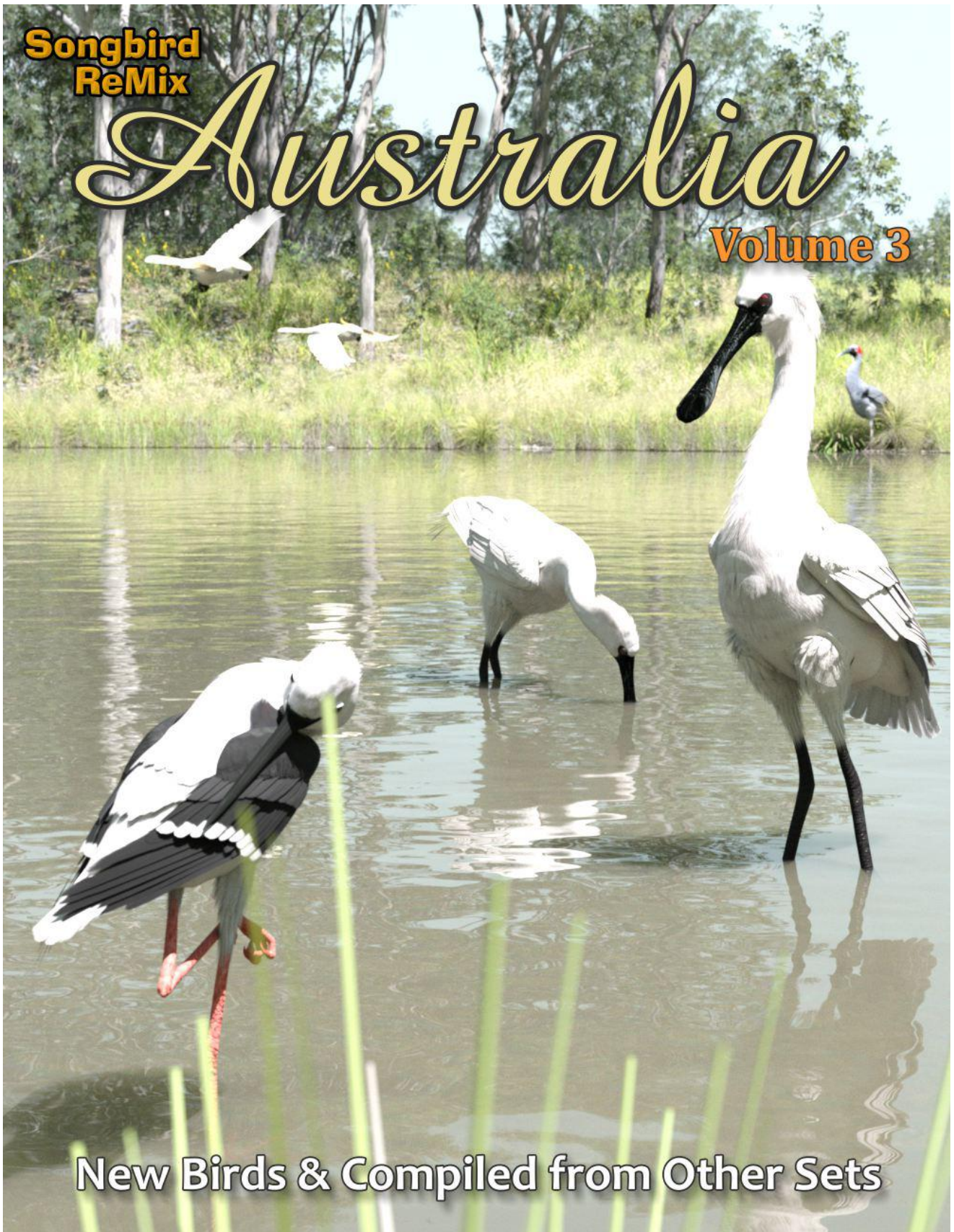


**Songbird
ReMix**

Australia

Volume 3



New Birds & Compiled from Other Sets

Avian Models for 3D Applications

Characters and Procedural Maps by Ken Gilliland

Songbird ReMix Australia Volume III

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Songbird ReMix Australia Volume III

Manual

Introduction

Songbird ReMix Australia Volume 3 contains all previously released Australian Songbird Remix format songbirds, parrots and pigeons together for the first time in one package. Included are the iconic Kookaburras from the “Second Edition” package, as well as the mix of Gouldian and Zebra finches, Budgies and Cockatiels from “Pet Shop”, the Wompoo and Crested doves from “Game Birds”, the cockatoos and lorikeets from “Parrots” and many others.

All of these older format birds have been refitted to use the latest versions of the Songbird ReMix base models and access all of its enhanced features. All of the birds use Songbird Remix technology which means you can animate them from a standing pose to full flight, plus have scores of morphs for customization. Any of the birds from this package are worthy centerpieces in any form of imagery.

Overview and Use

The set is located within the **Animals : Songbird ReMix** folder. Here is where you will find a number of folders, such as **Bird Library**, **Manuals** and **Resources**. Let's look at what is contained in these folders:

- **Bird Library:** This folder holds the actual species and poses for the "premade" birds. Birds are placed into a "type" folder (such as "Birds of Prey (Order Falconiformes)" which for example would hold falcons, hawks and eagles). The birds for this set can be found in the following folder(s):
 - **Boobies and Gannets (Order Suliformes)**
 - **Cranes, Coots and Rails (Order Gruiformes)**
 - **Cuckoos and relatives (Order Cuculiformes)**
 - **Gulls and Waders (Order Charadriiformes)**
 - **Hérons, Ibises and Pelicans (Order Pelecaniformes)**
 - **Kingfishers (Order Coraciiformes)**
 - **Owls (Order Strigiformes)**
 - **Parrots and Cockatoos (Order Psittaciformes)**
 - **Perching Birds (Order Passerines)**
 - **Pigeons and Doves (Order Columbiformes)**
- **Manuals:** Contains a link to the online manual for the set.
- **Props:** Contains any props that might be included in the set
- **Resources:** Items in this folder are for creating and customizing your birds
 - **Bird Base Models:** This folder has the blank, untextured model(s) used in this set. These models are primarily for users who wish to experiment with poses or customize their own species of bird. When using physical renderers such as Iray and Superfly, SubD should be turned to at least

“3”. For DAZ Studios 3Delight renders, the SubD must be turned from the “High Resolution” setting to the “Base” setting (otherwise some areas will render incorrectly transparent).

Poser Use

Select **Figures** in the **Runtime** Folder and go to the **Animals : Songbird ReMix** folder. Select the bird from the renderer *Firefly or Superfly* folder you want and simply click it to load. Some birds in the Songbird ReMix series may load with attached parts (*Conformers*) such as tail or crest extensions. Some of these parts have specific morphs. You will need to click on the attached part to access those controls. Associated poses can be found in the same folder- **Bird Library : (Type) : Poses**.

DAZ Studio Use

Go to the **Animals : Songbird ReMix** folder. Select the bird from the renderer (*3Delight or Iray*) folder you want and simply click it to load. Some birds in the Songbird ReMix series may load with attached parts (*Conformers*) such as tail or crest extensions. Some of these parts have specific morphs. You will need to click on the attached part to access those controls. Associated poses can be found in the same folder- **Bird Library : (Type) : Poses**. **Note:** Using the "Apply this Character to the currently selected Figure(s)" option **will not** properly apply the correct scaling to the bird selected. It is better to delete the existing character first and load the one you want to use.

One Folder to Rule Them All

When I reworked the entire Songbird ReMix library starting in 2018, I decided to abandon the way the birds were sorted (by product name) and choose an Ornithological approach. All birds are found in the Bird Library folder and are arranged by type of bird. This approach is hopefully easier for most to find what bird they are looking for. Admittedly, it will take some getting use to for some longtime users, but I've always approached the Songbird ReMix series as a learning tool as well as a graphics tool, so hopefully some knowledge will rub off by seeing how birds are grouped.

Probably the most deceiving subfolder in the **Bird Library** is “**Perching Birds (Order Passeriformes)**”. This is folder you probably will end up “favoriting” because this one folder (Passeriformes) **holds more than 50% of all birds**. Perching birds range from cardinals and jays to chickadees, crow and swallows.



Finding the bird you want within the “**Perching Birds (Order Passeriformes)**” folder can be daunting, even for an experienced birder (such as myself), so I've included an online reference tool within this folder that helps to make your search easier. Click the “**Perching Birds Finder**” icon and when loaded, look at the first column and search for the type of bird you want. For example, I want a “manakin” (a bird common to Central and South America). Scroll down the first column alphabetically and

stop on “manakin”. Looking across to the second column, you will now know that manakins can be found in the “Tyrant Flycatchers & their Allies” subfolder.

Physical-based Rendering

Iray and **Superfly** requires more CPU and memory horsepower than the legacy renderers because of ray-trace bounces and higher resolution meshes needed for displacement. Poser’s **Superfly** renderer will require that the “Min Transparent Bounces” be set to **at least 16** and that the “Max Transparent Bounces” be set to **at least 32** in render settings. Superfly renders may show artifacts in the head area. This is a known Poser issue and may be addressed in the future. Increasing the SubD may minimize this issue.

Hiding Transparency Panes

In some camera angles and lighting situations, the area where a transparency pane connects to the main body may be obvious and undesirable. In the Correction Controls area of the model, you can hide individual sections on these transparency panes to avoid this issue.

Posing & Shaping Considerations

This volume has various species, so when using generic poses not every pose will work perfectly with every bird. You may find that some minor alteration on the stock poses may be warranted.

Here are some of the most common alterations you may need to make:

- Birds will not be flat on the zero plane due to leg size and overall scale.
- Because of the numerous beak shapes, closing the beak may range from 0.5 to 1. Usually 0.8 is about right.
- **Raise Upper Beak** (*in Action Controls*): This morph is a “one size fits all” control. Because of the variety of beak shapes. It may not work with all birds.

IK Concerns

Some poses may go askew when IK is turned on. By default, Poser’s IK feature is turned off when loading a bird. To turn it on, select the “Figure” category from the main tool bar and “Use Inverse Kinematics” from the submenu.

By default, DAZ Studio’s IK feature is turned on when loading a bird. This will cause the thigh and shin rotations change when the character is moved. The **CTRL K** keypress will turn IK on and off in DAZ Studio. IK doesn’t work that well in Studio, so I suggest selecting the character in the **Scene tab** and simply deleting the two IK body parts to remove IK.

Where to find your birds & poses

Type Folder	Bird Species
Boobies and Gannets (Order Suliformes)	Masked Booby
Cranes, Coots and Rails (Order Gruiformes)	Brolga
Cuckoos and relatives (Order Cuculiformes)	Australian Bustard
Gulls and Waders (Order Charadriiformes)	Banded Stilt Comb-crested Jacana
Hérons, Ibises and Pelicans (Order Pelecaniformes)	Australasian Bittern Royal Spoonbill Australian Pelican
Kingfishers (Order Coraciiformes)	Blue-winged Kookaburra Laughing Kookaburra
Owls (Order Strigiformes)	Powerful Owl
Parrots and Cockatoos (Order Psittaciformes)	Budgerigars Cockatiels Crimson Rosella Double-eyed Fig Parrot Galah King Parrot Little Corella Night Parrot Rainbow Lorikeet Red-tailed Black Cockatoo Sulphur-crested Cockatoo
Perching Birds (Order Passeriformes) Fairwrens, Scrubwrens & their Allies	Black-eared Miner
Perching Birds (Order Passeriformes) Finches, OW Sparrows & their Allies	Gouldian Finches Zebra Finches
Perching Birds (Order Passeriformes) OW Warblers & their Allies	Robust Silvereye
Pigeons and Doves (Order Columbiformes)	Crested Dove Wompoo Fruit-dove

Songbird ReMix Australia Volume Three

FIELD GUIDE



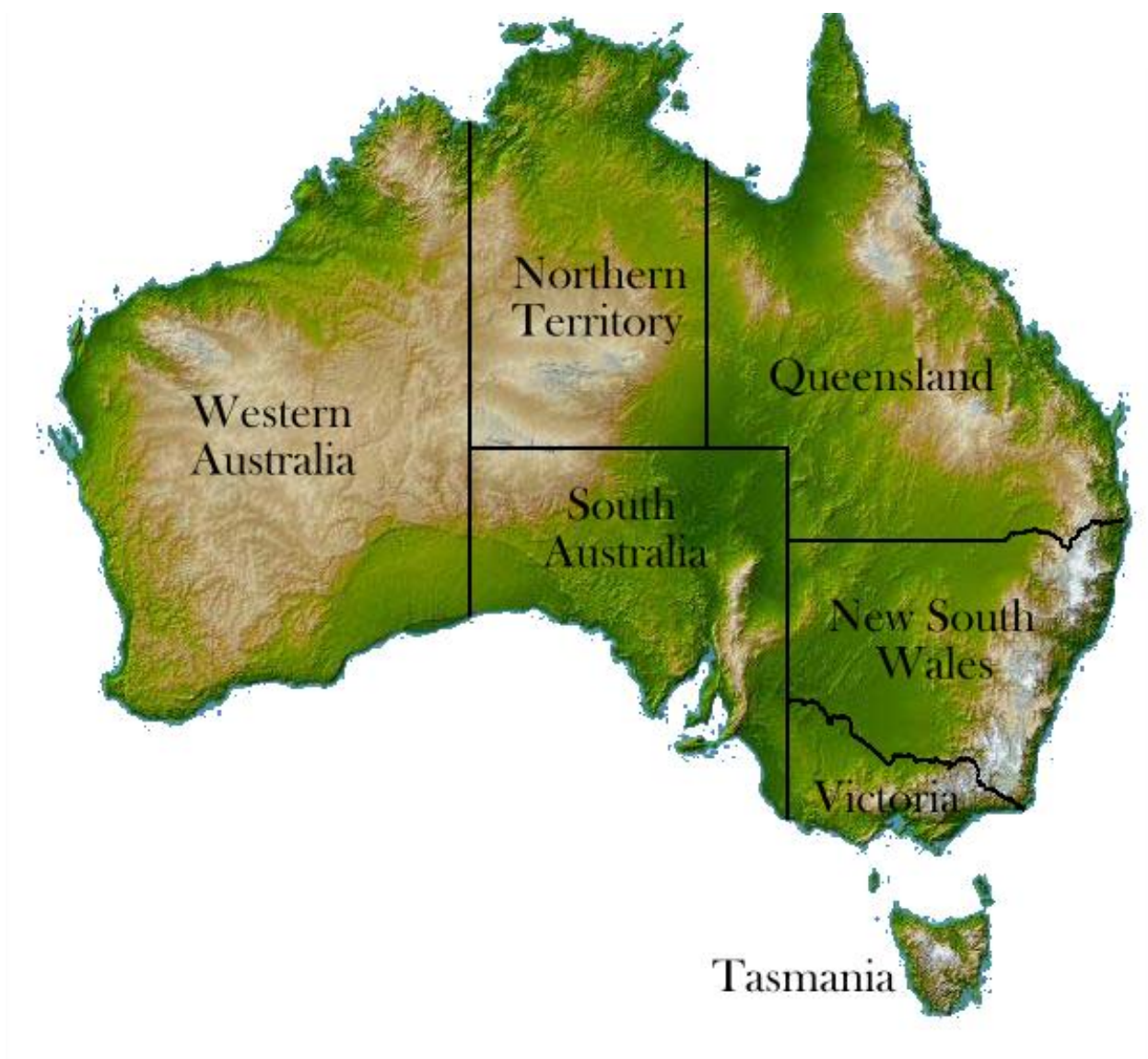
**Australian Birds from Other
Songbird ReMix Releases**

Australia

Edited from Wikipedia and other sources by Ken Gilliland

In approaching Songbird ReMix Australia, I knew a very little about Australia other than that's the place where Kangaroos, Kookaburras and Koalas come from. As I started the project and writing the manual it came apparent that I needed a crash course in Australian geography and environmental science to accurately create images using my Australian birds. I decided to include this information in the field guides so you too can have an instant reference source when using Songbird ReMix Australia.

The field guide refers to various regions within Australia, so here's a topographical map to help pin point the regions mentioned in the Field Guide.



Environment History

The world is also split into 14 terrestrial habitats of which eight are shared by Australia. The Australian land mass is divided into 85 bioregions and 403 subregions. Each region is a land area made up of a group of interacting ecosystems that are repeated in similar form across the landscape.

Although most of Australia is semi-arid or desert, it includes a diverse range of habitats from alpine heaths to tropical rainforests, and is recognized as a megadiverse country. Because of the continent's great age, extremely variable weather patterns, and long-term geographic isolation, much of Australia's flora and fauna is unique and diverse. About 85% of flowering plants, 84% of mammals, more than 45% of birds, and 89% of in-shore, temperate-zone fish are endemic. Australia has the greatest number of reptiles of any country, with 755 species.

Australian forests often contain a wide variety of eucalyptus trees and are mostly located in higher rainfall regions. Most Australian woody plant species are evergreen and many are adapted to fire and drought, including many eucalypts and acacias. Australia has a rich variety of endemic legume species that thrive in nutrient-poor soils because of their symbiosis with rhizobia bacteria and mycorrhizal fungi. Among well-known Australian fauna are the monotremes (the platypus and echidna); a host of marsupials, including the kangaroo, koala, and wombat; the saltwater and freshwater crocodiles; and birds such as the emu and the kookaburra. Australia is home to many dangerous animals including some of the most venomous snakes in the world. The dingo was introduced by Austronesian people who traded with Indigenous Australians around 3000 BCE. Many plant and animal species became extinct soon after first human settlement, including the Australian megafauna; others have become extinct since European settlement, among them the Tasmanian tiger (thylacine).

Many of Australia's ecoregions, and the species within those regions, are threatened by human activities and introduced plant and animal species. The federal Environment Protection and Biodiversity Conservation Act 1999 is a legal framework for the protection of threatened species. Numerous protected areas have been created under the national Biodiversity Action Plan to protect and preserve unique ecosystems; 64 wetlands are registered under the Ramsar Convention, and 15 natural World Heritage Sites have been established. Australia was ranked 46th of 149 countries in the world on the 2008 Environmental Performance Index.

Climate change has become an increasing concern in Australia in recent years, with many Australians considering protection of the environment to be the most important issue facing the country. The Australian Government initiated several emission reduction activities. This new awareness led Prime Minister Rudd to his first official act, on his first day in office, ratifying of the Kyoto Environmental Treaty in December 2007. Nevertheless, Australia's carbon dioxide emissions per capita are among the highest in the world, lower than those of only a few other industrialized nations. Rainfall in

Australia has slightly decreased over the past century, both nationwide and for two quadrants of the nation, while annual mean temperatures increased significantly over the past decades. Water restrictions are currently in place in many regions and cities of Australia in response to chronic shortages due to urban population increases and localized drought.

Ecoregions of Australia

Ecoregions in Australia are geographically distinct plant and animal communities, defined by the World Wide Fund for Nature based on geology, soils, climate, and predominant vegetation. They are based heavily upon the Interim Biogeographic Regionalization for Australia (IBRA) regionalization. Like the IBRA, it was developed for use as a planning tool for conservation science, with the goal of establishing a system of nature reserves in each of the ecoregions or bioregions sufficient to preserve biodiversity.

Tropical and subtropical moist broadleaf forests

- Lord Howe Island subtropical forests
- Norfolk Island subtropical forests
- Queensland tropical rain forests

Temperate broadleaf and mixed forests

- Eastern Australian temperate forests
- Southeast Australia temperate forests
- Tasmanian Central Highland forests
- Tasmanian temperate forests
- Tasmanian temperate rain forests

Tropical and subtropical grasslands, savannas, and shrublands

- Arnhem Land tropical savanna
- Brigalow tropical savanna
- Cape York tropical savanna
- Carpentaria tropical savanna
- Einasleigh upland savanna
- Kimberly tropical savanna
- Mitchell grass downs
- Victoria Plains tropical savanna

Temperate grasslands, savannas, and shrublands

- Eastern Australia mulga shrublands
- Southeast Australia temperate savanna

Montane grasslands and shrublands

- Australian Alps montane grasslands

Tundra

- Antipodes Subantarctic Islands tundra (Australia, New Zealand)

Mediterranean forests, woodlands, and scrub

- Coolgardie woodlands
- Esperance mallee
- Eyre and York mallee
- Jarrah-Karri forest and shrublands
- Kwongan heathlands
- Mount Lofty woodlands
- Murray-Darling woodlands and mallee
- Naracoorte woodlands
- Southwest Australia savanna
- Southwest Australia woodlands

Deserts and xeric shrublands

- Carnarvon xeric shrublands
- Central Ranges xeric scrub
- Gibson Desert
- Great Sandy-Tanami Desert
- Great Victoria Desert
- Nullarbor Plain xeric shrublands
- Pilbara shrublands
- Simpson Desert
- Tirari-Sturt Stony Desert
- Western Australian mulga shrublands

Victoria Plains Tropical Savanna

This is an area of large plains of dry grassland lying between the Tanami Desert to the south and the wetter, greener grassland to the north towards the coast. Sandstone outcrops rise from the grassland, the most famous of which is the Bungle Bungle Range in Purnululu National Park. The grasslands have long been used for cattle grazing. The climate is wetter in the north (average annual rainfall 1200mm) which receives some coastal monsoonal rain, and drier in the south (average 600mm). The rainy season is between November and March and the whole area is almost completely dry for the rest of the year and the climate is hot with maximum temperatures between 25°C and 35°C year round.

The plain is largely covered with Mitchell Grass scattered with bloodwood eucalyptus trees and large patches of lancewood acacia (*Acacia shirleyi*) woodland. The sandstone outcrops have thinner cover of eucalyptus over hummock grass or heathland scattered with Grevillea and Acacia trees.

There are few endemic species as these grasslands are typical of much of northern Australia at this latitude but the grasslands are nonetheless largely intact and rich in

wildlife. Mammals include the large Eastern Wallaroo, Northern Nail-tail Wallaby (*Onychogalea unguifera*), and the Long-tailed Planigale which is the smallest marsupial in the world. The lancewoods are home to the Spectacled Hare-wallaby (*Lagorchestes conspicillatus*), while the Bungle Bungle has some unique plants and an endemic Lerista skink lizard.

Birds include Australian Bustards, Singing Bushlark, and Red-backed Fairy-wren while there are important populations of Purple-crowned Fairywren (*Malurus coronatus*) along the rivers especially the Victoria. The eucalyptus trees are habitat for Lorikeets, Friarbirds, and Honeyeaters. Termites are a source of food for many of these birds and animals.

Southeast Temperate Forests

Comprising the lowland temperate forests around the Great Dividing Range, the Southeast Australian Temperate Forests comprise a wide variety of vegetation. Unlike the rest of mainland Australia, this region is well-watered with a temperate climate. Wet forest grows along the coast and dry forest and woodland is found inland of the Dividing Range. Avian and mammalian richness is high in this ecoregion, but human impact has been severe. Logging operations and pine plantations dot the wet forests, and farming and grazing has modified the drier vegetation. The major urban centers of Canberra and Melbourne are also located in this ecoregion.

The quintessential Australian genus, Eucalyptus dominates in all better-watered regions of Australia, including the Southeast Australia Temperate Forests. There are approximately 700 species of Eucalyptus, and only seven are found outside Australia. Unlike the rest of mainland Australia, soils here are moderately fertile with a cool temperate climate. Australian temperate eucalyptus forests exhibit a long evolutionary history compared with other continents where glaciation was repeated and extensive. Plant diversity is exceptionally high in the sandstone Grampians Ranges in Victoria, where approximately 1,100 plants, or one-third of Victoria's flora are found in the 1,700 km² Grampians National Park. Temperate woodlands also contain a high number of endangered plant species, including the button winklewort (*Rutidosis leptorhynchoides*).

Warm-temperate rainforest replaces subtropical rainforest on poorer soils or with increasing altitude and latitude in NSW and Victoria. Cool-temperate rainforests are widespread in Tasmania (Tasmanian temperate rain forests ecoregion) and they can be found scattered from the World Heritage listed Border Ranges National Park and Lamington National Park on the NSW/Queensland border to Otway Ranges, Strzelecki Ranges, Dandenong Ranges and Tarra Bulga in Victoria. In the northern NSW they are usually dominated by Antarctic Beech (*Nothofagus moorei*), in the southern NSW by Pinkwood (*Eucryphia moorei*) and Coachwood (*Ceratopetalum apetalum*) and in Victoria and Tasmania by Myrtle Beech (*Nothofagus cunninghamii*), Southern Sassafras (*Atherosperma moschatum*) and Mountain Ash (*Eucalyptus regnans*). The montane rainforests of Tasmania are dominated by Tasmanian endemic conifers (mainly

Athrotaxis spp.). They are dominated by ferns such as *Cyathea cooperi*, *Cyathea australis*, *Dicksonia Antarctica*, *Cyathea cunninghamii* and *Cyathea leichhardtiana*

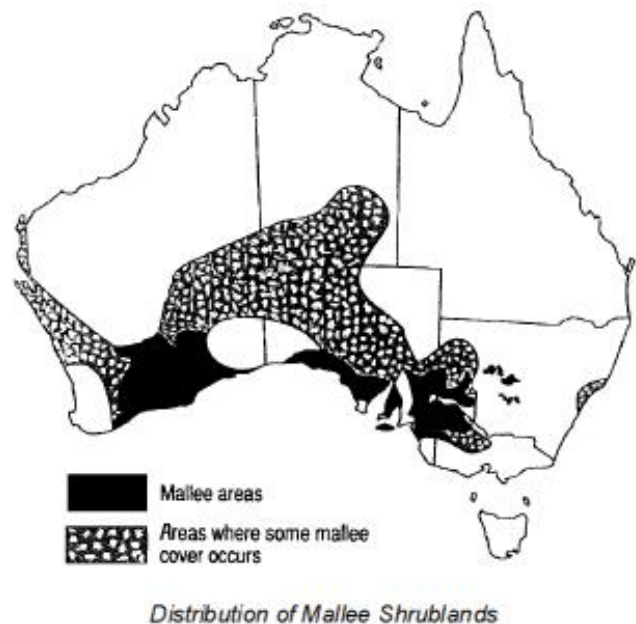
Mallee Woodlands and Shrublands

Mallee is an Aboriginal name for a group of eucalypts which grow to a height of 2 - 9 m and have many stems arising from a swollen woody base known as a lignotuber. They have an umbrella-like leaf canopy and the trees shade 30-70% of the ground.

Several layers of vegetation grow in association with Mallee eucalypts, from large shrubs up to 3 m high to very small grasses and forbs, and ephemerals. There is a lot of bare ground and any leaf litter decomposes slowly in the dry conditions.

Mallee is also a name given to the type of vegetation community in which the Mallee eucalypts grow. Mallee areas are generally very flat, and without hills or tall trees it is very easy to become lost. Some areas of Mallee have expanses of vegetated sand dunes. This probably accounts for the fear of the Mallee felt by many early explorers and settlers.

The Mallee is a complex and sensitive environment. It contains a great diversity of organisms many of which are under threat. Since European settlement one third of all mammal species have disappeared from the Mallee of south-eastern Australia more than a dozen plant species are now considered threatened or rare as a result of clearing and grazing.



Mallee soil is generally sandy and in some areas contains a high proportion of lime. In other areas the soil is quite salty and/or very shallow. It is often covered by a 'crust' of lichens and algae.

In 2001, the area covered by this vegetation group was estimated to be 65% of its pre-1788 coverage. The most extensive extant area of this group in Australia today is found in the Great Victoria Desert. Prior to 1788, the largest area occurred in the Murray-Darling Basin.

Plants of the Murray-Darling woodlands and mallee

Trees	
<i>Eucalyptus gracilis</i>	Yorrel. A mallee eucalypt.
<i>Eucalyptus oleosa</i>	Giant Mallee. One of the larger mallee trees.
<i>Eucalyptus socialis</i>	Pointed Mallee. Very common species.
<i>Eucalyptus anceps</i>	Kangaroo Island Mallee. Somewhat uncommon.
<i>Myoporum platycarpum</i>	Sugarwood. Common leafy tree to about 6m with small white flowers often quite prolific and long lasting.
<i>Santalum acuminatum</i>	Quandong. Small tree with edible fruits.
Large Shrubs	
<i>Acacia nyssophylla</i>	Wait-a-while. Prickly wattle shrub with attractive globular golden-yellow flowers
<i>Exocarpus aphylla</i>	Leafless Ballart. Very shady but leafless large shrub.
<i>Melaleuca lanceolata</i>	Moonah. Dryland bottlebrush flowering plant.
Small Shrubs	
<i>Dodonaea attenuata</i>	Narrow-leaf hopbush. While not a true hop, the early settlers nevertheless did make beer from the fruits.
<i>Eremophila glabra</i>	Common Emu Bush. Very common attractive small shrub with red sigmoidal flowers.
<i>Eremophila alternifolia</i>	Poverty Bush. Uncommon attractive small shrub with mauve spotted or white sigmoidal flowers.
<i>Scaevola spinescens</i>	Spiny Fan-Flower. Unusual one-sided fan shaped flowers.
<i>Senna eremophila</i>	Cassia. Very common small shrub, very attractive when flowering. Yellow pea-like flowers very profuse in good years.
<i>Westringia rigida</i>	Very common low shrub to about 0.5m with small cylindrical leaves and small white spotted long lasting flowers.
<i>Beyeria leschenaultii</i>	Felted Wallaby-Bush.
Smaller Plants	
<i>Atriplex stipitata</i>	Kidney Saltbush. Small dome-shaped shrub with grey green leaves.
<i>Maireana erioclada</i>	Rosy Bluebush. Attractive wheel-shaped fruits green to pink when fresh.
<i>Maireana brevifolia</i>	Yanga Bush. Another bluebush with wheel-shaped fruits.
<i>Olearia magniflora</i>	Mangificent Daisy. Attractive, large purple daisy-like flowering bush
<i>Rhagodia gaudichaudiana</i>	Cottony Saltbush. Unusual spade shaped leaves.
<i>Rhagodia nutans</i>	Climbing Saltbush. Unusual lobed leaves but otherwise rather forgettable.
<i>Teucreum racemosum</i>	Grey Germander. Small plant with distinctive and prolific white flowers.
<i>Thysanotus baueri</i>	Mallee Fringe-lily. Small, short lived, mauve flowers with long fringes on the petal margins.
<i>Zygophyllum apiculatum</i>	Gall Weed. Very common low ground cover, large, brilliant green leaves with attractive yellow flowers and unusual ridged fruits. Doesn't deserve the name.
<i>Zygophyllum auranitacum</i>	Shrubby Twinleaf. Very common small woody shrub, small twinned leaves with attractive yellow flowers and four-winged fruits.



The Australian bustards and endangered black-eared miners live within the Mallee forests.

Western Mallee

Western Mallee is roughly defined as the western half of the Mallee biogeographic region. It has an area of 47,636 square kilometres, which is only lightly populated. The main towns are Hyden, Gnowangerup and Lake Grace; lesser towns include Kulin, Ongerup, Duggan, Newdegate, Lake King and Kondinin.

The subregion contains many endemic plant species in the Eucalyptus, Acacia, Proteaceae such as Grevillea, Hakea and Banksia; and various Asteraceae.

It also supports a number of rare or endangered fauna, including some that fall within the critical weight range for predation by foxes. The Pig-footed Bandicoot (*Chaeropus ecaudatus*) and Crescent Nailtail Wallaby (*Onychogalea lunata*) previously occurred in the subregion, but both are now extinct. The Rufous Hare-wallaby (*Lagorchestes hirsutus*) is now extinct in the wild, and a further ten species of mammal are extinct in the subregion. The endangered Red-tailed Phascogale (*Phascogale calura*) still occurs in the region, as do the vulnerable Black-flanked Rock-wallaby (*Petrogale lateralis*) and Heath Rat (*Pseudomys shortridgei*), and the Western Brush Wallaby (*Macropus irma*).

More information of Mallee plants is [available](#) from the Australian government.

Mangroves

Mangroves are trees and shrubs that grow in saline coastal habitats in the tropics and subtropics – mainly between latitudes 25° N and 25° S. The saline conditions tolerated by various species range from brackish water, through pure seawater (30 to 40%), to water of over twice the salinity of ocean seawater, where the salt becomes concentrated by evaporation (up to 90%).

There are many species of trees and shrubs adapted to saline conditions. Not all are closely related, and the term "mangrove" may be used for all of them, or more narrowly only for the mangrove family of plants, the Rhizophoraceae, or even more specifically just for mangrove trees of the genus *Rhizophora*.

Mangroves form a characteristic saline woodland or shrubland habitat, called mangrove swamp, mangrove forest, mangrove or mangal. Mangals are found in depositional coastal environments where fine sediments (often with high organic content) collect in areas protected from high energy wave action. They occur both in estuaries and along open coastlines. Mangroves dominate three quarters of tropical coastlines.

More than fifty species of Rhizophoraceae (Red Mangrove) grow in Australasia with particularly high biodiversity on the island of New Guinea and northern Australia.

Australia has approximately 11,500 km² of mangroves primarily on the northern and eastern coasts of the continent, with occurrences as far south as Miller's Landing in Wilson's Promontory, Victoria (38°54'S) and Barker Inlet in Adelaide, South Australia.

The Great Victoria Desert

The Great Victoria is the biggest desert in Australia and consists of many small sandhills, grassland plains, areas with a closely packed surface of pebbles (called desert pavement or gibber plains) and salt lakes. It is over 700 km (430 mi) wide (from west to east) and covers an area of 424,400 square km (163,900 sq mi) from the Eastern Goldfields region of Western Australia to the Gawler Ranges in South Australia. The Western Australia Mallee shrub ecoregion lies to the west, the Little Sandy Desert to the northwest, the Gibson Desert and the Central Ranges xeric shrublands to the north, the Tirari and Sturt Stony deserts to the east, while the Nullarbor Plain to the south separates it from the Southern Ocean. Average annual rainfall is low and irregular, ranging from 200 to 250 mm (7.9 to 9.8 in) per year. Thunderstorms are relatively common in the Great Victoria Desert, with an average of 15 - 20 thunderstorms per annum. Summer daytime temperatures range from 32 to 40 °C (90 to 104 °F) while in winter, this falls to 18 to 23 °C (64 to 73 °F).

As this area has never been used for agriculture habitats remain largely undisturbed while parts of the desert are protected areas including Mamungari Conservation Park

(formerly known as Unnamed Conservation Park) in South Australia, a large area of pristine arid zone wilderness which possesses cultural significance and is one of the fourteen World Biosphere Reserves in Australia. Habitat is also preserved in the large Aboriginal local government area of Anangu Pitjantjatjara Yankunytjatjara in South Australia and in the Great Victoria Desert Nature Reserve of Western Australia.

Only the hardiest of plants can survive in much of this environment. Between the sand ridges there are areas of wooded steppe consisting of *Eucalyptus gongylocarpa*, *eucalyptus youngiana* and mulga (*Acacia aneura*) shrubs scattered over areas of resilient spinifex grasses particularly *Triodia basedownii*.

Wildlife adapted to these harsh conditions includes few large birds or mammals but the desert does sustain many types of lizard including the vulnerable great desert skink (*Egernia kintorei*) and a number of small marsupials including the Sandhill Dunnart (*Sminthopsis psammophila*) and the vulnerable Crest-tailed Mulgara (*Dasycercus cristicauda*). One way to survive here is to bury into the sands and there are a number of animals doing that including the endangered Southern Marsupial Mole (*Notoryctes typhlops*), and the Water-holding Frog. Birds include the Chestnut-breasted Whiteface (*Aphelocephala pectoralis*) found on the eastern edge of the desert and the malleefowl of Mamungari Conservation Park. Predators of the desert include the dingo (as the desert is north of the Dingo Fence) and two large monitor lizards, the perentie (*Varanus giganteus*) and the sand goanna (*Varanus gouldii*).

The nuclear weapons trials carried out by the United Kingdom at Maralinga and Emu Field in the 1950s and early 1960s has left areas contaminated with plutonium-239 and other radioactive material.

Billabongs

While not an eco-region, billabongs are important areas and are a term familiar even to those outside Australia. Billabong is an Australian word meaning a small lake, specifically an oxbow lake. An oxbow lake or billabong, is a section of still water adjacent to a river, cut off by a change in the watercourse. Billabongs are usually formed when the path of a creek or river changes, leaving the former branch with a dead end. The word, *Billabong*, most likely from the Wiradjuri term “*bilaban*”.

Billabongs appear relatively often in Australian literature. One of the most prominent references is in the opening line of Banjo Paterson's famous folk song "Waltzing Matilda".

Plant life in billabongs varying from region to region but certain plants types are usually found there such as Eucalypts, Salix, Typhia, Grevilleas and Banksias.

Songbird ReMix Australia Volume Three

Field Guide

Pelicans, Gannets & Bobbies

Masked Booby
Australian Pelican

Wading Birds

Australasian Bittern
Royal Spoonbill

Storks, Cranes & Bustards

Brolga
Australian Bustard

Shorebirds

Comb-crested Jacana
Banded Stilt

Doves & Pigeons

Crested Dove
Wompoo Fruit Dove

Cockatoos

Cockatiel
Little Corella
Galah Cockatoo
Sulfur-crested Cockatoo
Red-tailed Black Cockatoo

Parrots

Budgerigar
Double-eyed Fig Parrot
Night Parrot (**extinct**)
Crimson Rosella
Rainbow Lorikeet
Australian King-Parrot

Owls

Powerful or Great Hawk-owl

Kingfishers & Kookaburras

Blue-winged Kookaburra
Laughing Kookaburra

Honeyeaters and Australian Chats

Black-eared Miner

Waxbills, Grass-Finches and Mannikins

Zebra Finch
Gouldian Finch

White-eyes

Robust Silvereye (**extinct**)

Common Name: Masked Booby

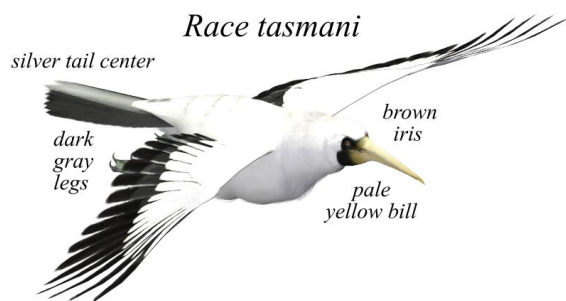
Scientific Name: *Sula dactylatra personata & tasmani*

Size: 29-34 inches (74-86 cm)

Habitat: Tropical Oceans; from the Caribbean, across the Pacific Ocean, to Hawaii, Australia, and Indonesia-- a rare visitor to the United States.

For roosting and breeding, it exclusively favors smaller oceanic islands (especially flat, unforested terrain) within 30° of the Equator. Breeding colonies are found on coral sand beach (Latham, west Indian Ocean); on pampa-like vegetation consisting of *Eragrostis variabilis*,

Boerhavia diffusa, *Lepidium owaihiense*, *Tribulus cistoides*, *Ipomea indica*, *Solanum nelsoni*, and *Verbesina encelioides* (Kure, Hawaiian Islands.). It typically avoids nesting directly on vegetation or on steep slopes or cliffs, but favors locations near cliff edges or on high spots that facilitate taking flight.



Status: Not threatened. **Global Population:** 211,000,000 mature adults with a declining population. At least some mortality from tangling in fishing gear, but this problem is not known to be

significant. It probably has frequent interactions with purse-seining tuna fisheries, as the fisheries often use Masked Boobies and other seabirds to locate tuna schools, but no scientific data exists.



Diet: Fish and squid. It forages in blue-water pelagic zones. It plunge-dives from various heights up to 30 m (100 feet) into schools of fish.

Nesting: Sexes are similar in appearance but females are slightly larger. The adult plumage is bright white, except for the black to blackish-brown primaries,

secondaries, humerals, and tail. The white on the wings is restricted to the marginal, lesser and median coverts, and some of the outer primary-coverts (the rest are blackish-brown to black). The under wing has white coverts, remiges blackish distally and broadly tinged pale gray on bases. The bill ranges from a greenish-yellow to bright yellow and is thick-based, tapering down

without much curvature. The dark slate to black skin around the eye, extending narrowly to the upper bill and on the lores to the upper throat. It is less dark on the chin and lores.

The juvenile plumage is a dark chocolate to black except for the white upper back which forms a broad conspicuous collar and white breast. The tips of the scapulars have a whitish dull brown color, with less distinct pale tips to the lesser coverts and on back to the upper tail-coverts. Its rear flanks and rear thighs are a blotchy dark brown, otherwise it has all-white under parts and under wing-coverts white with a dark carpal patch and narrow dark line towards base of wing. As the birds age, the upper parts (including the marginal and lesser wing-coverts) acquire dark brown and white feathers in that form a checkerboard-like pattern.

Nests are a slight depression on ground, surrounded by circle of pebbles or other debris, often near a breezy cliff edge or other take-off feature. One to two light blue eggs are laid. Although the Masked Booby regularly lays two eggs, it never raises two young. The first egg is laid four to nine days before the second, and the older chick always ejects the second from the nest. The parents do not protect or feed the ejected chick, and it is quickly scavenged by a host of associated crabs, landbirds, and frigatebirds.

Cool Facts: The Masked Booby, also known as the White or Blue-faced Booby.

The population of boobies breeding along the Pacific Coast of northern South America, including the Galapagos, was recently recognized as a separate species, the Nazca Booby (*Sula granti*). Until 2000, it had been considered a Masked Booby subspecies. The Nazca Booby has an orange, not yellow, bill and is smaller with a significantly shorter, shallower bill. Whereas the Masked Booby usually nests on low, flat areas, the Nazca Booby uses cliffs and steep slopes.

Four subspecies are recognized:

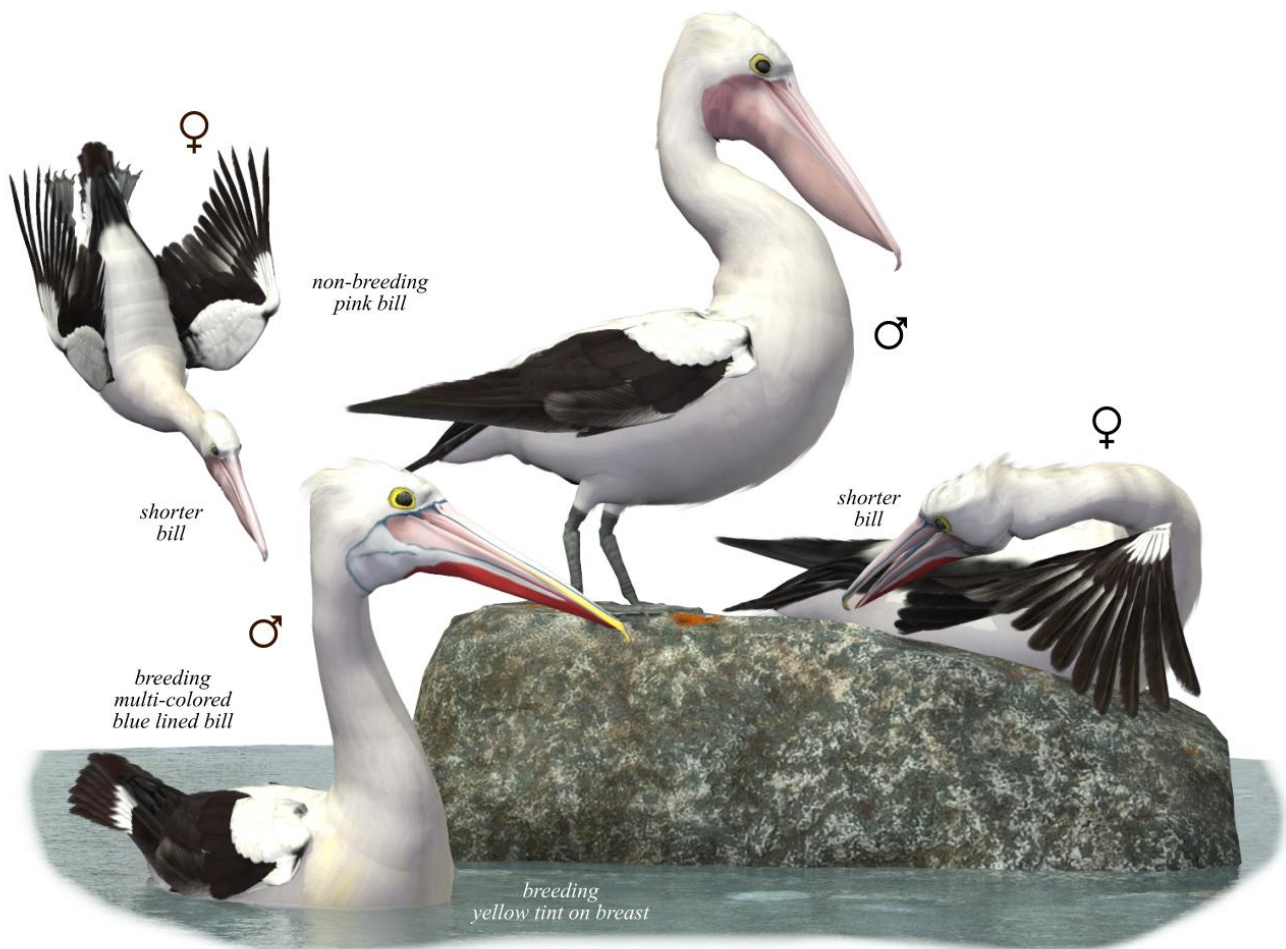
- *S. d. personata*. This subspecies breeds in the southeastern Indian Ocean (Cocos Keeling Islands, Christmas Island and northwestern Australia), and on numerous islands in the west and central Pacific Ocean from Philippines eastward through Micronesia and Polynesia, north to the Hawaiian Islands and south to the Coral Sea, off northeastern Australia. It is also found in the eastern Pacific on islands off western Mexico (Alijos Rocks, Clarión Island, San Benedicto, Clipperton Island) and off north-central Chile (San Félix, San Ambrosio). It has a yellow bill and its iris tends to be orange-yellow or amber. Its legs and feet are olive drab to bluish-gray.
- *S. d. tasmani*. This subspecies breeds in the northern Tasman Sea (Lord Howe Island, Norfolk Island and Kermadec Islands). Its iris is brown (all other subspecies have yellow iris). Its bill is straw-yellow to olivaceous greenish-yellow and its legs are a dark khaki-gray. It is grayer on the tarsi.
- *S. d. dactylatra*. The nominate subspecies breeds on islands in the Caribbean and off the northern coast of South America (South to eastern Brazil), on Ascension Island (Southern Atlantic Ocean), and possibly also still in the Bahamas. Its defining characteristics are its straw-colored bill, orange to olive legs and feet.
- *S. d. melanops*. This subspecies breeds on islands of southern Red Sea and western Indian Ocean. Its bill is orange-yellow to yellow-green. Its legs and feet are lead gray to khaki-olive. Its tarsi is often grayer, and the central tail feathers are with little or no silvery gray.

Common Name: Australian Pelican
Scientific Name: *Pelecanus conspicillatus*

Size: 60-74 inches (152–188 cm)

Habitat: Australia, Papua New Guinea and western Indonesia, with occasional reports in New Zealand and Sulawesi.

Any area with a large body of standing water is a potential pelican habitat. Though normally associated with the coast, the Australian pelican can also be seen inland at times of high rainfall, particularly near freshwater, estuarine and marine wetlands and waterways including lakes, swamps, rivers, coastal islands and shores.



Status: Least Concern. **Global Population:** 100,000 - 1,000,000 mature individuals with a declining population trend. This species has a large range and is widespread however there have been significant population declines; habitat destruction, introduced predators, oil spills, and pesticide poisonings (dieldrin in particular) have killed many birds. It is legally protected throughout Australia.

Diet: Fish and some marine invertebrates. In addition to small fish, they will eat crustaceans, tadpoles, turtles, some birds (Silver Gulls and Grey Teal) and even, small dogs.

Prey is caught by fishing from the water surface. It regularly feeds in groups, which may number close to 2,000 birds. They work often co-operatively and can be seen frequently solitary as well.

Nesting: This pelican is unmistakable and a “cartoon-like” appearance that also does seem real, especially with breeding season plumage. It is the only pelican in which the bare skin around the eye does not touch its bill. Sexes are alike, however the males is larger overall and has a significantly larger bill (409–500 mm in male, 346–408 mm in female).

The breeding adult has a mostly white head and upper parts, the feathers on the nape and upper hind neck can be variably tinged grayish and form a mane or short crest. There is a large black V from the outer and rear scapulars and sides of back meeting at the central lower rump. The exposed portion of the tail is black. The white upper tail coverts contrast with both the black “V” and tail end. The upper wing is black with the primaries having white shafts at their bases. There is a large white panel over the median to marginal coverts on the central wing, with the median coverts being much elongated. The under wing-coverts and axillaries are white with a variable number of black feathers on center of the lesser coverts; some lacking any black there, others with long, bold and solid bars including part of the median and lesser coverts. The exposed remiges are grayish becoming diffusely darker on the broad tips. The under parts are white except a slight yellowish tinge on the lower-most foreneck. Non-breeding adults have a more obvious grayish-brown tinge on the nape and hindneck, but the nuchal crest is reduced to a shorter mane, and usually lacks yellow tinge at base of foreneck (but that area and the entire abdomen may be stained brownish ochre). The iris is black-brown with a narrow dark bluish orbital ring (which makes the eye appear larger). It is surrounded by broader bright yellow area which doesn’t reach the base of bill, which is usually narrowly outlined dark. The yellow is less rich outside pre-breeding season. The bill in pre-breeding season has narrow grayish-blue line at its base. The maxilla is pale pink to pink-flesh with yellow to ochre nail. The distal third of the maxilla is tinged blue at its sides with some yellowish on the cutting edges. The mandible is similar but has a deeper blue over the distal half. The pouch has creamy and partially yellow base and upper part, crossed by a longitudinal blue stripe. The lower half and distal region is salmon-pink. At other seasons, the bluish areas is duller and often reduced with the pouch being a pale pinkish flesh to creamy overall. The longitudinal stripe is much duller or invisible. The legs are dark slate-gray to bluish gray.

The juvenile is similar to non-breeding adult but the upper wing-coverts are shorter, the marginal and some of the lesser coverts are browner, the median and greater coverts and tertials are blackish-brown with white fringes, the scapulars have some white at their bases, and the “V” over the lower back is less solid, mixed with white, and may not

reach the rear scapulars. Also the white band over the upper tail-coverts may appear broader, and the legs can have a dull flesh-brown tinge.

The Australian Pelican begins breeding at two or three years of age. Breeding season



varies, occurring in winter in tropical areas and late spring in parts of southern Australia. Any time after rainfall is usual in inland areas. The nest is a shallow depression in earth or sand, sometimes with some grass lining. Grassy platforms are constructed at Lake Alexandrina in South Australia. Nesting is communal, with colonies located on islands or sheltered areas in the vicinity of lakes or the sea.

Breeding Australian pelicans will lay one or three chalky-white eggs. After they hatch, the larger one will be fed more, and the smaller one will eventually die of starvation. For the first two weeks the chicks will be fed regurgitated liquid, but for the remaining two months they will be fed fish such as goldfish or the introduced European carp, and some invertebrates.

Cool Facts: Australian pelicans may live 25 years or longer. They mostly feed in groups, cooperating to herd and enclose schools of fish, then swoop down on their trapped prey. They can eat up to 9 kilograms of food per day. They have been known to follow humans homes, hoping to be fed.

Common Name: Australasian Bittern
Scientific Name: *Botaurus poiciloptilus*

Size: 27 inches (71 cm)

Habitat: Asia and Australia; occurs in the wetlands of southern Australia, New Zealand and New Caledonia. Found in freshwater swamps and marshes.

Status: **Endangered**. **Global population:** 1,000-2,499. In Australia and New Zealand, the main threats are wetland drainage for agriculture, as well as changes brought about by high levels of grazing and salinisation of swamps. In Australia, the species appears able to adapt to the availability of ephemeral wetlands, but is likely to be particularly

sensitive to the destruction of drought refugia. Loss of these habitats may explain its dramatic decline in Western and South Australia. The Murray-Darling basin, a former stronghold of the species, has suffered consecutive droughts in recent years and over-extraction of water is an ongoing problem. Shooting and flying into power lines are additional contributory causes, but hunting pressure is very low. In Australia, Bool Lagoon and Lake Muir are managed specifically for the species.



Diet: Frogs, eels and freshwater crustaceans.

Nesting: It is a solitary nester on the ground in dense wetland vegetation on trampled reeds and other plants.

Cool Facts: It is a cryptic and partly nocturnal species that inhabits densely vegetated wetlands. It has a distinctive booming voice and may be heard more often than seen.

Common Name: Royal Spoonbill
Scientific Name: *Platalea regia*

Size: 30 ¼ inches (77 cm)

Habitat: Australia & South-east Asia; found throughout eastern and northern mainland Australia from the Kimberley region of Western Australia across the Top End and through Queensland, New South Wales and Victoria, to south-eastern South Australia.

It is only a rare visitor to Tasmania and it is not found south-west of Broome, Western Australia through to the Spencer Gulf, South Australia or in central Australia. It is also found in New Zealand, Indonesia, Papua New Guinea and on some south-western Pacific islands. Found in shallow freshwater and saltwater wetlands, intertidal mud flats and wet grasslands. Both permanent and temporary inland waters are used when available in the arid zone. They will also use artificial wetlands such as sewage lagoons, salt fields, dams and reservoirs.

Status: Least Concern.

Global population: 25,000 - 100,000. Royal Spoonbills are not tolerant of disturbances, especially when breeding, and destruction of habitat by land-clearing, drainage, increased salinity or flooding and weed invasion are all detrimental to both feeding and breeding. However, it has benefited from artificial wetlands in some areas. In the Australian



Northern Territory, the introduced Water Buffalo threaten freshwater wetland habitats by breaking down levees and allowing salt water to flow in.

Diet: Fish, shrimp, crabs and amphibians. It catches its prey by making a side-to-side movement with its bill.

Nesting: They form monogamous pairs for the duration of the breeding season and nest in colonies alongside many other water birds, including Yellow-billed Spoonbills, ibises, herons and cormorants. When they are breeding, long white plumes grow from the back of their heads and colored patches appear on the face. The nest is an open platform of sticks in a tree in which the female lays two or three eggs. The chicks hatch after 21 days. The birds are highly sensitive to disturbance in the breeding season. In Australia, whole colonies have been known to desert their eggs after a minor upset.

Cool Facts: They are also known as the Black-billed Spoonbill; in New Zealand they are called “kotuku ngutu papa” by the Maori.

Common Name: Brolga
Scientific Name: *Antigone rubicunda*

Size: inches (70-160 cm)

Habitat: Australia; Found in tropical and eastern Australia and New Guinea.

Their preferred habitat varies by season, and between Northern and Southern populations. Southern birds prefer shallow freshwater marshes, with water less than 50 cm deep, but also use deeper marshes, wet meadows and brackish wetlands. They

move to traditional flocking areas, including permanent wetlands, upland pastures and other drier foraging areas in summer, December through May. Northern birds are more tolerant of saline conditions, using coastal freshwater sedge marshes. There is a partial dispersal to suitable nesting areas in ephemeral inland marshes with onset of wet season in December.



Status: Least Concern. **Global population:** 7,360,000 mature adults with a declining population trend. Brolga are not listed as threatened on the Australian Environment Protection and Biodiversity Conservation Act 1999. However, their conservation status varies from state to state within Australia. The Brolga is listed as threatened on the Victorian Flora and Fauna Guarantee Act (1988). Under this Act, an Action Statement for the recovery and future management of this species has been prepared. On the 2007 advisory list of threatened vertebrate fauna in Victoria, the Brolga is listed as vulnerable.

Diet: Wetland and upland plants, seeds, mollusks, and crustaceans. Northern Australian populations of Brolga are fond of the tubers of the bulkuru sedge which they dig holes to extract but this is not available south of Brisbane.

Feeds by digging with large bill, especially in drier areas; also forages in shallow waters and wetlands, including freshwater and saltwater marshes.

Nesting: male slightly larger than female. Iris orange. small dewlap, uniform grey body and darker legs; bare skin patch limited to head. Juvenile has head entirely feathered, iris dark brown.

Brolgas are well known for their intricate mating dances. The dance begins with a bird picking up some grass and tossing it into the air, catching it in its bill, and then progresses to jumping a meter into the air with outstretched wings, then stretching, bowing, walking, calling, and bobbing its head. Sometimes just one Brolga dances for its mate; often they dance in pairs; and sometimes a whole group of about a dozen dance together, lining up roughly opposite each other before starting.

The brolga breeds throughout its range in Australia and New Guinea. The time of breeding is largely determined by rainfall rather than the time of year; thus the season is February to May after the rainy season in the monsoonal areas, and September to December in southern Australia. The flocks split up and pairs establish nesting territories in wetlands. In good habitat, nests can be quite close together, and are often found in the same area as those of the closely related but slightly larger Sarus Crane. The nest is a raised mound, built by both sexes, of sticks, uprooted grass, and other plant material sited on a small island, standing in shallow water, or occasionally floating. If no grasses are available, mud or roots unearthed from marsh beds are employed. Sometimes they make barely any nest at all, take over a disused swan nest, or simply lay on bare ground.

There is one brood produced a year, with clutch size usually two; the dull white eggs and are sparsely spotted or blotched with reddish brown. The markings are denser at the larger end of the egg. Occasionally one or three are laid about two days apart. Both birds incubate and guard the young. Hatching is not synchronized, and takes about 30 days. The chicks hatch covered in grey down and weighing about 100 g. They can leave the nest within a day or two, have body feathers within 4 or 5 weeks, and are fully feathered after three months, and able to fly about two weeks after that. When threatened, chicks hide and stay quiet while the parents perform a broken-wing display. The parents continue to guard the young for up to 11 months, or almost two years if they do not re-nest.

Cool Facts: The bird has also been given the name "Australian Crane", a term coined in 1865 by well-known ornithological artist John Gould in his *Birds of Australia*. It can easily be confused with the Sarus Crane, however the latter's red head coloring extends partly down the neck while the Brolga's is confined to the head. Additionally, in Australia the range of the Sarus is limited to a few scattered localities in northern Australia, compared to the more widespread distribution of the Brolga.

Brolgas are gregarious creatures; the basic social unit is a pair or small family group of about 3 or 4 birds, usually parents together with juvenile offspring, though some such groups are non-familial. In the non-breeding season, they gather into large flocks, which appear to be many self-contained individual groups rather than a single social unit. Within the flock, families tend to remain separate and to coordinate their activities with one another rather than with the flock as a whole.

It is the official bird emblem of the state of Queensland. In the US, there is a drink called the "Brolga" which consists of gin, Sprite (or 7 Up), and a few drops of Angostura bitters.

Common Name: Australian Bustard
Scientific Name: *Ardeotis australis*

Size: 35- 47.3 inches (90-120 cm)

Habitat: Australia; found across continental Australia and occasionally in southern Papua New Guinea and Papua (formerly Irian Jaya), Indonesia. It has all but disappeared from south-eastern Australia, and is less abundant elsewhere, particularly south of the tropics. Local population size varies strongly with rainfall making assessment of trends difficult.

It inhabits grassland, including tussock grassland, Triodia hummock grassland, grassy woodland, low shrublands, and structurally similar artificial habitats, such as croplands and golf-courses. It will also use denser vegetation, when this has been temporarily opened up by recent burning. In northern Australia it may disperse widely to follow recently-burnt grounds



Status: Vulnerable. **Global population:** 6,700-67,000 mature adults with a declining population trend. This bird remains relatively common and widespread across most of northern Australia, but its range appears to have contracted in the south-east of the continent during the last century, perhaps due to hunting (now illegal except for indigenous Australians), feral predators such as pigs and foxes and habitat destruction. Its nomadic habits make it difficult to assess.

The Australian Bustard is not listed as threatened on the Environment Protection and Biodiversity Conservation Act 1999. The Australian Bustard is listed as threatened on the Victorian Flora and Fauna Guarantee Act 1988. Under this Act, an Action Statement for the recovery and future management

of this species has been prepared. On the 2007 advisory list of threatened vertebrate fauna in Victoria, this species is listed as critically endangered.

Diet: Shoots, roots, leaves, flowerheads, seeds and berries; molluscs, myriapods, arachnids, insects (especially grasshoppers, beetles and caterpillars), reptiles, young birds and small rodents. Often attracted to fire, taking live and dead prey; once recorded following a plough. In New Guinea, several birds may gather to feed in shallow water.

Nesting: The male are significantly larger than females (120 cm vs. 90 cm). The back and central tail are brown with fine dark vermiculations. There is a black panel spotted with white on folded wing. The outermost tail feathers are chiefly black and white. The head, neck and breast appear grayish white (being finely barred dark gray on white). There is a black breast band. The crown is black with slight backwards crest, underlined by a white supercilium and a thin black line behind the eye. The belly is white and the legs and bill whitish. The iris is light brown. Females are much smaller, with scattered dark blotches on the upper parts, a grayer neck and duller crown. The immature has a pale gray and brown mottling on its head, neck and upper parts.

It lays one, or occasionally two, eggs on the ground, where possible along a boundary between open grasslands and more protective shrubland or woodlands.

Cool Facts: When disturbed, Australian Bustards often adopt a cryptic pose with neck erect and bill pointed skywards. They may stalk gradually away or run if alarmed, taking flight as a last resort.

It is also commonly referred to in Central Australia as the 'Bush Turkey', particularly by Aboriginal people. It is an important food source for Aboriginal people from Central Australia, and is still eaten today. The white feathers of the bird are used for ceremonial purposes.

The Arrernte name for this bird is “kere artewe”, the Luritja name is “kipara” and the Larrakia name is “danimila”. There are important cultural "Dreaming" stories associated with the bustard. A number of artists painting in the desert today, paint the bustard "Dreaming". This means they have been given stories of the origins of the bustard in the Dreamtime and are entitled to tell this story and paint about it.

Common Name: Comb-crested Jacana

Scientific Name: *Irediparra gallinacea*

Size: 8.3 - 9.5 inches (21-24 cm)

Habitat: Australasia; distributed in coastal and sub-coastal regions from the Kimberleys, Western Australia, through northern Australia to about Grafton, New South Wales. They

are more common in the north of their range. The species also occurs in New Guinea, Indonesia and the Philippines.

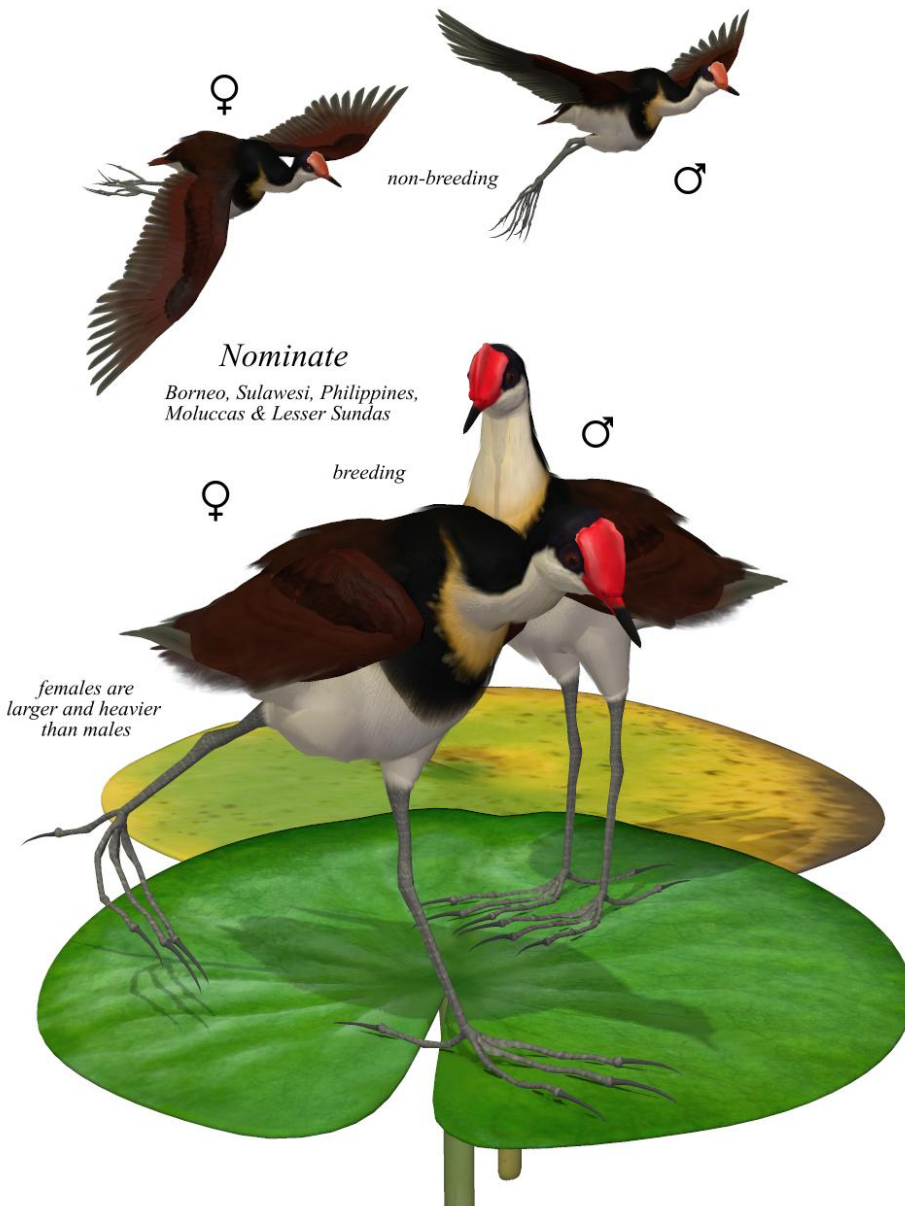
It is found in tropical and subtropical freshwater wetlands, including lagoons, billabongs, swamps, lakes, rivers, sewage ponds and dams, providing there is adequate floating vegetation.

Status: Least Concern.

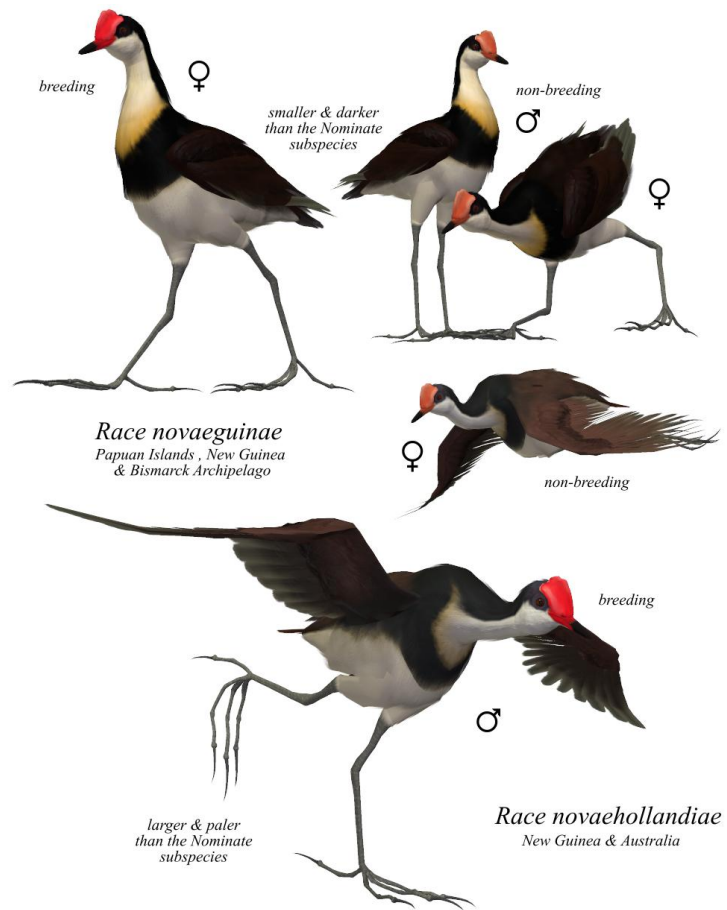
Global population:

12,400,0000 mature individuals with an unknown population trend. The species is locally threatened by wetland degradation and loss through flooding, drainage and overgrazing.

Diet: Aquatic insects, which it seizes from floating vegetation or the surface of the water. It also feeds on seeds and aquatic plants. Birds rarely come to shore. When searching for food, the Comb-crested Jacana bobs its head and flicks its tailed continuously.



Nesting: Both sexes are similar in appearance, but the female is larger than the male, and slightly brighter in color. The mantle, back and upper wing-coverts are brown, while the rest of the plumage is black with the exception of its white belly, the under tail-coverts, face and upper neck. The sides of its neck are bright golden-yellow. Its bill is pink to red, with a black tip. The bright pinkish-red flat, fleshy shield has a conspicuous comb rising up 1 cm or more in center. The shield and comb are yellow to orangish in non-excited state becomes bright pinkish red with infusion of blood during breeding and other periods of excitement. Young Jacanas resemble the adult birds, but are rufous to black on the head and nape, and have a rufous-black breast band. The red fleshy comb is much smaller and darker.



The female Comb-crested Jacana may mate with several males, while the male alone builds the nest, incubates the eggs and cares for the young. If danger threatens the young birds, the male has the curious habit of picking the chicks up under his wings and carrying them off to safety.

Cool Facts: In Australia, the Comb-crested Jacana, also known as the “Lotusbird”. Comb-crested Jacanas will move to new locations, particularly in response to changes in their current habitat, such as droughts or excessive flooding.

- *I. g. gallinacea*. The nominate race is found in southeastern Borneo, Sulawesi, the southeastern Philippines (Mindanao), the Moluccas and the Lesser Sundas (Sumbawa to Timor).
- *I. g. novaeguinae*. This race is endemic to the western Papuan Islands (Misool), Kai Islands, Aru Islands, lowland New Guinea (except in the south), Bismarck Archipelago (New Britain) and the D’Entrecasteaux Islands (Fergusson Island). This subspecies has the darkest upper parts.
- *I. g. novaehollandiae*. This race is found in southern New Guinea, northern and eastern Australia southward to Sydney. It is the largest subspecies with the palest upper parts.

Common Name: Banded Stilt
Scientific Name: *Cladorhynchus leucocephalus*

Size: 13 ³/₄ -17 inches (35-43 cm)

Habitat: Australia. Found along the edges of shallow water in open country at Shallow fresh and saltwater wetlands, including salt ponds, rice fields, shallow lagoons, and mangrove swamps.

Status: Least Concern. **Global population:** 1,970,000 mature adults with a stable population trend.

Diet: Mainly crustaceans and other arthropods, and mollusks – and small fish, tadpoles and very rarely plant seeds. Feeds in shallow water, while wading or swimming. Locates food by

sight and snaps it up, sometimes sticking head completely underwater, or swipes the head and bill through water.



Nesting: A distinctive, predominantly white stilt with mainly black scapulars and upper wings. Sexes are alike. During breeding season, it has a broad chestnut breast band with narrow dark upper edge. In non-breeding season, it is mottled or entirely absent in non-breeding adults. The bill is slender and black. The legs are long and orange-pink. The tail is white to a gray-brown. The juveniles and immatures lack the breast band.

They breed whenever the water conditions are suitable and lay 3-4 white, brown or black eggs on a scrape.

Cool Facts: This is a nomadic species and known locally as the Rottnest snipe on Rottnest Island, though not related to true snipes.

Common Name: Crested Dove or Pigeon
Scientific Name: *Ocyphaps lophotes*

Size: 12 to 14 inches (31-36 cm)

Habitat: Australia; found widely throughout mainland Australia except for far tropical north areas.

Habitat is grasslands, brush and wooded areas but they can also be seen at watercourses, homestead gardens, pastoral areas, sports grounds, and golf courses. Their habitat has expanded since settlement has produced pastoral lands (previously they were only found in inland and Western Australia).



Status: Least Concern. **Global Population:** 8,790,000 mature adults with an increasing population trend. Now common throughout most of Australia. Has benefited from the European settlement of the continent and associated forest clearance, as well as provision of water supplies for livestock, producing more favourable habitat conditions for present species.

Diet: Feeds on seeds and leaves, and takes small quantities of insects and other invertebrates (up to 10% by volume). Feeds on a variety of herbs and grasses, both native and introduced. Important plant families include Boraginaceae (*Echium*), Fabaceae (*Trifolium*), Euphorbiaceae, Chenopodiaceae and Poaceae. In grain-growing districts, feeds heavily on spilled wheat. Feeds on the ground, usually in small flocks of 5–6 birds, though large flocks may form near water during droughts.

Breeding: The head and neck are mostly light gray, with a characteristic long pointed gray-black crest on hind crown which may be held erect or flattened. The nape, hind neck, mantle, back and rump are brownish gray, grading to pinkish brown on sides of neck, mantle and upper

breast. The upper tail is blackish brown, with slight green or purple iridescence and narrow white tip. The secondary coverts are gray with a distinct black and pinkish buff barring on lesser and median coverts. The most greater secondary-coverts and inner secondaries are iridescent green, bronze or purple, with white tips. The under parts are pale gray with pinkish-brown on sides of breast and flanks. The bill is gray-black and the eye has a thick pink-red orbital ring. The legs and feet are pink-red. The sexes are similar. Juveniles are similar to the adult but the crest is shorter with rounded (not pointed) feathers, and duller overall, with much less iridescence on wings and tail.

Nesting usually occurs in shrubs or trees. Nests usually consist of a platform of twigs with two oval, white and glossy eggs.

Cool Facts: Their most distinctive behavior is the beating and whistling sound their wings make when they take off. This is most likely to draw the attention of predators to birds on the wing, and away from any birds remaining on the ground.

There are only two Australian pigeon species that possess an erect crest, the Spinifex Pigeon and the Crested Dove. The Crested Dove is the larger of the two species.

Subspecies and Distribution

- *O. l. whitlocki*. Discovered by Mathews in 1912. Found in western and central Western Australia. It is very similar to the nominate species, averaging slightly smaller and with narrower white tip to tail.
- *O. l. lophotes*. Discovered by Temminck in 1822. The nominate race is found in northwestern, central, southern and eastern Australia.

Common Name: Wompoo Fruit-dove
Scientific Name: *Megaloprepia magnifica*

Size: 11.4-17.7 inches (29-45 cm)

Habitat: Australia; the eastern coast from central New South Wales to the tip of Cape York Peninsula.

Inhabits a variety of forest types: primary and well developed secondary rain forest, gallery forest and monsoon forest. In New Guinea, occurs from near sea-level up to 1400 m; commonest at lower elevations. In fragmented habitat in northern New South Wales is sometimes found in eucalyptus forests and farmland in winter; this indicates the ability of the species to cross open country and use degraded habitat and native habitat other than rain forest.

Status: Least Concern to Near Threatened. **Global Population:** 4,050,000 mature adults with a decreasing population trend. Not globally threatened (Least Concern). Remains widespread and common to fairly common in many areas. However, the southernmost race, nominate *magnifica*, has declined severely and is now extinct through much of its former range due to habitat loss and over-hunting; its most important stronghold is in the Border Ranges of South Queensland and North New South Wales; New South Wales population is estimated at over 7000 birds.



Diet: Frugivorous; eats a wide variety of fruits; the most important plant families were figs (*Moraceae*), laurels (*Lauraceae*), palms (*Arecaceae*) and Annonaceae; figs and

laurels were also very important in the diet of Australian populations, as were Elaeocarpaceae. This broad diet is probably an important factor in allowing the species to be generally sedentary.

Breeding: Large and long-tailed; head and neck gray to greenish grey; mantle, rump and uppertail-coverts bright green with yellow tinge; wings mostly green, with yellow patches on central secondary-coverts forming a broken wing-bar on folded wing; narrow purple strip in centre of throat, broadening down neck; breast and upper belly deep purple; lower belly, vent and undertail-coverts mostly golden yellow; undertail pale grey; wing lining mostly orange-yellow, with some chestnut on greater primary-coverts; inner primaries green, outer ones greenish grey, grading to chestnut at base; bill orange-red with yellow tip; legs yellow-green. Sexes alike. Juvenile similar to adult, but with dull green cap and hindneck; duller and less extensive purple on underparts; and duller yellow on lower belly; bill dull yellow with orange base. Races vary in size and coloration, especially on the breast and under side of tail.

Nests are sturdily constructed from forked twigs not high from the ground. Both genders help in the construction of the nest. One white egg is laid and the parents share the incubation and care of the chick. In the event, that the chick dies, the doves will attempt to have a second offspring in the same season.

Cool Facts: The Wompoo Fruit-dove is the largest Fruit-dove native to Australia. It can be seen in large flocks where food is abundant. The birds feed off fruit-bearing trees in rainforests. They can eat large fruits, such as figs, and are able to acrobatically collect fruit of trees and vines.

They do not travel long distances preferring to stay in their local area.

Subspecies and Distribution:

- *M. m. puella*. Discovered by Lesson & Garnot in 1827. It is found on West Papuan Island (Waigeo, Batanta, Salawati and Misool) and Northwestern New Guinea (Vogelkop). It is among smallest race, with a brighter, redder breast.
- *M. m. poliura*. Discovered by Salvadori in 1878. Found in most of lowland New Guinea (except Northwest), including islands off the north coast.
- *M. m. assimilis*. Discovered by Gould in 1850. Northeastern Australia (Cape York region of North Queensland).
- *M. m. keri*. Discovered by Mathews 1912. Found in Bellenden Ker Range (near Southeastern base of Cape York Peninsula).
- *M. m. magnifica*. Discovered by Temminck in 1821. The nominate race is found in coastal South Queensland southwards to Central-east New South Wales.

Common Name: Cockatiel

Scientific Name: *Nymphicus hollandicus*

Size: 12-13 inches (30-33cm)

Habitat: Australia; widespread throughout mainland Australia, but is uncommon in Tasmania, with only a few sightings being reported to date. Throughout its range, the Cockatiel is strongly nomadic, moving around in response to the availability of food and water.

It prefers arid and semi-arid open country with water. It can be also found in savanna, open woodland, riverine forest, acacia woodland, spinifex habitats, grassland, orchards, cultivated area and grain stubble.



Status: Least Concern. **Global Population:** 7,850,000 individuals with a stable population trend. Large flocks may be regarded as pests by farmers growing grain and some are destroyed under permit. On other hand, species has perhaps benefited from the provision of artificial waterholes, as the consequence of spread of agriculture.

Unfortunately, to date no extensive field study of present species has been undertaken. There are occasional escapes throughout the world, in California, New York, Puerto Rico, and Spain (Valencia), but all have failed to create stable feral populations.

Diet: Wide variety of small seeds, usually gathered from the ground but also from standing crops such as sorghum and sunflower (sorghum is preferred). Where abundant, native grass seed is eaten in preference to these crops, but nonetheless regarded as an agricultural pest in some areas.

They feed twice a day: shortly after sunrise, and about an hour and a half before sunset. The average flock size is about 27 birds, but numbers in the hundreds have been observed and occasionally even up to 1000. They are often associated with Budgerigars (*Melopsittacus undulatus*) at waterholes, which are visited on daily basis .

Breeding: Mainly brownish gray, with long tail and long wispy crest . Adult cockatiels are sexually dimorphic, though to a lesser degree than many other avian species. Males are paler below with the forehead, chin, throat and the cheeks are yellow, enclosing orange ear-coverts. The upper-wing are gray with a white patch. The under-wing and under-tail is black. The bill and feet are gray (sometimes the legs are gray-brown). The iris is dark brown. Females have a mainly gray head with slight yellow wash on face, and dull orange ear-coverts. There is a white wing-patch and under surfaces are faintly barred with dark gray. The under surface of the tail barred yellow and dark gray. The outer tail feathers are mostly yellow with bare parts as in male. The juvenile is like female. Some males gain bright face patch at 6 months old.

The color in cockatiels is derived from two pigments: *melanin* (which provides the gray color in the feathers, eyes, beak, and feet), and *psittacofulvins* (which provide the yellow color on the face and tail and the orange color of the cheek patch). The gray color of the melanin overrides the yellow and orange of the psittacofulvins when both are present.

The melanin content decreases in the face of the males as they mature, allowing the yellow and orange psittacofulvins to be more visible, while an increase in melanin content in the tail causes the disappearance of the horizontal yellow tail bars.

In addition to these visible characteristics, the vocalisation of adult males is typically louder and more complex than that of females.

Cockatiels can breed at any time, usually in response to availability of water. Both sexes share the incubation of the eggs, which are laid in a hollow, high up in trees. Suitable nesting areas are close to water. Cockatiels enter the nest hollow tail first.

Cool facts: The cockatiel's scientific name "*Nymphicus hollandicus*" comes from one of the earliest groups of Europeans to see cockatiels in their native habitat. Travelers from Holland thought they were so beautiful that they named them after the mythical creatures, the nymphs. The species name refers to New Holland, an old name for Australia where they were found. Cockatiels are more closely related to the

Calyptorhynchinae family (black cockatoos) than to the Cacatuinae family (white cockatoos).

Cockatiels are one of the most popular companion birds due to their size, and mild temperament. While capable of speech, cockatiels are much better at mimicking whistles. The average lifespan of a cockatiel in captivity is generally 12-20 years.

Worldwide, there are currently 22 cockatiel color mutations established in aviculture, of which eight are exclusive to Australia. Mutations in captivity have emerged in various colors, some quite different from those observed in nature.

- The pied mutation first appeared in California in 1949. This mutation is a blotch of color on an otherwise solid-colored bird. For example, this may appear as a gray blotch on a yellow cockatiel.
- Lutino coloration was first seen in 1958. These birds lack the gray of their wild counterparts and are white to soft yellow. This is a popular color; due to inbreeding, these cockatiels often have a small bald patch behind their crests.
- The cinnamon mutation, first seen in the 1950s, is very similar in appearance to the gray; however, these birds have a warmer, browner coloring.
- Pearling was first seen in 1967. This is seen as a feather of one color with a different colored edge, such as gray feathers with yellow tips. This distinctive pattern is on a bird's wings or back.
- The albino color mutation is a lack of pigment. These birds are white with red eyes.
- Fallow cockatiels first appeared sometime in the 1970s. This mutation shows as a bird with cinnamon coloring with yellow sections.
- Other mutations include emerald/olive, dominant and recessive silver, and mutations exclusive to Australia: Australian fallow, faded (west coast silver), dilute/pastel silver (east coast silver), silver spangle (edged dilute), platinum, suffused (Australian olive), and pewter. Other mutations, such as face altering mutations, include whiteface, pastelface, dominant yellow cheek, sex-linked yellow cheek, gold cheek, creamface, and the Australian yellow cheek.

Cockatiel color mutations can become even more complex as one bird can have multiple color mutations. For example, a yellow lutino cockatiel may have pearling – white spots on its back and wings. This is a double mutation. An example of a quadruple mutation would be cinnamon cockatiel with yellowface coloring with pearling and pied markings

Common Name: Little Corella
Scientific Name: *Cacatua sanguinea*

Size: 14-15¼ inches (36-39 cm)

Habitat: Australia; widespread throughout Australia, although large gaps separate some populations. The Little Corella is the most widely distributed of the three corella species found in Australia. The Western Corella is confined the extreme south-west of Western Australia, and the Long-billed Corella is found in the south-east.

Little Corellas often form large flocks, especially along watercourses and where seeding grasses are found.



Status: Least Concern. **Global Population:** 9,590,000 mature adults with an increasing population trend. The Little Corella's range is expanding with land clearing and increased sources of water. The increase in agricultural crops has so increased the birds' numbers in some areas they may become pests. Escaped or deliberately released cage birds have also helped numbers in the east of Australia.

Diet: Seeds of grasses and herbaceous plants, together with shoots, roots and blossom. It also feeds on insects and their larvae.

It is a sociable cockatoo, foraging in large flocks, especially where grain fed to livestock. The numbers and range have increased following widespread provision of water from subartesian wells. Most seeds are foraged from the ground, but where the plants are robust enough for

the bird to land on it (such as sorghum), it will feed directly on the plant. It will raid troughs containing grain for livestock.

Breeding: Sexes are similar. It is a white corella with medium-length crest and a short bone-bluish bill. Its face is salmon pink, as are bases of feathers of head and throat that are usually concealed. The periophthalmic ring is a blue-gray and wider below the eye. The eyes are dark brown in both sexes. The under surfaces of the wings and tail are

washed with yellow and the legs are gray. The juvenile is as the adults but the periophthalmic is ring smaller and a paler blue.

Cockatoos become sexually mature after two to four years. Two to five eggs are laid in September through October. Nesting takes place in hidden areas. Eggs incubate for about three and half to four weeks and the fledgling period lasts eight to ten weeks.

Cool Facts: The scientific name for Little Corella (*Cacatua sanguinea*), means 'Blood-stained Cockatoo' and refers to the dark pink markings between the eye and the bill.

Little Corellas congregate in flocks of up to several thousand birds, which often include many Galahs. They roost in trees overnight, and fly off to feed in the early morning with an almost deafening screeching. It mostly feeds on the ground, eating seeds including cereal crops such as wheat and barley. It is so common that it has become something of a pest throughout much of Australia, and can be destructive to the trees in which it perches, by chewing the bark off smaller twigs.

There are five subspecies:

- *C. s. transfreta*. It is found in lowland southern New Guinea between the Kumbé river and lower Fly river. It has a buff under wing coloration.
- *C. s. sanguinea*. The nominate subspecies is found in northwestern Western Australia (Kimberley) and Northern Territory eastward to the Gulf of Carpentaria.
- *C. s. westralensis*. It is found in west-central and central Western Australia. This race is similar to *gymnopsis* but separated by region (1000 km).
- *C. s. gymnopsis*. It is found in inland central and eastern Australia (southward from northwestern and central Queensland). Race *gymnopsis* has its wing and bill shorter than the nominate and the general coloration is redder.
- *C. s. normantoni*. It is found in western Cape York Peninsula (northwestern Queensland). It is smaller than the nominate in all dimensions and very similar to race *transfreta*.

Common Name: Galah
Scientific Name: *Cacatua roseicapilla*

Size: 12.25 to 15 inches (31-38 cm)

Habitat: Australia; one of the most abundant and familiar of the Australian parrots, occurring over most of Australia, including some offshore islands.

Found in large flocks in a variety of timbered habitats, usually near water.

Status: Least Concern. **Global Population:** 10,100,000 mature adults with an increasing population trend. The Galah is becoming more abundant around areas of human habitation, with the growth in population largely a result of increasing availability of food and water. Escaped aviary birds have also contributed to these numbers.

Diet: Form huge, noisy flocks, which feed on seeds, mostly from the ground. Seeds of grasses and cultivated crops are eaten, making these birds agricultural pests in some areas. Birds may travel large distances in search of favorable feeding grounds.

Breeding: A very distinctive medium-small cockatoo. The plumage quite unlike that found in any member of closely related *Cacatua*, although both *C. leadbeateri* and *C. moluccensis* have varying degrees of pink suffusion. It is medium-grey with a deep pink face, neck, nape and underparts, and a pinkish white cap. The periophthalmic ring carunculated and larger in males. Males have a light brown colored iris; females are pink. Juveniles and immatures both have brown eye.

Galahs form permanent pair bonds, although a bird will take a new



partner if the other one dies. The nest is a tree hollow or similar location, lined with leaves. Both sexes incubate the eggs and care for the young. There is high chick mortality in Galahs, with up to 50 % of chicks dying in the first six months.

Cool Facts: The Galah is becoming more abundant around areas of human habitation, with the growth in population largely a result of increasing availability of food and water. Escaped aviary birds have also contributed to these numbers.

Galahs have been recorded breeding with other members of the cockatoo family, both in the wild and captivity. These include the Sulfur-crested Cockatoo.

Subspecies and Distribution:

- *E. r. kuhli*. First reported by Mathews in 1912. It is found in northern portion of Western Australia (Kimberley) eastward to North Queensland. *Race kuhli* is smaller than the other two races. The periophthalmic ring is pink.
- *E. r. roseicapilla*. First reported by Vieillot in 1817. The nominate race is found in western and west-central Australia eastward to the southern portion of Northern Territory. The periophthalmic ring is greyish white.
- *E. r. albiceps*. First reported by Schodde in 1989. It is found in east-central and eastern Australia westward to the Simpson Desert and southward to Tasmania. *Race albiceps* has crown and nape white with pink tinge only at base of feathers. The periophthalmic ring is pink.

Common Name: Sulfur-crested Cockatoo
Scientific Name: *Cacatua galerita*

Size: 17.5-19.5 inches (45-50 cm)

Habitat: Australasia; range extends throughout the northern and eastern mainland, and Tasmania. A small population has become established around Perth, Western Australia. The species also occurs in New Guinea and the Aru Islands, and has been introduced into New Zealand and Indonesia.

It is found in a variety of timbered habitats and are common around human settlements. The birds stay in the same area all year round.



Status: Least concern. **Global Population:** 10,800,000 mature individuals with a decreasing population trend. The popularity of the Sulfur-crested Cockatoo as a cage bird has increased its range, as these birds either escape or are released deliberately in areas where they do not already occur. The species has become a pest around urban areas, where it uses its powerful bill to destroy timber decking and paneling on houses. Sulfur-crested Cockatoos are

poisoned as a crop pest.

Diet: Seeds, buds, fruits, nuts and herbaceous plants.

Feeding normally takes place in small to large groups, with one or more members of the group watching for danger from a nearby perch. When not feeding, birds will bite off

smaller branches and leaves from trees. These items are not eaten, however. The activity may help to keep the bill trimmed and from growing too large.

Breeding: It is a white cockatoo with yellow ear-coverts and long, erectile bright yellow crest. The under sides of the wings and tail are washed with yellow. Its bill is black and feet a dark gray. Its periophthalmic skin is white-bluish. The eye dark brown in the male, and red-brown in the female. The juvenile is similar to the adult but its eye is a pale brown.

Cockatoo become sexually mature after two to four years. The female lays two to three eggs in a tree hole. Both parents incubate the eggs for about 27 days.

Cool Facts: Cockatoo eat clay in the morning to detoxify any dangerous food they might eat. Sulfur-crested cockatoos are popular pets, however they may no longer be imported into the United States as a result of the Wild Bird Conservation Act. They are now bred in captivity. The potential owner should be aware of the bird's needs, as well as how loud these birds can be and their natural desire to chew.

A sulfur-crested by the name of "Cocky" Bennett lived to the age of 120 years in Sydney.

There are two other yellow-crested Cockatoos in the world; the lesser Sulfur-crested Cockatoo and the lesser Citron-crested Cockatoo. Both are found in Indonesian and wild populations are critically endangered.

There are four subspecies:

- *C. g. triton*. This subspecies is found in the western Papuan Islands, New Guinea and surrounding islands. It is smaller than race *fitzroyi*, with broader crest feathers.
- *C. g. eleonora*. This subspecies is found on the Aru Islands. It is similar to race *triton*, but its bill is smaller.
- *C. g. fitzroyi*. This subspecies is found in northern Australia from the Fitzroy river (northern Western Australia) east to the Gulf of Carpentaria. This race has a little yellow on ear-coverts and its periophthalmic skin is pale blue.
- *C. g. galerita*. The nominate subspecies is found in eastern and southeastern Australia from Cape York south in coastal and subcoastal regions to southeastern South Australia (including Kangaroo Island) and Tasmania.

Common Name: Red-tailed Black Cockatoo

Scientific Name: *Calyptorhynchus banksii*

Size: 19 ¾ to 26 ¾ inches (50-68cm)

Habitat: Australia; In Victoria, the South-eastern Red-tailed Black-Cockatoo occurs from Portland in south-east to just north of the Little Desert, while in South Australia it is found from Bangham-Frances to Mt Gambier. Its former distribution may never have been much greater than this, but the extent of occurrence within this range has declined significantly due to habitat loss (c. 60% of habitat in Victoria and 80% in Southern Australia has been destroyed).

Status: **Endangered**. **Global population:** 250-999.

Populations of the south-east region of Australia are threatened by clearing of native habitat. Much of the feeding habitat used by these birds is protected in State Forests. However, nesting habitat on private land is disappearing rapidly as a consequence of tree dieback, felling of potential nest trees for firewood, and the general intensification of farming (i.e. change from grazing to farm forestry, cropping etc).

In Australia they are a protected species and a permit is required to keep them. There is an export ban on live, dead or parts of the bird, including feathers.

According to the Action Plan for Australian Birds 2000, the south-eastern subspecies of the Red-tailed Black-Cockatoo is endangered.

Diet: Feed on the seeds of Brown Stringybarks (*Eucalyptus baxteri* /*E. arenacea*) and Bulokes (*Allocasuarina leuhmannii*).



Breeding: Males are uniformly black with broad red subterminal band across tail except on central two feathers. It has an erectile, backward-sloping crest. Its bill and feet dark grey.

Females are smaller and brownish black with numerous yellow spots on head and shoulders. The breast is barred yellow with the under tail-coverts barred orange-red. The subterminal tail-band is yellow-orange barred black with central two feathers all black. The bill is bone-colored and the feet are dark gray. Immatures are similar to adult females; males do not attain adult plumage until their fourth year. Nominate race largest; *naso* has a proportionally large bill, while *graptogyne* lacks notch in upper mandible;

For nesting, the Cockatoo's require old River Red Gums or Yellow Gums with large hollows. Most nest trees are within 2km of suitable feeding habitat. A clutch consists of 1-2 eggs, though if a second egg is laid the chick is neglected and quickly perishes.

Cool Facts: They are one of the rarest and most expensive cage birds, usually costing over \$20,000 USD.

"Karak", the Red-tailed Black Cockatoo was the official mascot of the 2006 Commonwealth Games, held in Melbourne, Australia.

Subspecies and Distribution

- *C. b. macrorhynchus*. First reported by Gould in 1843. It is found in Northwestern Australia (Kimberley) and Northern Territory to the eastern edge of the Gulf of Carpentaria. The large-billed *race macrorhynchus* rather similar to, and often confused with the Glossy black cockatoo (*C. lathami*).
- *C. b. banksii*. First reported by Latham in 1790. The nominate race is found in eastern Australia (north & eastern Queensland to northeast New South Wales). The nominate race is the largest of the races.
- *C. b. samueli*. First reported by Mathews in 1917. It is found in inland Australia from central-west & southwest Western Australia to southwestern Queensland and New South Wales.
- *C. b. naso*. First reported by Gould in 1837. Found in the forests of southwestern Australia. *Race naso* has a proportionally large bill.
- *C. b. graptogyne*. First reported by Schodde et al. In 1989. Found in the forests of southeastern South Australia and southwestern Victoria. *Race graptogyne* lacks notch in upper mandible.

Common Name: Budgerigar

Scientific Name: *Melopsittacus undulatus*

Size: 7 inches (17-18 cm) **Note:** Budgerigars have been bred down and up in sizes from American Parakeet (5-6 inches (13-15cm)) to the English Budgie (10 inches (25.5cm)).

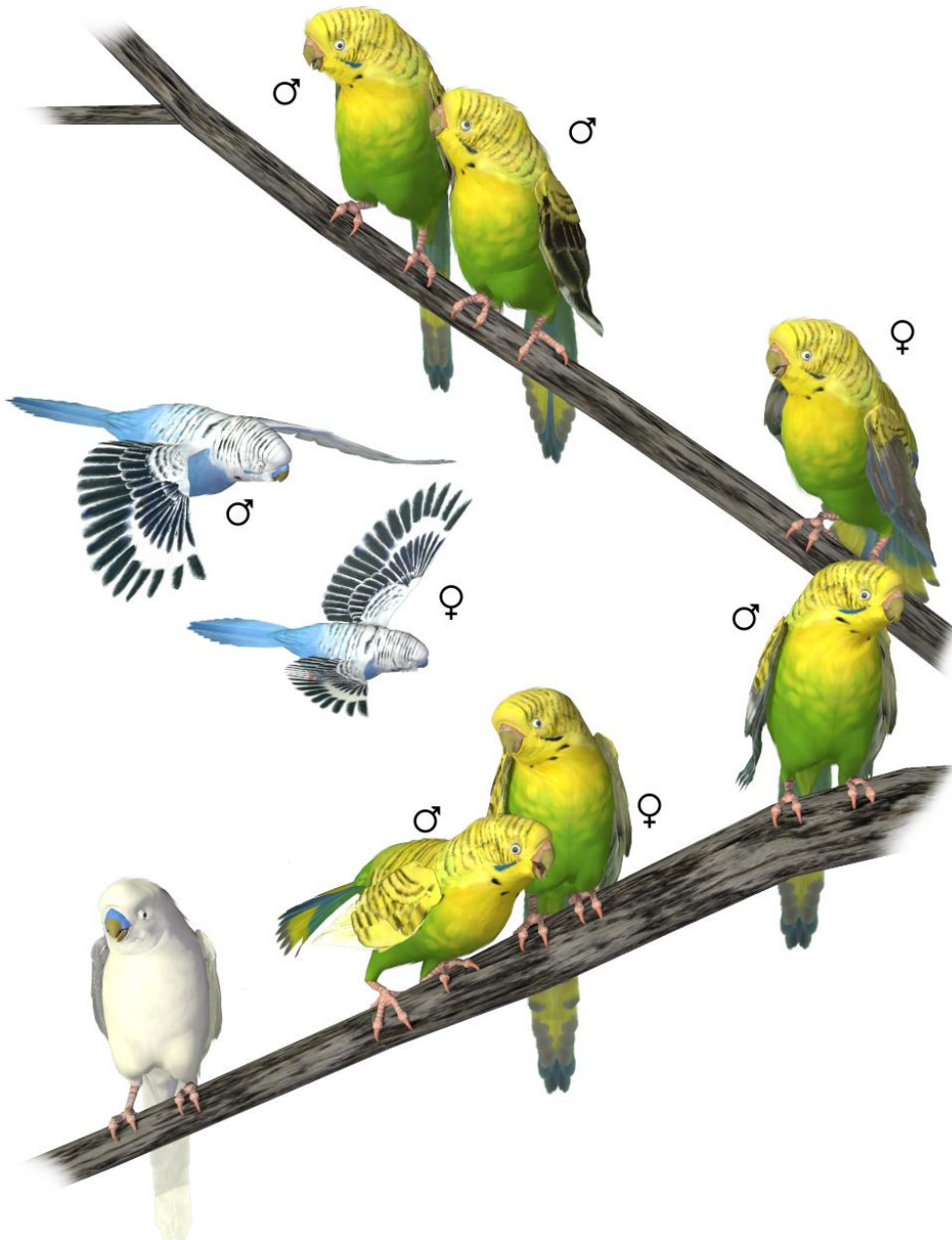
Habitat: Australia; occurs naturally throughout much of mainland Australia, but is absent from the far south-west, the north of the Northern Territory, Tasmania and the majority of the east coast. Introduced in the 1950s in Tampa Bay area, C Florida, USA, its population there peaked at perhaps >20,000 birds during the late 1970s but declined subsequently and the last individuals disappeared in 2014. the competition for nest sites

with Common Starlings (*Sturnus vulgaris*) and House Sparrows (*Passer domesticus*) was probably the main cause of the decline

Budgerigars are nomadic and large flocks of birds can be seen in most open habitat types, but seldom far from water. Very large flocks, numbering occasionally in the tens of thousands, are seen after a season of abundant rainfall and food. Flocks are usually much smaller, however, and range from as few as three birds up to 100 or more. Birds in a flock fly in a characteristic undulating manner

Status: Least Concern. **Global Population:**

7,160,000 mature individuals (in the



wild) with an increasing population trend. Their population level is capable of considerable fluctuations depending on climatic conditions over several years, and these levels are probably driven as much by short-term breeding success as by immigration. Livestock farming in many parts of interior Australia has required widespread artificial water provision, and some populations appear to have increased permanently as a result.

Diet: Spinifex seeds, grass seeds, and ripening wheat. Birds in captivity also eat fruits and vegetables such as apples, oranges, bananas, strawberries, carrots, unsprayed lettuces, parsley, peaches and spinach.

Grass and chenopod seeds taken on or near ground, the number of species and proportions varying with season and part of range. In inland mid-eastern Australia birds were found to eat only seeds of ground vegetation. *Astrebla* spp. were dominant in the diet, while further inland a wider array was taken, including *Boerhavia diffusa*, *Atriplex* and *Astrebla pectinata*, in the hot months, with *Iseilema* important in the colder period. Occasionally attacks ripening grain crops.

Breeding: A small parrot; on the male the cere is blue, the forehead, front of the face and the throat are pale yellow with a line of black spots. The lower malar area is purple. The mid-crown and area below the eye back to nape is barred black and pale yellow, broadening to become scalloping on the mantle and wing-coverts. The underparts, underwing-coverts, lower back and the rump are light green. The tail is dull bluish. The lateral feathers are with a central yellow band. The female looks the same but has a brownish cere. Immatures are duller with barring on the forehead and no black spots on the throat.

Breeding generally takes place between June and September in the North and between August and January in the South. The nesting takes place in a tree cavity, fence post or even a log laying on the ground. 4-6 eggs are incubated for 17-19 days, with the young fledging about 30 days after hatching.

Cool Facts: While many Americans refer to the Budgerigar as a parakeet, the term "Budgie" is more common. The term "Parakeet" refers to a number of small parrots with long flat tails. I'm sure much to the Budgies' dismay, the term "Budgerigar" comes from an Aborigine phrase that means "good to eat". It is believed to be the most common pet parrot in the world, and it has been bred in captivity since the 1850s.

There are currently over 32 primary mutations in the Budgerigar Parakeet enabling hundreds of possible secondary mutations (stable combined primary mutations) & color varieties (unstable combined mutations). Breeders have worked over the decades to produce a wide range of color and feather mutations. Feather mutations can produce crests or very long shaggy feathers.

Both male and female budgerigars sing and can learn to mimic sounds, however it is much more pronounced in males. Budgies are, as are all parrots, intelligent and very social animals. They need and enjoy interaction with humans or other budgerigars and the stimulation of toys. A common behavior is the chewing of material such as wood, especially for female budgerigars.

Budgerigars in the wild are nomadic birds found in open habitats, primarily in scrublands, open woodlands and grasslands of Australia. The birds are normally found in small flocks, but can form very large flocks if the conditions are right. Flock movement is tied to the availability of food and water, and drought conditions will drive flocks into wooded habitats or coastal areas.

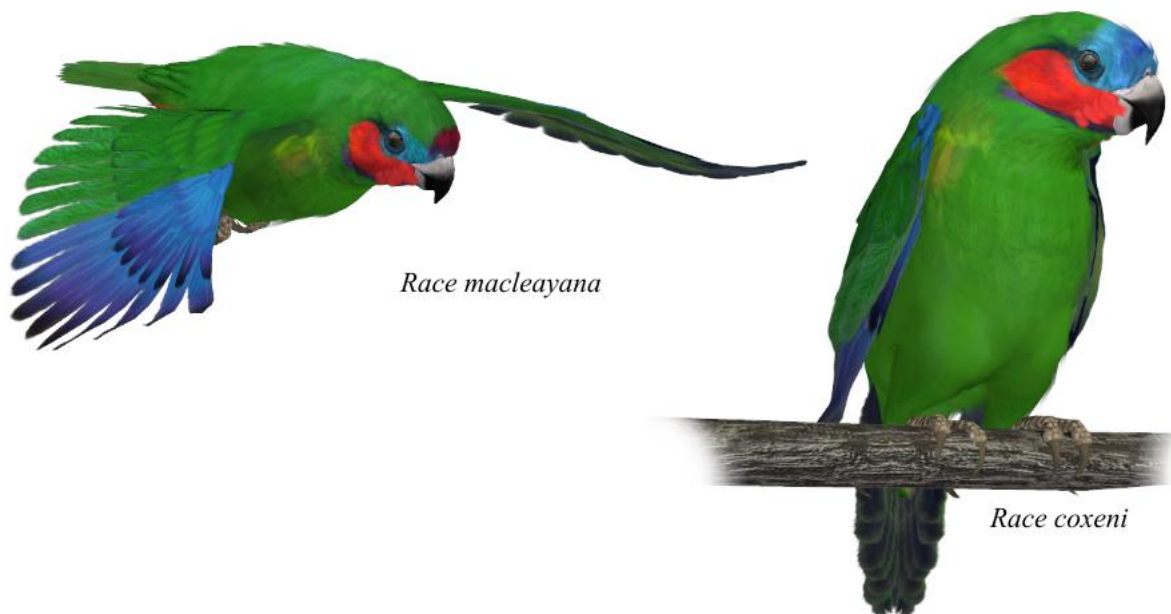
Hazards in the house: Common household hazards include fumes from the kitchen (**especially fumes from non-stick pans**) – Companion birds should never be kept in a kitchen for this reason. They are also sensitive to smoke from cigarettes, aerosol sprays such as deodorant, air freshener and polish. Plug in air fresheners/ stand-alone fan fresheners can be very toxic, as are some scented candles. Chocolate and avocado is very poisonous to most birds.

Common Name: Double-eyed Fig Parrot
Scientific Name: *Cyclopsitta diophthalma*

Size: 6 inches (15 cm)

Habitat: Oceania; Australia. East of the Great Dividing Range between Port Macquarie in New South Wales and near Gladstone in Queensland. However, within this small range it is fragmented into even smaller populations.

Small patches of subtropical rainforest or edges of larger areas and often at ecotone between rainforest and sclerophyll assemblages, especially areas with large *Ficus* trees. Was formerly probably concentrated in alluvial forest..



Status: **Critically endangered.** **Global Population:** 50–250 Mature individuals with a stable population trend. It has been found at scattered sites from Bundaberg southward to Hastings River and inland to the Bunya Mountains and Main and Koreelah Ranges, but considered to be highly fragmented following declines since 1950 due to habitat loss. Four sub-populations are thought to remain, in the greater Bundaberg region, Maleny/Imbil/Kin Kin Creek area, the Queensland/New South Wales border area (Lamington National Park, Whian Whian State Forest, Alstonville plateau), and the upper Hastings River catchment, with no more than 50 individuals in each.

Widespread clearance of lowland rainforests have meant only small fragments of former habitat remain and are vulnerable to spread of invasive weeds, while isolated stands of fig trees (probably important source of food in winter) may be lost due to lack of natural recruitment. Probably associated impacts from fragmentation, poor quality and small area of remaining habitat, and small population size, with lack of connections between habitat patches a possible barrier to dispersal, making it difficult for birds to find

sufficient food, especially in winter, they may have increased degree of competition between it and other species of birds.

Diet: Diet is largely comprised of figs, with seeds being preferred to fruit, but no detailed studies.

Usually encountered in pairs or small groups.

Nesting: The smallest Australian parrot, it is plump-bodied and short-tailed and largely bright green, with blue forehead. There is a red band on ear-coverts, the cheeks to lores are flecked yellow and there is a violet-blue band across lower face. There is bright violet-blue on the outer wing. Sexes similar, but the orange-red virtually absent on lores of female. Immatures are basically like the females with young male acquiring adult plumage in 14 months.

Nests are excavated from the dead limbs of tall trees in, or close to rainforests. Nest construction is thought to begin in August and breeding occurs from October to December or January. The normal clutch size is probably two.

Cool Facts: Coxen's fig-parrot is one of Australia's rarest and least known birds. It has been recorded on just over 200 occasions since Gould described it in 1867. Confirmed or credible sighting reports continue to be made in both range states, including about 30 records in north-east New South Wales since 1970 and twice this number in south-east Queensland over the last decade alone.

Coxen's fig-parrot is cryptic and extremely difficult to see in its habitat and may therefore be more common than the number of sightings suggest.

- *C. d. coxeni*. "Coxen's Fig Parrot" is found in southeastern Queensland and northeastern New South Wales, in coastal eastern Australia.
- *C. d. diophtalma*. The nominate subspecies is found on the western part of the Papuan Islands (Waigeo, Kofiau, Salawati, Misool) and the western and northern regions of New Guinea.
- *C. d. aruensis*. It is endemic to Aru Island.
- *C. d. coccineifrons*. It is found from east-central to southeastern New Guinea (eastward from the Central Highlands).
- *C. d. virago*. It is endemic to the D'Entrecasteaux Islands (Goodenough Island and Fergusson Island).
- *C. d. inseparabilis*. It is endemic to Tagula Island (Louisiade Archipelago).
- *C. d. marshalli*. It is found in extreme northern Queensland (eastern Cape York Peninsula), in extreme northeastern Australia.
- *C. d. macleayana*. The "Red-browed Fig Parrot" is found in northeastern Queensland.

Common Name: Night Parrot

Scientific Name: *Pezoporus occidentalis*

Size: 8 ½ to 10 ¼ inches (22-26 cm)

Habitat: Australia; Interior of W & C Australia, where likely widespread in 19th century.

Arid areas where there is dense, low vegetation, which provides shelter during the day.

Status: **Endangered.** **Global Population:** 50-249. This species was extinct for decades, but carcasses found in northwestern Queensland (near Boulia in 1990 and Diamantina in 2006), three individuals reported in Pilbara region (Western Australia) in 2005, other possible sightings made in several regions, and photographs of a live bird obtained in 2013. Possibly a very scarce and cryptic species that could occur, inland, anywhere from Western Australia to western Queensland and northwestern New South Wales.



Habitat degradation caused by altered fire regimes and livestock grazing, compounded by predation by introduced cats and foxes and possibly by reduction of water availability due to camels, may all have contributed to the decline of this species, although clearly

its nocturnal habits and inhospitable habitat greatly obscure an understanding of both past and present status.

Formerly considered extinct. Seven sightings, 1992–1993, and a road-killed individual found near Boulia, Western Queensland, in 1990, indicated that small numbers were surviving. A second corpse, of a young female, was found at Diamantina National Park, Queensland, in 2006; three birds were reported from the Pilbara region of Western Australia in Apr 2005, with three further sightings in 2010. First photographs of a live bird, taken in Jul 2013 in Queensland, were published later that year. The location of this site remains confidential, but is now protected by a 56,000 ha private reserve. In 2015, an individual was captured and afterwards radio-tracked for a few days. Given recent records, it is estimated that there might be 50–250 birds in total. It may still occur elsewhere in its former range, but population assumed to be very small and possibly subject to extreme numerical fluctuation. Considered Critically Endangered until 2012, recent sightings appear to indicate a larger population than previously suspected and it has therefore been downlisted to Endangered. Recent records suggest that sensitive land management, with patch burning of spinifex, moderate livestock densities and low levels of exotic predators, may contribute the conditions under which birds survive.

Diet: Porcupine grass (*Triodia*), saltbush, bluebush, Mitchell grass (*Astrebla*) seeds.

The species was secretive and almost all confirmed sightings of feeding or drinking birds have come after dark. In the 1800s, Aboriginal people familiar with the bird referred to its nocturnal behavior, and early observers reported birds flying to water once night has fallen. A number of reports have been of birds flushed by traveling stock at night. A captive bird in a London zoo was active throughout the night. Sightings during the day almost always have been of birds flushed from hiding places by herds of stock, dogs or fire. A bird would sit tight, flushing only if the disturbance was very close, actually affecting the clump of vegetation in which it was hiding. Early observers stressed the dependence of the parrot upon dense spinifex or samphire for daytime roosting spots and for nesting. Although the Night Parrot is capable of flight, it prefers to spend most of its time on the ground. Some reports indicated that it runs between shelters when possible, in preference to flying. When it flies, it usually goes only a short distance, flying close low, before landing and escaping on foot.

Breeding: It is mottled dull green and black above and below, with green ear-coverts and a plain yellow belly and under tail-coverts. The flight-feathers and tail are blackish brown with the outer tail feathers with yellowish notches. Immatures are reportedly dull and plain.

The nest is a layer of small sticks in an expanded cavity at the end of a tunnel under a clump of *Triodia* or a samphire bush. A four to six egg clutch has been reported.

Cool Facts: This is one of four ground-dwelling parrots in the world. This species closely resembles the Ground Parrot (*Pezoporus wallicus*) of coastal southeastern and southwestern Australia and Tasmania. It differs by lacking the orange band on the

forehead across the base of the upper mandible, a noticeably shorter tail, and shorter, straighter claws on the toes.

The first known specimen of the Night Parrot was collected by John McDouall Stuart in October 1845, north of Coopers Creek, far northern South Australia, as part of an expedition led by Charles Sturt. The Night Parrot was not formally named until 1861, when John Gould described it as *Geopsittacus occidentalis*, based on a bird collected in 1854 near Mount Farmer in Western Australia.

Until the 1870s, sightings appeared to be very occasional. The period between 1870 and 1890 was the most productive known, with numerous sightings and another 20 specimens being collected. Of the 22 museum specimens collected last century, F. W. Andrews, working for the South Australian Museum, collected 16, all during this period. Following this period of abundance, there was a marked decline in confirmed sightings.

Of the few sightings of Night Parrots between 1890 and the 1930s, the only identifiable specimen was one accidentally shot in Western Australia in 1912.

There were a number of reported sightings in the 1960s and early 1970s, but none could be confirmed. In 1979, a team from the South Australian Museum saw a several birds in the far northwest of South Australia.

In 1990, the last identifiable Night Parrot was found—road kill in southwestern Queensland. Since then, sightings have been claimed, but none substantiated. Publicity campaigns in several states have gathered awareness, but despite organized searches, no birds could be found.

The first photographic and video evidence of a live individual was publicly confirmed in July 2013. After seventeen thousand hours in the field over 15 years of searching, wildlife photographer John Young captured several photos and a 17-second video of the bird in western Queensland. John Young was later found to have used fake feathers and eggs along with archived recordings of the bird for much of his work in QLD and SA. His findings have been branded "[fake news](#)" by his peers.

In August 2015, the tagging and tracking of a live individual was announced on Australian media by Ornithologist Steve Murphy. Other live individuals were photographed in Queensland in late 2016, and sightings recorded in Western Australia and South Australia in 2017. A young bird, likely hatched in late 2017, was recorded in February 2018.

Common Name: Crimson Rosella
Scientific Name: *Platycercus elegans*

Size: 12 ½ to 14 ½ inches (32-37cm)

Habitat: Australia; There are several populations of the Crimson Rosella. Red (crimson) birds occur in northern Queensland, in southern Queensland to south-eastern South Australia and on Kangaroo Island. Orange birds are restricted to the Flinders Ranges region of South Australia, while yellow ones are found along the Murray, Murrumbidgee and neighboring rivers (where yellow birds meet red birds they hybridize, producing orange offspring). Red birds have been introduced to Norfolk Island and New Zealand.

Throughout its range, the Crimson Rosella is commonly associated with tall eucalypt and wetter forests.

Status: Least Concern. **Global**

Population: 300,000 individuals with a decreasing population trend. Generally common to abundant, with the overall population of *elegans*, *nigrescens* and *melanoptera* thought to be in excess of 200,000 birds, but has lost ground to land clearance, when it is replaced by *P. eximius*. Slight expansions of range detected in Bendigo area, Victoria, during 1970s and in South-East and Adelaide Plains regions of South Australia, while numbers around Naracoorte, South Australia, were thought to be increasing in 1960s, whereas numbers at Comooyne, New South Wales, declined in 1930s after large numbers were shot. Damages orchard crops and possibly young wheat, meaning that species was shot in large numbers in past; in some areas, many (especially young) trapped for aviculture and species is possibly eaten by foxes, cats or dogs. Common and widespread on Norfolk Island, where introduced in 1830s, but an attempt to stock Lord Howe I (in 1918) with the species failed, whereas another introduction, to New Zealand, was also successful, where it occurs in parts of the city of Wellington (since 1963) and perhaps also in Dunedin. Race *flaveolus* is fairly common (numbers placed at > 50,000 individuals) within its restricted range, but has suffered some losses owing to large-scale irrigation schemes. Race *adelaidae* is also abundant within its small range, being common in



parks and gardens in the city of Adelaide, whereas *subadelaidae* is generally considered to be local and uncommon.

Diet: Eucalyptus seeds, grasses and shrubs, insects and some tree blossoms.

Breeding: There are several color forms of the Crimson Rosella. The form it is named for has mostly crimson (red) plumage and bright blue cheeks. The feathers of the back and wing coverts are black broadly edged with red. The flight feathers of the wings have broad blue edges and the tail is blue above and pale blue below and on the outer feathers. Birds from northern Queensland are generally smaller and darker than southern birds. Young Crimson Rosellas have the characteristic blue cheeks, but the remainder of the body plumage is green-olive to yellowish olive (occasionally red in some areas). The young bird gradually attains the adult plumage over a period of 15 months

Nests are in tree hollows, located high in a tree, and lined with wood shavings and dust. The female alone incubates the white eggs, but both sexes care for the young. The chicks remain dependent on their parents for a further 35 days after leaving the nest.

Cool Facts: Seven subspecies recognized.

Subspecies and Distribution

- *P. e. nigrescens*. First reported by E. P. Ramsay in 1888. It is found in northeastern Queensland. Race *nigrescens* is darker and smaller than the nominate species (wing 147–168 mm vs 164–188 mm in nominate).
- *P. e. filewoodi*. First reported by McAllan & Bruce in 1989. It is found in east-central Queensland. Race *filewoodi* has similar plumage to *nigrescens*, but has size of nominate species.
- *P. e. elegans*. First reported by J. F. Gmelin in 1788. the nominate race is found in southeastern Queensland to southeastern South Australia.
- *P. e. flaveolus*. First reported by Gould in 1837. The “Yellow Rosella” is found in the interior southeastern Australia centered on Murray–Murrumbidgee river systems. Race *flaveolus* is similar to the nominate but has pale yellow replacing red, except orange-red frontal band and lores, with some orange-red on the breast, while females are usually has more orange-red on the breast markings and often a pale under-wing stripe. Immatures have a reduced frontal band, upper parts dull olive-green, under parts tinged greenish-yellow and an under wing stripe.
- *P. e. subadelaidae*. First reported by Mathews in 1912. The “Adelaide Rosella” is found in South Australia in the southern Flinders Ranges and the northern Mount Lofty Range. Race *sub-adelaidae* has orange-yellow underparts but head, flanks and rump far yellower.
- *P. e. fleurieuensis*. First reported by Ashby in 1917 It is found on the southern Mount Lofty Range (South Australia). Race *fleurieuensis* is slightly smaller than nominate *elegans*, but has more yellowish head and neck, redder fringes to upper parts, more orange-colored under parts and paler wings.
- *P. e. melanopterus*. First reported by North in 1906. It is found on Kangaroo Island (South Australia). Race *melanopterus* is darker red, with narrower red fringes to mantle feathers, thus it appears to have more black on the back.

Common Name: Rainbow Lorikeet
Scientific Name: *Trichoglossus moluccanus*

Size: 10-12 inches (25-30 cm)

Habitat: Australia; found in Coastal Eastern Australia, from Queensland to South Australia; also in northwest Tasmania.

Its habitat is rainforest, coastal bush and woodland areas. Most types of lowland and lower montane wooded country, including primary rain forest, secondary growth, scrubby monsoon forest, savanna, riparian woodland, mallee, coconut and other plantations, gardens and suburban areas; tends to favour edges and disturbed vegetation rather than interior of closed-canopy formations.

Status: Least Concern. **Global**

Population: 3,810,000 mature adults with an increasing population trend. Overall, the rainbow lorikeet remains widespread and often common.

The Rainbow Lorikeet appears to have benefited from artificial feeding stations and prolific-fruited and flowering trees and shrubs. The rainbow lorikeet was accidentally released into the southwest of Western Australia near the University of Western Australia in the 1960s and they have since been classified as a pest. A feral population of rainbow lorikeets was established in New Zealand after a North Shore, Auckland resident illegally released significant numbers of captive-reared birds in the area in the 1990s, which started breeding in the wild. By 1999, a self-sustaining feral population of 150–200 birds had been established in the region, proving that they could survive and adapt to the New Zealand environment. The Department of Conservation, concerned that rainbow lorikeets would outcompete native honeyeaters and by the possible threat to pristine island habitats such as Little Barrier Island, began eradicating the feral population in



2000. MPI (the Ministry of Primary Industries) Bio-security, in partnership with DOC and regional councils, now manages rainbow lorikeets under the National Interest Pest Response initiative. The aim of the response is to prevent rainbow lorikeets from becoming established in the wild. Late in 2010, five of these birds were discovered living in the Mount Maunganui area. They were fed for a few days before being trapped by a Ministry of Agriculture & Fisheries contractor.

Many fruit orchard owners consider them a pest, as they often fly in groups and strip trees containing fresh fruit. In urban areas, the birds create nuisance noise and foul outdoor areas and vehicles with droppings.

In Western Australia, a major impact of the rainbow lorikeet is competition with indigenous bird species. This includes domination of food sources and competition for increasingly scarce nesting hollows. Bird species such as the purple-crowned lorikeet, the Carnaby's black cockatoo, and the Australian ringneck are adversely affected or displaced.

Diet: Mostly pollen and nectar, occasional fruit and seed. They can be frequent visitors at bird feeders that supply store-bought nectar, sunflower seeds, and fruits such as apricots, plums, apples and pears.

Breeding: The rainbow lorikeet is a medium-sized parrot. There is little to visually distinguish between the sexes. The plumage of the nominate race, as with all subspecies, is very bright. The head is deep blue with a greenish-yellow nuchal collar, and the rest of the upper parts (wings, back and tail) are green. The chest is orange/yellow. The belly is deep blue, and the thighs and rump are green. In flight a yellow wing-bar contrasts clearly with the red under-wing coverts.

Juveniles have a black beak, which gradually brightens to orange in the adults.

Breeding usually occurs during September to December, and mated pairs nest in eucalyptus tree hollows. The eggs of the Rainbow Lorikeet are laid on chewed, decayed wood, usually in a hollow limb of a eucalypt tree. Both sexes prepare the nest cavity and feed the young, but only the female incubates the eggs. Both parents feed the young. They are very loving to their mate and seem to pair for life, but the males being males, do look to other females if given the chance.

Cool Facts: Lorikeets possess a brush-like tongue that is adapted especially for their particular diet of pollens and nectar. They often feed on flowers (especially from the Grevillea tree). Fruit trees are also favorites. Lorikeets often strip fruit trees bare when the new fruit ripens, such as Apricots, plums or peaches.

Captive lorikeets have a long lifespan, often in excess of 20 years. In the wild, they congregate in flocks and are very active, noisy, gregarious and at times will fight each other. When the fracas dies down, all is well again. On the ground, they appear to hop and are very swift fliers.

Two subspecies are recognized:

- *T. m. septentrionalis*. It is found in northern Queensland (Cape York Peninsula), in northeastern Australia; also Torres Strait islands (except Boigu and Saibai, in the extreme north). Both adults as in *moluccanus*, but the purple/blue streaking on the head is brighter and the tail is shorter.
- *T. m. moluccanus*. The nominate species is found in northeastern, eastern and southeastern Australia (from northeastern Queensland to southeastern South Australia, including Kangaroo Island). It is a vagrant in Tasmania. There is a feral population in Perth (Western Australia).

Common Name: Australian King-Parrot
Scientific Name: *Alisterus scapularis*

Size: 16 - 17 inches (41-43 cm)

Habitat: Australia; found along the east coast and ranges of Australia, ranging from Cooktown in Queensland through to Port Campbell in Victoria. Found in humid and heavily forested upland regions of the eastern portion of the continent, including eucalyptus wooded areas in and directly adjacent to subtropical and temperate rainforest.

Status: Least Concern. **Global Population:** Unknown. The King-Parrot appears to be increasing in abundance in well-treed suburbs. In urban areas it feeds at artificial feeding stations and fruiting trees.

Diet: Forages in trees for seeds and fruit.

Breeding: Males are the only Australian parrots with a completely red head. Females are similar to males except that they have a completely green head and breast. Both sexes have a red belly and a green back, with green wings and a long green tail. King parrots are normally encountered in pairs or family groups. They lay their eggs on a bed of decayed wood-dust at the bottom of a deep hollow in the trunk of a tree. Often the



entrance is high in the tree (10 m) but the eggs are near the ground (0.5 m).

Cool Facts: They are frequently seen in small groups with various species of Rosella. They are occasionally bred in aviaries and kept as calm and relatively quiet household pets if hand-raised, but are relatively unknown outside Australia. As pets, they have limited "talking" ability and normally prefer not to be handled, but do bond readily to people and can be very devoted. Life expectancy in the wild is unknown, but some pets have been known to live up to 25 years. However, some King Parrots are known to develop lung diseases as a result of living indoors as household pets.

Common Name: Powerful or Great Hawk Owl

Scientific Name: *Ninox strenua*

Size: Males 19 - 25 ½ inches (48-65 cm) Wingspan: 45 - 53 inches (115-135 cm)

Habitat: Australia. This species occurs in open forest and woodlands in eastern Australia, from south-west Victoria to at least Eungella, and possibly Bowen, Queensland. Large areas of the species' range are now unsuitable as a result of clearing for agriculture and pastures, although the species now occupies suburban Brisbane, Sydney and Melbourne.

Found in typically wet and hilly sclerophyll forest with dense gullies adjacent to more open forest. Will also occur in smaller, drier forest, provided that there are some large tree hollows and an adequate supply of prey.

Status: Least Concern. **Global population:** 3,300 to 4,250. Although densities in remaining forest may eventually be affected by a reduction in the availability of suitable

nest hollows and den sites as a result of intensive forestry practices, studies indicate birds persist in mosaics of unlogged forest, in which they nest, and logged forest, in which they forage. There was no difference in density between heavily logged, lightly logged and unlogged forest. Intense wildfire can result in local loss but, if suitable habitat remains nearby, they may return to forage. Poisoning, disturbance and predation by foxes may also cause nest failure and some mortality, but are unlikely to be significant. The Powerful Owl is listed as threatened on the Victorian Flora and Fauna Guarantee Act (1988) and listed as "Vulnerable" on the list of threatened vertebrate fauna in Victoria.

Diet: Slow-moving arboreal mammals and large birds. Most hunting is done at dusk and dawn from perches. Large prey



is often not eaten until the night after capture and Owl roosts with one foot on prey which is draped over branch.

Nesting: Males are larger than females. Breeds during winter, with each female typically laying on almost the same date each year. Most eggs are laid from the second week in May to the third week June. Males begin calling in late February or early March. Around this time, pairs begin to roost closer together, at first in same tree and then on same branch, often still some distance from the potential nest site. The nest is a large hollow, nearly always in the trunk or broken off top of a big eucalypt. In tall forest this is usually at the head of a gully or on a hillside at heights from 20-45 metres (65.5-147.5 feet). Where tall trees are not available, the nest may be in open forest or among part-cleared timber at levels as low as 6 metres (19.5 feet). Usually 2 eggs, rarely 1, are laid at 4 day intervals. They are almost spherical and are dull white, measuring 49-56mm (1.9-2.2") by 43-46mm (1.7-1.8"). Incubation is about 38 days with the male rarely visiting the nest after laying - the female leaves the hollow to take food from him. The young have first and second downs of white, becoming stained in the nest. The Beak and feet seem disproportionately huge in early weeks. They are brooded constantly by the female until about 4 weeks when she abruptly ceases to brood by day and her visits become progressively shorter at night. First flight is at 7 to 8 weeks while still partially downy. After fledging, the young remain with their parents for weeks or months, roosting near or with one of them, sometimes remaining with parents in late autumn and this may inhibit them from breeding in the following season.

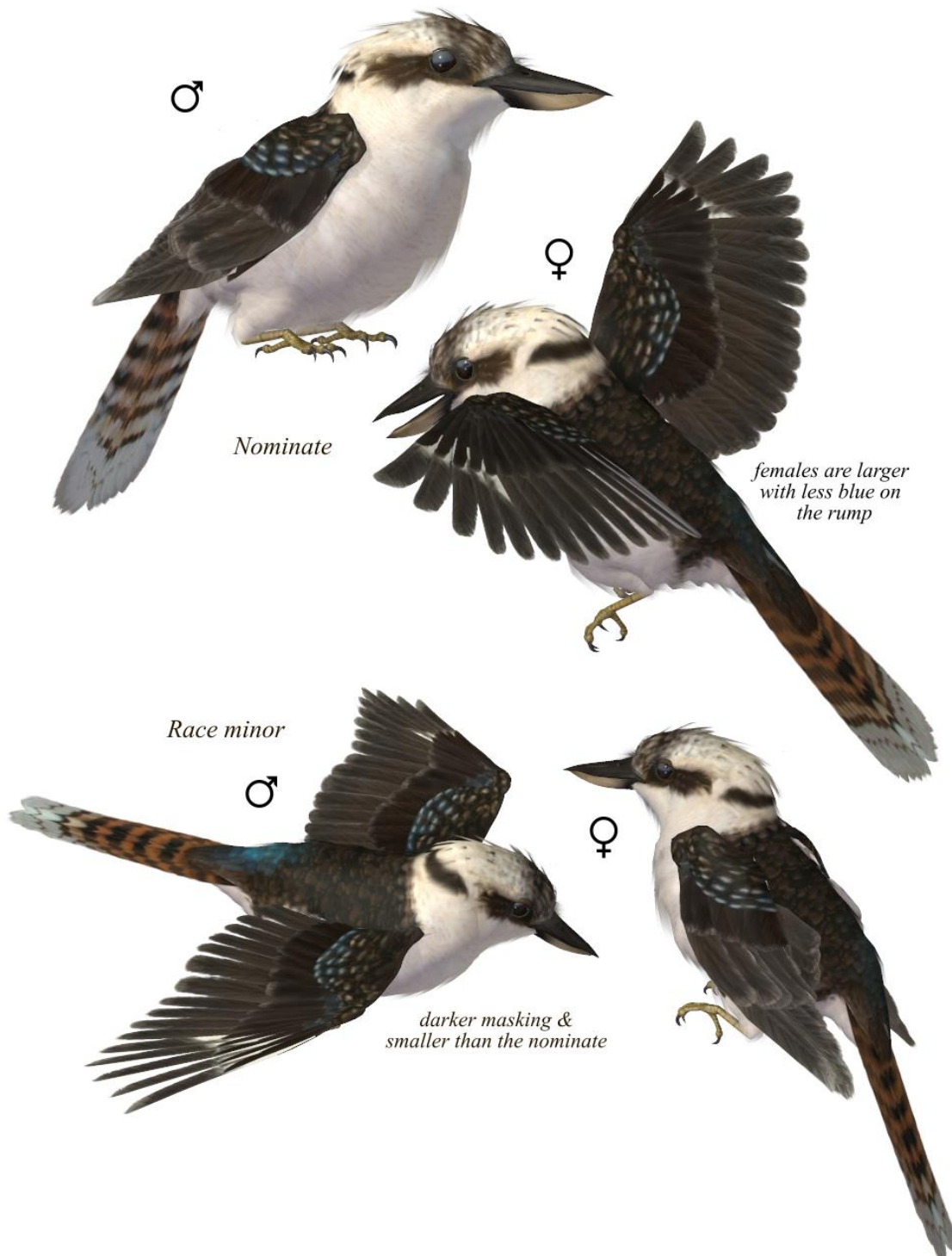
Powerful Owls have always been thought to be shy and not aggressive at the nest but this needs considerable qualification. Females are certainly shy and may desert a nest after minimal human disturbance, particularly early in the season. Some males, however, may be extremely aggressive in the breeding season, attacking humans with great ferocity even at a considerable distance from the nest. This is most likely when there are young in the nest but may occur even before laying and occasionally when juveniles are roosting nearby.

Cool Facts: Lives permanently in pairs. Roosts by day singly, in pairs or in family groups of 3-4, in foliage or open tree in forest or woodland. They will often roost with the remains of prey clutched in their talons. May be easily approached during the day, but is shy and difficult to observe at night.

Common Name: Laughing Kookaburra
Scientific Name: *Dacelo novaeguineae*

Size: 15.3-16.5 inches (39-42 cm)

Habitat: Australia; found throughout eastern Australia. They have been introduced to Tasmania. There is some overlap in Queensland with the Blue-winged kookaburra,



although this species is more coastal.

Common habitat includes eucalypt forest and woodland, using riparian trees along major watercourses to extend inland or into primary forest. It also uses wooded and cleared farmland, city parks and suburban gardens, provided that tree hollows available for nesting. It can sometimes be found at forest edges, wetlands, pine plantations and forest regrowth areas. It is sympatric with the Blue-winged Kookaburra (*D. leachii*) on Magnetic Island (eastern Queensland) where the species are interspecifically territorial. In other areas, the Blue-winged Kookaburra keeps to drier habitats.

Status: Least Concern. **Global population:** 65,000,000 mature adults with a stable population trend. It is common over most of its range, and has benefited from human settlement. Apart from successful introductions to southwestern Australia, Kangaroo Island, Flinders Island, Tasmania and New Zealand, its distribution has not changed in historical times. It has no real threats, but density declines are happening in areas where farmland is being converted to residential blocks.

Diet: Insects, worms and crustaceans, although small snakes, mammals, frogs and birds may also be eaten.

Prey is seized by pouncing from a suitable perch. Small prey is eaten whole, but larger prey is killed by bashing it against the ground or tree branch. It occasionally digs in ground for prey. It has been known to steal prey from hawks or snakes. Undigested food regurgitated as pellets, which may accumulate under roosting places.

Breeding: It's a very large, distinctive kingfisher with a very distinctive call. The male of the nominate race has a mostly a white head, dark crown and eye band, a dark nape patch with dark brown upper parts. There is a small blue rump patch and bluish-white tips of wing-coverts. The upper tail coverts are rufous and tail banded with black. The under parts are white with faint brown barring on the feathers. The upper mandible brownish-black while the lower mandible is horn-colored with a brown base. The iris is dark brown and the legs and feet are pale yellow-green to gray-flesh color. The female is larger, with less blue on rump. Juveniles are darker and more barred than adults. It differs from the Blue-winged Kookaburra (*D. leachii*) in having much less blue on the wings and rump and a much darker eye-mask and dark eye.

Laughing Kookaburras are believed to pair for life. The nest is a bare chamber in a naturally occurring tree hollow or in a burrow excavated in an arboreal (tree-dwelling) termite mound. Both sexes share the incubation duties and both care for the young. Other Laughing Kookaburras, usually offspring of the previous one to two years, act as 'helpers' during the breeding season. Every bird in the group shares all parenting duties. Two to four white eggs are laid in September through January.

Cool Facts: If you've ever seen a "Jungle" movie you've heard the characteristic call of the Laughing Kookaburra. Hollywood has made the Kookaburra almost synonymous

with what you expect to hear in the jungle. The laugh is actually a warning call to other Kookaburras.

C. H. Eden in 1872 described the Kookaburra by its other, more “colorful” common name, *"At daylight came a hideous chorus of fiendish laughter, as if the infernal regions had been broken loose- this was the song of another feathered innocent, the laughing jackass- not half a bad sort of fellow when you come to know him, for he kills snakes, and is an infallible sign of the vicinity of fresh water..."*

The Kookaburra is also the star of a popular Australian nursery rhyme written by Marion Sinclair, “Kookaburra sits in the old gum tree”.

*Kookaburra sits in the old gum tree
Merry, merry king of the bush is he
Laugh, Kookaburra! Laugh!
Gay your life must be*

*Kookaburra sits in the old gum tree
Eating all the gum drops he can see
Stop, Kookaburra! Stop!
Leave some there for me!*

*Kookaburra sits in the old gum tree
Counting all the monkeys he can see
Stop, Kookaburra! Stop!
That's not a monkey that's me*

*Kookaburra sits on a rusty nail
Gets a boo-boo in his tail
Cry, Kookaburra! Cry!
Oh how life can be!*

Kookaburras method of parenting is unique among birds and is only found with two others species within the animal kingdom, primates and humans. Once their young have fledged, they stay around the nest and help the parents with the next clutch. In fact, if a parent dies, one of its children will take up its responsibilities. Most other birds will leave the nest to mate and start their own families.

Kookaburras are also known for their adaptation skills, surviving on what foodstuffs are available. Being in the Kingfisher family, of course it displays similar behaviors such as hovering above water, searching for its prey and dive-bombing it. It also catches snakes and lizards by the head and drops them from great heights or beats them on tree limbs before consuming them. Many Kookaburras have learned to interact with humans and have become “tame” as their habitats give way to human populations.

There are two subspecies:

- *D. n. minor*. It is found in northeastern Australia from Cape York Peninsula south to Cooktown (Northeastern Queensland). It is smaller than the nominate and its crown is slightly darker.
- *D. n. novaeguineae*. The nominate subspecies is found in eastern Australia from the southern Cape York Peninsula southwards to Flinders Range (South Australia) and Cape Otway (Victoria).

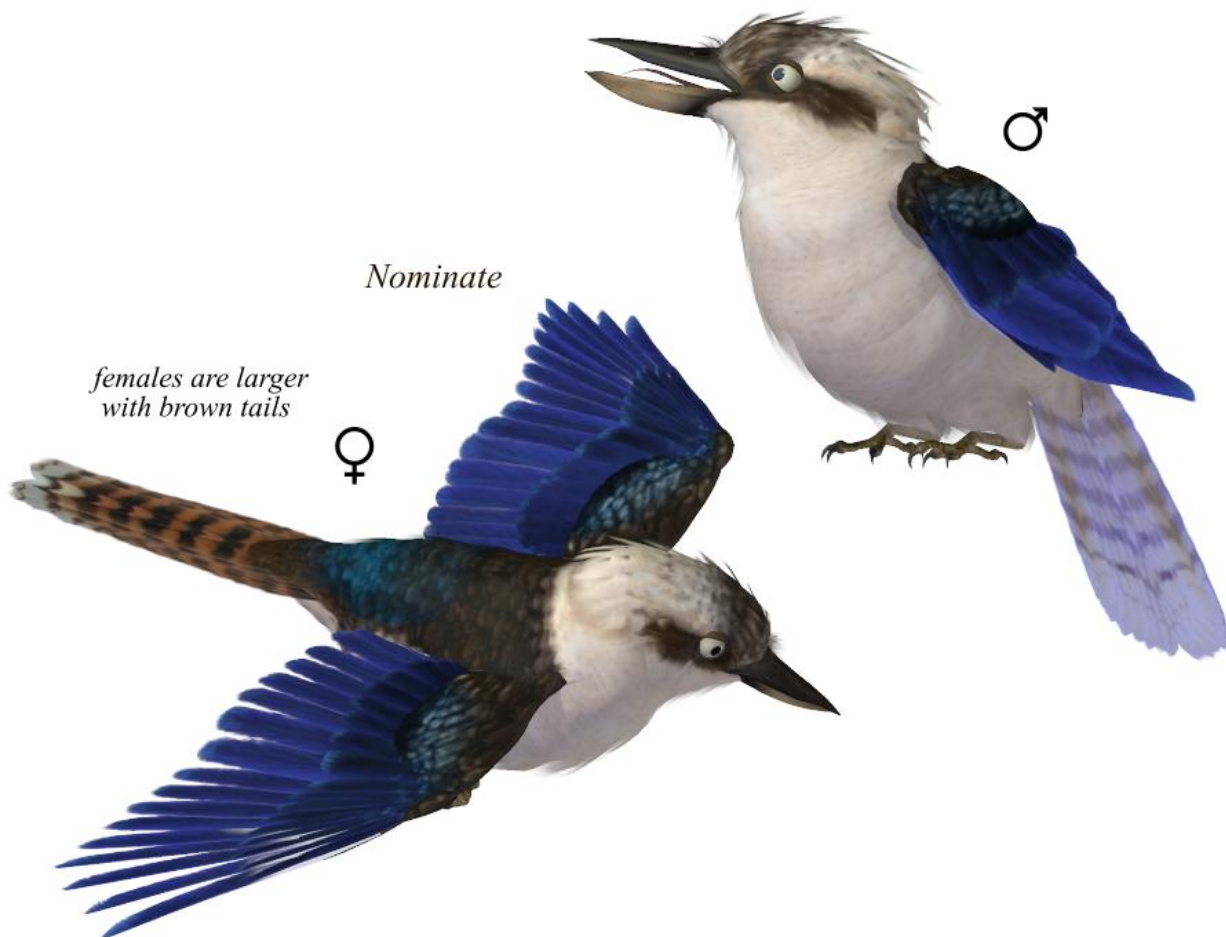
Common Name: Blue-winged Kookaburra

Scientific Name: *Dacelo leachii*

Size: 15-16.1 inches (38-41 cm)

Habitat: Australia; endemic to coastal and subcoastal areas in northwest and northeast Australia, Torres Strait and Southern New Guinea. It is widespread in the Gulf Country of Queensland extending South to about Toowoomba. It is also widespread in the top end of Northern Territory. It is absent from the Eighty Mile beach area in Western Australia separating the Pilbara population.

Typically found in savanna woodland and eucalypt open woodlands and forests, tall trees and woodlands along watercourses, riverine and littoral mangroves and monsoon forests. It avoids areas with dense under-storey. Also, it can be found in pasture and cultivated lands with stands of trees, or in plantations far from water, and large



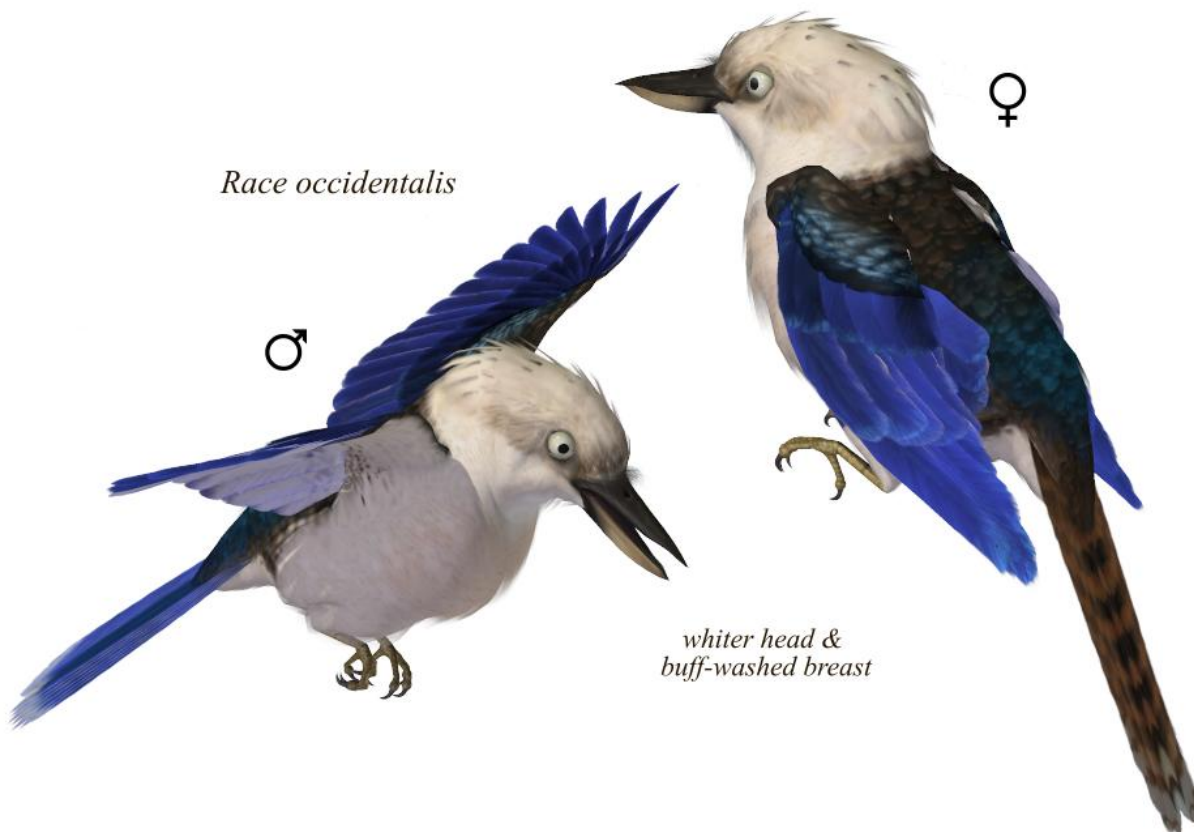
suburban parks and gardens. It mainly is found in the lowlands in New Guinea, but locally to 600 m. Where overlaps with the Laughing Kookaburra (*D. novaeguineae*), is usually more common away from water.

Status: Least Concern. **Global population:** 7,190,000 mature adults with a stable population trend. Blue-winged Kookaburras have suffered from loss of habitat resulting from land clearing, and are often killed on roads in Australia however have been expanding their territory in New Guinea with forests being cleared.

Diet: Mainly insects, reptiles and frogs in the wetter months, and fish, crayfish, scorpions, spiders, snakes, earthworms and small birds and mammals at other times.

After a controlled dive with their bill open, food is grabbed from the ground. The bill has a special groove near the end of the upper mandible which helps in holding prey. After returning to a perch, the prey is beaten and then swallowed. They show extra care when snakes are the prey. Pellets of undigested items are regurgitated and found beneath daytime perches, roosting sites and nests.

Breeding: A very large, distinctive kingfisher, with pale head and eye, blue wings and rump. The male of the nominate race has a faintly dark-streaked head, a gray-brown mantle and scapulars, a blue tail with blue-barred white outer feathers. The white under



parts are faintly vermiculated gray. The upper mandible is brownish-black with the lower mandible a creamy horn to pale yellow color with dark basal triangle. It has a white or pale yellow iris. Its legs and feet pale flesh-brown to greenish-gray. The female is slightly larger than male, with a rufous tail and upper tail-coverts. The tail barred with

blue-black stripes. The juvenile is like the female, but its crown paler, and the breast feathers are edged with dusky brown.

The nest site of the Blue-winged Kookaburra is mostly high (to about 25 m) up in natural tree hollows, sometimes in tree termite nests, or in a hole cut into the soft wood of a baobab tree. Typically, the floor of the chamber is lower than the entrance, with an overall length of 50 cm. The breeding pair share the incubation of the eggs and subsequent feeding, which extends for one to two months, and are often assisted by auxiliaries (helpers), mainly from the previous year's clutch. Two to four white eggs are laid in September through January.

Cool Facts: The scientific name commemorates the British zoologist William Elford Leach. Blue-winged Kookaburra family groups are often larger than those of the Laughing Kookaburra, with up to 12 members.

Their call is a loud maniacal screeching cackle developing into loud trills and then ending abruptly. Also a variety of trills, 'ow' notes, barks and hoarse screeches. Often call in groups from a high perch.

There are four subspecies:

- *D. I. intermedia*. It is found in southern and southeastern New Guinea from the Mimika River to the Fly River and from the Eloa River to Amazon Bay. Race *intermedia* is larger and darker above than the nominate, with the head strongly streaked, a blackish back, plain white below, and the upper mandible is blackish.
- *D. I. occidentalis*. It is found in western Pilbara and the Gascoyne regions of Western Australia. Race *occidentalis* has a whiter head, and buff-washed under parts.
- *D. I. cervina*. It is found on the Tiwi Islands (Melville, Bathurst) and adjacent mainland coastal areas of Northern Territory, in Northern Australia. Race *cervina* is smaller, darker above and below with its upper breast buffy colored.
- *D. I. leachii*. The nominate race is found in northern Australia east to Cape York Peninsula, south to Broome (North Western Australia) in west and to Brisbane (southeastern Queensland), rarely found to Byron Bay (northeastern New South Wales), in East.

Common Name: Black-eared Miner
Scientific Name: *Manorina melanotis*

Size: 9-10 ¼ inches (23-26 cm)

Habitat: Oceania; Australia. Murray Mallee region of South Australia, Victoria and New South Wales. It requires large blocks of long, unburnt and uncleared (older than 50 years), 5-8 m tall mallee type forest, with an under-story of small bushes, shrubs and chenopods. Its distribution in Victoria is positively correlated with stable dune fields with a relatively high loam level, amount of decorticated bark (from which it obtains much of its insect food), tree density, stem density, canopy cover and litter cover.



Status: **Endangered.** **Global Population:** 250-999 mature individuals with a declining population trend. It is endangered due to habitat destruction and alteration. This species has a very small population; numbers have declined and several locations have been lost. If present intensive conservation efforts are unable to stop the extirpation of the tiny sub-populations, then the species will be uplisted to Critically Endangered. However, if the early success of conservation actions is confirmed, the status of the species may improve.

Diet: Invertebrates and lerp.

Nesting: The plumage is largely gray above, with dull olive forehead merging into gray of crown, black facial mask (from bill narrowly over and below eye to ear-coverts) bordered below by an indistinct yellow moustachial stripe, gray submoustachial stripe and thin blackish malar stripe, and a small patch of bare yellow skin at rear of the eye (extending narrowly above and below rear half of the eye). In fresh plumage, there is fine grayish scaling on the side of neck and the mantle, back and scapulars. The upper tail is mostly gray-black with a broad paler gray tip and narrow olive-yellow edges at bases of the rectrices. The upper wing is black-brown, the secondary coverts and tertials are contrastingly dark gray, fine paler gray tips on median and greater coverts. The greater coverts are also with narrow with olive-yellow edges, olive-yellow outer edges of the remiges (prominent diffuse yellowish panel on folded wing). The outer primaries also have thin white tips when fresh. The chin to breast is with blackish-and-white scalloping merging into white below, gray wash on the flanks and thighs; sometimes yellowish tinge on chin. The under tail dark gray with slightly paler gray tip. The under wing is dark gray, with a diffuse whitish patch across bases of the primaries. The iris is dark brown and the bill and gape are yellow to orange-yellow. The legs are orange to brownish-orange.

Sexes alike in plumage with the male larger than the female. The juvenile is very much like the adult, differing in pale brown suffusion on upper body with no white scaling on side of neck, brownish suffusion on the tail tip, a more uniformly gray breast with less obvious scalloping and varying brown wash, narrow pale brown tips on median and greater upper wing-coverts (narrow wingbars). There are clearer whitish fringes at tips of the primaries, and the bill and eye patch slightly duller yellow.

Monogamous and pairs appear to remain together for life, only re-pairing upon the loss of a mate. Breeding males within a colony are close relatives, whereas females, the dispersing sex, are not. Nests have been found in all months. Nests are usually built in mallee eucalypts, either in upright forks, amongst small twigs and foliage, or on epicormic shoots, between 1.5-4.5m above ground.

Cool Facts: For years there has been controversy over the taxonomic status of the Black-eared Miner. Various authors have considered it a species, a subspecies or morphological variant of the Yellow-throated Miner and a subspecies of the Western Australian 'Dusky Miner'. There are morphological and behavioral differences between Black-eared and Yellow-throated Miners and evidence for marked ecological separation exists. DNA evidence finally brought the Black-eared Miner in to its own.

Black-eared Miners can interbreed with Yellow-throated Miners, resulting in fertile hybrids that display a range of intermediate plumages.

Like other Miners, the Black-eared is social and nest and roosts in small colonies.

Common Name: Zebra Finch
Scientific Name: *Taeniopygia guttata*

Size: 4 to 4 ½ inches (10-12 cm)

Habitat: Australia; found across the Australian mainland, with the exception of Cape York Peninsula and some coastal areas. They are also found in Timor and the Lesser Sunda Islands.

Most commonly found in the drier areas of Australia, living year round in social flocks of up to 100 or more birds. They can be found in a variety of habitats; grassland with scattered shrubs and trees, grassy woodlands, dry coastal and cultivated areas.

Status: Least Concern. **Global Population:** 308,000 individuals with a stable population trend. The introduction of artificial dams and water tanks has actually increased the Zebra Finch's natural range, as the birds need to drink on a regular basis. The Australian subspecies is widely kept as a caged bird.

Diet: Seeds, primarily millet; occasionally fruit and insects. Feeding takes place on the ground in large flocks, and, unlike some other grassfinches, birds never pull seed heads down with their feet. Zebra Finch (Lesser Sundas)

Grass seeds, taken mainly on the ground . Forages singly and in pairs, also in flocks of up to 100 or more individuals.



Breeding: The male has the top of its head and upper-parts gray, a white rump, the upper tail-coverts are black with white bars, the tail blackish and the ear-coverts orange to light chestnut. At the loreal area, there is a teardrop-shaped vertical white patch narrowly margined with black. The chin to the side of the throat and upper breast are gray. There is a black breast band tapering at ends, the lower breast to belly and under

tail-coverts are buff. The flanks are chestnut with white spots. The iris is deep red to orange. The eye ring is gray and the bill is orange-red to orange. The legs are pink. It differs from slightly from the larger subspecies *castanotis* mainly in lack of black bars on the throat and breast, the smaller black breast band is tapered (not broad) at ends and the creamy-buff (not white) lower underparts. The female lacks the chestnut on ear-coverts and flanks. The breast and flanks are unmarked gray and there is little or no breast band. The bill is orange-red to orange, which is normally paler than in male. The juvenile is like female but paler, with the white teardrop indistinctly bordered black and the bill black.

Zebra finches are monogamous, with long-lasting pair-bond. The female sometimes copulates with a second male, as well as with her social mate (about 10% of her broods fathered by two males). Usually in loose colonies of up to 50 nests, but generally many more adults present (up to 230 during breeding season and to 350 in non-breeding season), with several breeding nests in one bush. In the first stage of courtship, male flies towards female, perches upright with body parallel to her, and in greeting display he adopts horizontal posture, twists head and tail towards mate and bows towards her as he hops and pivots ever closer. She may join in a dance in which partners hop around each other, each keeping head and tail twisted towards the other.

In the second stage, male perches upright, head erect, and begins a song and dance, he fluffs feathers of belly, flanks and ear-coverts, sings, with legs flexed, swings body from side to side and keeps head toward female as he beams song to her. The male brings nest material and both sexes incorporate it into nest, a bulky and rounded structure with side entrance, made from dry grass, lined with fine, soft material, placed in thorny shrub or tree. The clutch is usually 4–6 eggs. The incubation period is 11–14 days and the nestling period is 17–18 days. The young feed themselves by 35 days after hatching. Juvenile first gives their subsong at 28–50 days, and at 80 days of age some sing adult song and breed in the wild.

Cool Facts: Zebra Finches are sometimes used as avian model organisms. They are commonly used to study the auditory processing capabilities of the brain, due to their ability to recognize and process other Zebra Finches' songs. Their popularity as model organisms is also related to their prolific breeding, an adaptation to their usually dry environment. This ability also makes them popular as pet songbirds, and they are usually found at relatively inexpensive prices.

Zebra Finches also need a lot of calcium, especially as pets. Lack of calcium can be fatal to females when laying eggs. A cuttlebone in a cage helps to provide a healthier diet. Zebra finches can be tamed with patience when it's the only bird in the cage.

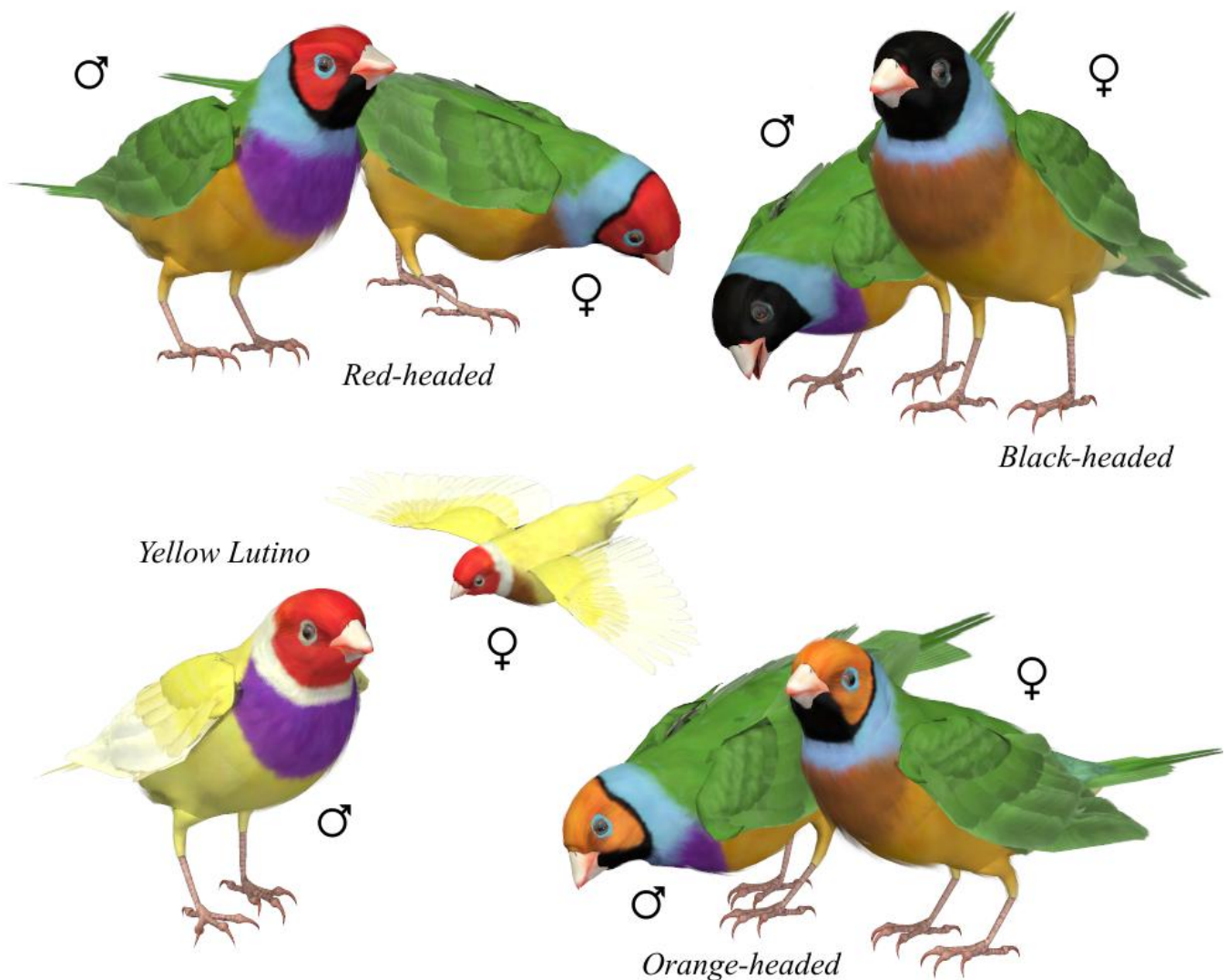
There are two subspecies of the zebra finch. The morphological differences between the subspecies include differences in size. *T. g. guttata* is smaller than *T. g. castanotis*. In addition, the *T. g. guttata* males do not have the fine barring found on the throat and upper breast and have smaller breast bands.

- *T. g. guttata*. The nominate species, the Timor zebra finch, extends from Lombok in the Lesser Sunda Islands or Nusa Tenggara in Indonesia to Sermata, in addition to coastal areas around the continent of Australia.
- *T. g. castanotis* is found over the wide range of continental Australia. it is sometimes split as the “Australian zebra” finch.

Common Name: Gouldian Finch
Scientific Name: *Erythrura gouldiae*

Size: 5 to 5 ½ inches 15 cm (including tail of 4 cm)

Habitat: Australia; patchily distributed in tropical northern sub-coastal areas from Derby, Western Australia, to the Gulf of Carpentaria and thinly to central Cape York Peninsula, but is locally common in the north and north-western parts of its range.



Gouldian Finches are seldom found far from water. Throughout its range the species inhabits the edges of mangroves and thickets, and savannas dotted with trees. Grassy open forest and woodlands in a mosaic of burnt and unburnt woodland in semi-arid regions, often near spear-grass (*Sorghum*). In wet season in patches of cockatoo grass

(*Alloteropsis semialata*), golden beard grass (*Chrysopogon fallax*) and spinifex (*Triodia*) but still near water. High densities of tree-cavities also required, since the species is an obligate cavity nester. The breeding habitat in Western Australia and Northern Territory characterized by rocky hills with smooth-barked gums (*Eucalyptus brevifolia* or *Eucalyptus tintinnans*) within 2–4 km of water (small permanent water-holes or springs).

Status: Near Threatened. **Global population:** 2,000 - 10,000 individuals with a stable population trend. It is scarce to uncommon, and local. It has suffered a substantial decline as a result of habitat modification. That decline, for now, appears to have ceased, leading to reclassification in 2012 from Endangered to Near Threatened.

The main threats appear to be grazing and altered fire regimes. Grazing by livestock leads to changes in species composition and phenology of grasses, especially reduction in abundance of grass species that set seed earliest in wet season. Cattle, horses and feral pigs graze wet-season grasses that are vital to this estrildid, and cattle and buffalo (*Bubalus*) damage water-holes used by it by trampling and grazing of surrounding vegetation. Adverse effects of large herbivores probably exacerbated by current fire regimes in northern Australia, which are dominated by frequent hot wildfires in late dry season over extensive tracts of terrain. The fires have had an adverse impact on seed productivity of key wet-season grasses on which this species relies early in year (a period of food scarcity), and this finch tends to shun burnt tree hollows as nesting sites.

Trapping may have had a local effect in the past. For a long time, it was believed that infection with an endo-parasitic mite (*Sternostoma tracheacolum*) was a principal reason for this species' decline, but such infection now thought more likely to indicate that these birds (and other granivorous species) were under stress owing to broader changes at landscape level. The recent short-term increases may represent recovery after an epidemic of parasitization. Further, climate change likely to affect timing and quantity of wet-season rainfall, which could lead to increase in frequency or intensity of wildfires, thereby altering abundance of important grass species and changing availability of surface water during dry season. Cavity nest-sites may be an important and potentially limiting resource; competition for nest-sites with Long-tailed Finches (*Poephila acuticauda*) can reduce fledging success in Gouldian Finches by up to 57%.

Management actions include implementation of a recovery plan, captive-breeding, detailed research on fire, food and the species' movements at Mornington Wildlife Sanctuary (Kimberley), maintenance of a database of sight records, and a review of patterns of distribution, habitats, potential threats and conservation status of granivorous savanna birds.

It is listed as Endangered under the Environment Protection and Biodiversity Conservation Act 1999.

Diet: Ripe or half-ripe grass seeds. During the breeding season, however, the diet consists almost entirely of insects. Insects are rich in protein and help satisfy the demanding appetite of the young birds.

Birds feed in small to large groups, and food may be taken on the ground or in flight. They align themselves on grass stems and moves up to seedhead. They also may jump up and pull down the stem to the ground, and then hold the stem under a foot and take seeds. They also perches on branches over tall grasses to take seeds from seedheads. They are social; occurring in small or large flocks-- most active in heat of the day. They are friendly with other finches and do well when kept in groups. They are often found with Zebra Finches and Society Finches.

Breeding: Male of black-headed morph (most common) has the forehead, crown and face to upper throat black, black bordered with light blue, which grades into green on nape. The green continues to back and upper wing. The rump and upper tail-coverts are blue. The tail, including long pointed central feathers transitions green to black. The breast below the blue band is purple, with the lower breast yellow, shading to white on lower belly and under tail-coverts. The iris is dark brown with the eye ring being pale bluish-gray. The bill is white with a red tip in non-breeding season and more extensively dark gray in breeding season. The legs are pinkish. Male red-headed morph (rare) has the forehead, crown and face red, narrowly outlined black in front of the blue border and over base of bill, black chin and upper throat. The golden-headed morph (rare) is similar, but face golden-yellow (not red). Domesticated strains vary in face color (red, black or yellow-orange) and in bill color (red or yellow), as well as in other parts of plumage, depending on presence or absence of melanins and carotenoids. Female is similar to male in pattern, but duller and paler, with central tail feathers only slightly elongated. The bill as in the male, but becomes mainly dark gray in breeding condition. The juvenile has the head and face gray, back and wings greenish-gray, tail short, breast pinkish-buff, belly yellowish-white, bill black with pale pink base and the eye ring dark gray.

Gouldian Finches breed readily both in colonies and as a pair in captivity. They use either open or covered nests. Both birds will build the nest. The female will lay a clutch of 4 to 8 eggs and they will hatch in 14 to 15 days. The young leave the nest about 18 to 21 days after they hatch and in 6 to 8 weeks will be on their own, after their first molt. Their adult plumage comes in between 6 and 12 months.

Cool Facts: This finch, sometimes called the "Lady Gouldian Finch", was named for Elizabeth Gould, wife of the British ornithological artist John Gould. Since Gould was neither a lord nor a knight, Mrs Gould did not hold the title 'Lady', so this name is a modern misnomer. 'Gouldian Finch' is the more common and accepted name which is used internationally.

Gouldian Finches are the stars in the Viewsonic Corporation logos.

The Gouldian Finch is the only grassfinch that nests exclusively in tree hollows or holes in termite mounds.

Common Name: Robust Silver-eye
Scientific Name: *Zosterops strenuus*

Size: 4½ to 6 inches (10-15 cm)

Habitat: Oceania; Australia. It was endemic to Lord Howe Island.

It was common in lowland forests, palm glades and the scrubby vegetation of more open and settled areas on Lord Howe Island.

Status: Extinct. **Global Population:** 0. The species did not come under threat until 1918, when a shipwreck resulted in colonization of the island by rats, which fed on eggs and nestlings. By 1928, the bird was extinct.

Diet: Silver- and White-eyes are highly flexible foragers. It fed on fruit (so much so that it was regarded as a pest of crops), insects, flowers and other birds' eggs.



Foliage gleaning is the most common mode of foraging, but they also hawk, snap prey from a substrate (even small insects caught in spiders' webs), probe small clefts in clumps of leaves, bark, buds, flowers, and nests of other birds by forcefully opening the bill to widen the clefts in search of arthropod prey, and scavenge on the ground.

Flocking in winter helps to locate sources of food in woodlands as well as to detect predators. They collect nectar with a brush-tipped tongue, peck succulent fruit, and swallow berries. They are known to disperse figs and other seeds of trees and shrubs.

Breeding: It was olive to olive-brown above, with a broad white ring around each eye, and a patch of gray across the shoulders and upper back. It was brown to gray-brown below, with a yellow throat, cream belly, cream thighs and a yellow under tail. It had brown irises, a long and slender, blue-black bill, and blue-gray legs and feet. The sexes were reportedly similar in appearance.

The nest is cup-shaped and mostly made of plant fibers. It is usually slung in a slender fork under cover of vegetation at any height.

Cool Facts: Silver or White-Eyes get their names from rings of white feathers around their eyes.

John Gould, the famed Australian ornithologist wrote of the Silver-eyes in 1865 'The present new species is the largest member yet discovered of a group of birds comprising numerous species'.

Special Thanks to...

- **2010 Release:** Bea, FlintHawk, Kelvin, Jan, Nancy, Sandra and Walter; also Kat (DAZ QA) and Rhonda (my wife)
- **2022 Re-release:** Alisa and FlintHawk

Species Accuracy and Reference Materials

Many birds of the same species do vary considerably in color. This package tries to emulate the colors and markings in the most commonly found variants.

The author-artist has tried to make these species as accurate to their real life counterparts as possible. With the use of one generic model to create dozens of unique bird species, some give and take is bound to occur. The texture maps were created in Painter with as much accuracy as possible. Photographic references from photographs from various Internet searches and several field guides were used.

Field Guide Sources:

- Wikipedia (<http://www.wikipedia.com>)
- Cornell Labs Birds of the World (<https://birdsoftheworld.org>)
- Birdlife International (<http://www.birdlife.org>)
- Birds in the Backyard <http://birdsinyard.net>
- OZ Animals <http://www.ozanimals.com>
- Jigger Juice: Plants of the Murray Mallee <http://www.jiggerjuice.net/plants/index.html>
- FloraBase: Western Australian Flora <http://florabase.calm.wa.gov.au/>
- WWF <http://www.worldwildlife.org>

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