of species. The science of identifying and naming species, as well as grouping them based on their relatedness.

#### U

#### Undescribed taxon

A taxon (for example, a species) that has not yet been formally described or named.

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**FRONT COVER** Sturt's Desert Pea (*Swainsona formosa*), Bon Bon Station Reserve, K Gillespie













