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BIRDS OF AUSTRALIA

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ILLUSTRATIONS BY
JOHN GOULD

TEXT BY ABRAM RUTGERS





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CONTENTS

CASSOWARIES, *Casuariidae*
One-wattled Cassowary, *Casuarius unappendiculatus* 2
Bennett's Cassowary, *Casuarius bennetti* 5

KIWIS, *Apterygidae*
Kiwi, *Apteryx australis* 6
Owen's Kiwi, *Apteryx oweni* 9

EMUS, *Dromiceiidae*
Emu, *Dromiceius novaehollandiae* 10

MEGAPODES, *Megapodiidae*
Mallee Fowl, *Leipoa ocellata* 13
Scrub Fowl, *Megapodius reinwardt* 14

HEMIPODES, *Turnicidae*
Collared Hemipode, *Pedionomus torquatus* 17
Black-breasted Quail, *Turnix melanogaster* 18

BUSTARDS, *Otidae*
Australian Bustard, *Choriotis australis* 21

CRANES, *Gruidae*
Australian Crane, *Grus rubicunda* 22

RAILS, *Rallidae*
Eastern Swamp-hen or Bald Coot,
Porphyrio poliocephalus melanotus 25
Western Swamp-hen, *Porphyrio poliocephalus bellus* 26
Red-necked Rail, *Rallina tricolor* 29
Black-tailed Water-hen, *Tribonyx ventralis* 30

JACANAS, *Jacanidae*
Lilytrotter or Lotus-bird,
Irediparra gallinacea novaehollandiae 33

THICK-KNEES, *Burhinidae*
Scrub Curlew, Stone Curlew, *Burhinus magnirostris* 34

OYSTERCATCHERS, *Haematopodidae*
Pied Oystercatchers, *Haematopus ostralegus longirostris* 37

PRATINCOLES, *Glareolidae*
Australian Pratincole, *Stiltia isabella* 38

PLOVERS, *Charadriidae*
Spur-winged Plover, *Lobibyx novae-hollandiae* 41
Red-capped Dotterel, *Charadrius alexandrinus ruficapillus* 42

STILTS and AVOCETS, *Recurvirostridae*
Banded Stilt, *Cladorhynchus leucocephalus* 45

TERNS, *Laridae*
Crested Tern, *Thalasseus bergii* 46
Noddy Tern, *Anous stolidus pileatus* 49

STORM-PETRELS, *Hydrobatidae*
Grey-backed Storm-petrel, *Garrodia nereis* 50

GEESE, SWANS and DUCKS, *Anatidae*
Cape Barren Goose, *Cereopsis novae-hollandiae* 53
Magpie Goose, *Anseranas semipalmata* 54
Maned Duck, *Chenonetta jubata* 57
Cotton Teal, *Nettapus coromandelianus* 58
Black Swan, *Cygnus atratus* 61
White-headed Shelduck, *Tadorna radjah* 62
Blue-winged Shoveler, *Spatula rhynchotis* 65
Pink-eared Duck, *Malacorhynchus membranaceus* 66
Musk Duck, *Biziura lobata* 69

IBISES, *Threskiornithidae*
Straw-necked Ibis, *Threskiornis spinicollis* 70

HERONS, *Ardeidae*
Pied Heron, *Notophoyx picata* 73
Mangrove Bittern, *Butorides striatus* 74

HAWKS and EAGLES, Falconiformes
Osprey, *Pandion haliaetus* 77
Black-cheeked or Peregrine Falcon, *Falco peregrinus* 78
Red Goshawk, *Erythrotriorchis radiatus* 81
Black-breasted Buzzard, *Hamirostra melanosterna* 82
Letter-winged Kite, *Elanus scriptus* 85
Crested Hawk, *Aviceda subcristata* 86
Spotted Harrier, *Circus assimilis* 89

PELICANS, *Pelecanidae*
Australian Pelican, *Pelecanus conspicillatus* 90

TROPIC-BIRDS, *Phaëthontidae*
Red-tailed Tropic-bird, *Phaëthon rubricauda* 93

FRIGATE-BIRDS, *Fregatidae*
Lesser Frigate-bird, *Fregata ariel* 94

DARTERS, *Anhingidae*
Australian Darter, *Anhinga novae-hollandiae* 97

CORMORANTS, *Phalacrocoracidae*
Cormorant, *Phalacrocorax fuscescens* 98

ALBATROSSES, *Diomedeidae*
Black-browed Albatross, *Diomedea melanophrys* 101

PENGUINS, *Spheniscidae*
Rock-hopper Penguin, *Eudyptes crestatus* 102

CUCKOOS, *Cuculidae*
Oriental Cuckoo, *Cuculus saturatus* 105
Shining Bronze Cuckoo, *Chalcites lucidus* 106
Channel-billed Cuckoo, *Scythrops novae-hollandiae* 109

PIGEONS, *Columbidae*
Red-crowned Pigeon, *Ptilinopus regina* 110
White-headed Pigeon, *Columba norfolciensis* 113
Top-knot Pigeon, *Lopholaimus antarcticus* 114
Crested Pigeon, *Ocyphaps lophotes* 117
Red-plumed Pigeon, *Lophophaps ferruginea* 118

PARROTS and PARRAKEETS, *Psittacidae*
Kakapo, *Strigops habroptilus* 121
Kea, *Nestor notabilis* 122
Rainbow Lorikeet, *Trichoglossus moluccanus* 125
Blue-browed Lorikeet, *Opopsitta coxeni* 126
Great Palm Cockatoo, *Probosciger aterrimus* 129
Red-tailed Black Cockatoo, *Calyptorhynchus magnificus* 130
White-tailed Black Cockatoo, *Calyptorhynchus baudini* 133
Gang-gang Cockatoo, *Callocephalon fimbriatum* 134
Pink Cockatoo, *Kakatoe leadbeateri* 137
Galah, *Kakatoe roseicapilla* 138
Long-billed Corella, *Kakatoe tenuirostris* 141
Princess Parrot, *Polytelis alexandrae* 142
King Parrot, *Alisterus scapularis* 145
Crimson Rosella, *Platycercus elegans* 146
Green Rosella, *Platycercus caledonicus* 149
Yellow Rosella, *Platycercus flaveolus* 150
Eastern Rosella, *Platycercus eximius* 153
Northern Rosella, *Platycercus venustus* 154
Twenty-eight Parrot, Yellow-naped Parrakeet, *Barnardius semitorquatus* 157
Golden-shouldered Parrot, *Psephotus chrysopterygius* 158
Scarlet-chested Parrot, *Neophema splendida* 161

ZOOLOGICAL 1262 (M) CALCUTTA ALIPORE

TYPICAL OWLS, *Strigidae*
Boobook Owl, *Ninox boobook* 162
Spotted Owl, *Ninox novae-zeelandiae* 165
Winking Owl, *Ninox connivens* 166
Powerful Owl, *Ninox strenua* 189

OWLET-NIGHTJARS, *Aegothelidae*
Owlet-nightjar, *Aegotheles cristata* 170

FROGMOUTHS, *Podargidae*
Marbled Frogmouth, *Podargus ocellatus* 172
Plumed Frogmouth, *Podargus plumiferus* 174

BEE-EATERS, *Meropidae*
Rainbow-bird, *Merops ornatus* 177

ROLLERS, *Coraciidae*
Dollar-bird, *Eurystomus orientalis pacificus* 178

KINGFISHERS, *Alcedinidae*
Laughing Kookaburra, *Dacelo gigas* 181
Blue-winged Kookaburra, *Dacelo leachii cervina* 182
Sacred Kingfisher, *Halcyon sancta* 185
Forest Kingfisher, *Halcyon macleayi* 186
Azure Kingfisher, *Ceyx azureus* 189
White-tailed Kingfisher, *Tanysiptera sylvia* 190

PITTAS, *Pittidae*
Blue-breasted Pitta, *Pitta mackloti* 193

LYREBIRDS, *Menuridae*
Superb Lyrebird, *Menura superba* 194
Prince Albert's Lyrebird, *Menura alberti* 197

SCRUB-BIRDS, *Atrichornithidae*
Noisy Scrub-bird, *Atrichornis clamosus* 198

WARBLERS, *Sylviidae*
Purple-crowned Wren, *Rosina coronata* 201
Blue Wren, *Malurus cyaneus* 202
Blue-breasted Wren, *Malurus pulcherrimus* 205
Turquoise Wren, *Malurus callaïnus* 206
Western Gras-wren, *Amytornis textilis* 209
Emu Wren, *Stipiturus malachurus* 210
Spotted Scrub-wren, *Sericornis maculatus* 213
Little Thornbill, *Acanthiza nana* 214
Yellow-tailed Thornbill, *Acanthiza chrysorrhoa* 217
Rock Warbler, *Origma solitaria* 218
Reed Warbler, *Acrocephalus australis* 221
Golden-headed Fantail-warbler, *Cisticola exilis* 222

THRUSHES, *Turdidae*
Crimson Chat, *Ephthianura tricolor* 225

FLYCATCHERS, *Muscicapidae*
Log-runner, *Orthonyx temmincki* 226
Grey-crowned Babbler, *Pomatostomus temporalis* 229
Eastern Whipbird, *Psophodes olivaceus* 230
Wedgebill, *Sphenostoma cristatum* 233
Red-throated Whistler, *Pachycephala rufogularis* 234
Grey Shrike-thrush, *Colluricincla harmonica* 237
Grey Fantail, *Rhipidura fuliginosa* 238
Rufous Fantail, *Rhipidura rufifrons* 241
Satin Flycatcher, *Myiagra cyanoleuca* 242
Black-faced Flycatcher, *Monarcha melanopsis* 245
Flame Robin, *Petroica phoenicea* 246
Southern Yellow Robin, *Eopsaltria australis* 249
Northern Scrub-robin, *Drymodes superciliaris* 250

NUTHATCHES, *Sittidae*
Black-capped Sitella, *Neositta chrysoptera pileata* 253

FLOWERPECKERS, *Dicaeidae*
Mistletoe-bird, *Dicaeum hirundinaceum* 254
Spotted Pardalote, *Pardalotus punctatus* 257

SUNBIRDS, *Nectarinidae*
Yellow-breasted Sunbird, *Cyrtostomus frenatus* 258

HONEY-EATERS, *Meliphagidae*
White-naped Honey-eater, *Melithreptus lunatus* 261
Regent Honey-eater, *Zanthomiza phrygia* 262
Yellow Wattle-bird, *Anthochaera paradoxa* 265
Noisy Friar-bird, *Philemon corniculatus* 266
Banded Honey-eater, *Myzomela pectoralis* 269
Blue-faced Honey-eater, *Entomyzon cyanotis* 270
Bell Miner, *Manorina melanophrys* 273
Western Spinebill, *Acanthorhynchus superciliosus* 274

WHITE-EYES, *Zosteropidae*
Grey-backed Silver-eye, *Zosterops lateralis halmaturina* 277

SWALLOWS, *Hirundinidae*
Welcome Swallow, *Hirundo tahitica neoxena* 278
Fairy Martin, *Petrochelidon ariel* 281

CURRAWONGS and AUSTRALIAN BUTCHER-BIRDS, *Cracticidae*
Black Currawong, *Strepera fuliginosa* 282
White-backed Magpie, *Gymnorhina tibicen hypoleuca* 285
Grey Butcher-bird, *Cracticus torquatus* 286

WOOD-SWALLOWS, *Artamidae*
Masked Wood-swallow, *Artamus personatus* 289
White-breasted Wood-swallow, *Artamus leucorhynchus* 290

MUDNEST-BUILDERS, *Grallinidae*
White-winged Chough, *Corcorax melanorhamphos* 293
Apostle-bird, *Struthidea cinerea* 294

WATTLE-BIRDS, *Callaeidae*
Huia, *Heteralocha acutirostris* 297

BIRDS OF PARADISE, *Paradisaeidae*
Manucode, *Phonygammus keraudreni* 298
Paradise Rifle-bird, *Ptiloris paradiseus* 301
Victoria Rifle-bird, *Ptiloris victoriae* 302
Magnificent Rifle-bird, *Ptiloris magnificus* 305
Standard Wing, *Semioptera wallacei* 306

BOWER-BIRDS, *Ptilonorhynchidae*
Great Bower-bird, *Chlamydera nuchalis* 309
Regent Bower-bird, *Sericulus chrysocephalus* 310
Green Catbird, *Ailuroedus crassirostris* 313

CUCKOO-SHRIKES, *Campephagidae*
Ground Cuckoo-shrike, *Pteropodocys maxima* 314

DRONGOS, *Dicruridae*
Spangled Drongo, *Dicrurus hottentottus bracteatus* 317

WEAVER-FINCHES, *Estrildidae*
Gouldian Finch, *Erythrura gouldiae* 318

STARLINGS, *Sturnidae*
Shining Starling, *Aplonis metallica* 321

JOHN GOULD (1804-1881) was one of the most influential British ornithologists of the period. A noted collector, and the author of many books and nearly 300 articles for scientific journals, he also illustrated no fewer than 41 folio volumes. He is chiefly remembered for his gifts as an artist and observer of wild life, and the lithographs from his drawings and sketches are now much prized.

In Europe, and also in Australasia, ornithology has made enormous strides in the last 125 years and we now known considerably more about the distribution, habits and behaviour of our native birds. In spite of this, John Gould's plates have stood the test of time - and rightly so, for they must still be numbered among the masterpieces of ornithological art.

The present volume reproduces 160 of the plates that first appeared in his *The Birds of Australia* (which also included a number of New Zealand and New Guinea birds). The text for each illustration incorporates all new findings that have come to light since Gould's day.

ABRAM RUTGERS is a leading Dutch ornithologist and author of over twenty books. Those which have already appeared in Britain include: *The Handbook of Foreign Birds* (Volumes I & II) and *Budgerigars*.

He is a member of the *Avicultural Society*, the *Foreign Bird League* and numerous Continental societies.

ONE-WATTLED CASSOWARY,

Casuarius unappendiculatus

(app. 135 cm - 54 in)

Only a few of these birds, which may weigh more than 150 lbs, are still found in the tropical rain forests of New Guinea and the neighbouring islands. They live mainly on ripe juicy fruits that have fallen from the trees.

The head is covered in a sturdy helmet formed by the nose and skull bones, which serves to protect the bird when running at speed through the dense undergrowth. The feet are very strong; there are three toes, and the inside one has a long, sharp claw which is used in fighting. Cassowaries cannot fly, indeed they only have six flight feathers and these are developed into horny quills.

These giant birds hide in dark woods by day and come out towards evening to feed among the trees and bushes. The eggs are pale green with patches of dark green and they have a rough surface. They measure about $4^1/_2$ x $3^1/_2$ inches and weigh more than one pound. They are incubated by the male alone, but both parents look after the young.

John Gould saw a Cassowary and its egg for the first time in a zoo in Amsterdam. These birds are occasionally kept in zoos, where they often become very tame.





BENNETT'S CASSOWARY,

Casuarius bennetti

(app. 102 cm - 40 in)

This much smaller Cassowary lives in the same dark, humid habitat. In addition to many kinds of fruit it also eats the young shoots of ferns and other plants. It too leads a very secluded life in the tropical rain-forests. Only a few survive today in eastern New Guinea and also in New Britain. It was from there that Dr George Bennett sent his first specimen to England by boat in 1858. It was a young bird that had been hand-reared by the natives and was very tame.

The feathers are loose and hair-like and there are no tail-feathers at all. Fully grown birds are incredibly fast and very difficult to catch. The unfeathered parts are well-illustrated here; these shine vividly and are at their most colourful during the mating season. These birds can not only run very fast, but can swim with ease over broad rivers. They will eat almost anything and soon become accustomed to life in captivity. They need a dark shed for roosting at night and like the shade of dense bushes during the daytime. They have a piping and chirping call.

The eggs are green and measure about 4 x 3 inches. As in all the other cassowaries they are incubated by the male bird.

KIWI, *Apteryx australis*
(app. 55 cm - 22 in)

This strange bird inhabits the humid forests of New Zealand. Like the Cassowaries it has hair-like feathers and cannot fly; the thorax even lacks the ridge for the attachment of the wing muscles. The nostrils are placed at the tip of the long beak and in contrast to its sight which is poor, its sense of smell is keenly developed. Kiwis run fast with their beaks pointing to the ground and they have no difficulty in finding the way back to the nest at night. They feed at night on worms and insects which they hunt by scent.

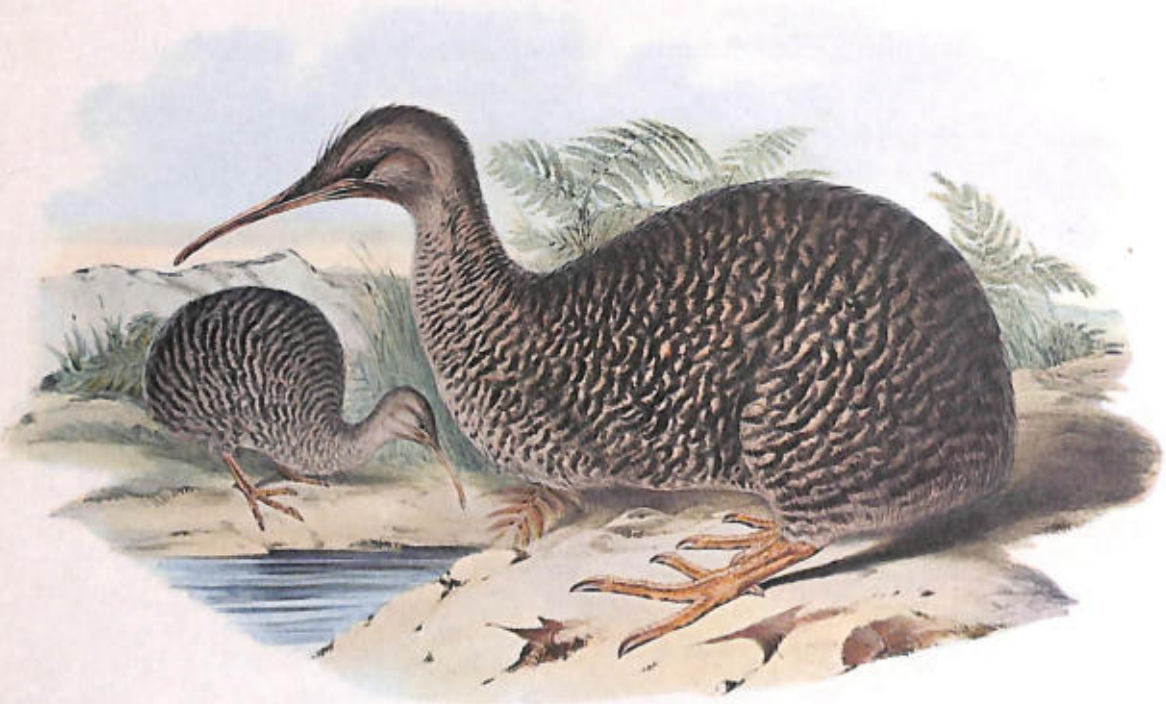
The birds dig holes for shelter by day preferably among tree roots, using their powerful feet which have sharp-clawed front toes and a spur-like back toe.

The kiwi illustrated here is an inhabitant of the South Island of New Zealand, but in spite of complete protection, it is very rarely seen. Birds that cannot fly are always easy prey for predators, such as cats and dogs that have become wild.

The hen, which is larger than the male, lays one egg (rarely two) which is about five inches long and weighs almost a pound; it is incubated by the cock for about eighty days. The nest is in an underground burrow. Kiwis have been kept in some zoos but they need a very large supply of worms.

ZOOLOGICAL GARDEN
CALCUTTA
ALIPORE





OWEN'S KIWI, *Apteryx oweni*

(app. 52 cm - 20 in)

This bird is found in small numbers in restricted areas in the forests of the South Island of New Zealand where there is plenty of moss and fern. Thanks to last-minute protection measure it is now holding its own. The species is easily distinguished from the Common Kiwi by the small, dark diagonal stripes over a pale brown background colour, but in their habits the two are similar. During the day they remain in the holes they have dug under tree roots, while at night they are out and about, running with beaks just above the ground. The bristly hairs at the base of the beak probably act as tactile organs. The cock utters a shrill, high, whistling sound, hence its name, which is originally Maori.

People have been able to study the nocturnal habits of these birds in captivity. One specimen which lived for more than twenty years in an enclosure with pheasants, used to scratch out its own food in winter and summer, but refused to touch anything placed in front of it. When taken from its roosting place in daytime and put down some twenty yards away, it would stand motionless for a few seconds before running straight back with the typical rolling gait and down-pointed beak.

Gould made this painting from a specimen sent him by a collector in Sydney.

EMU, *Dromaius novaehollandiae*

(app. 190 cm - 75 in)

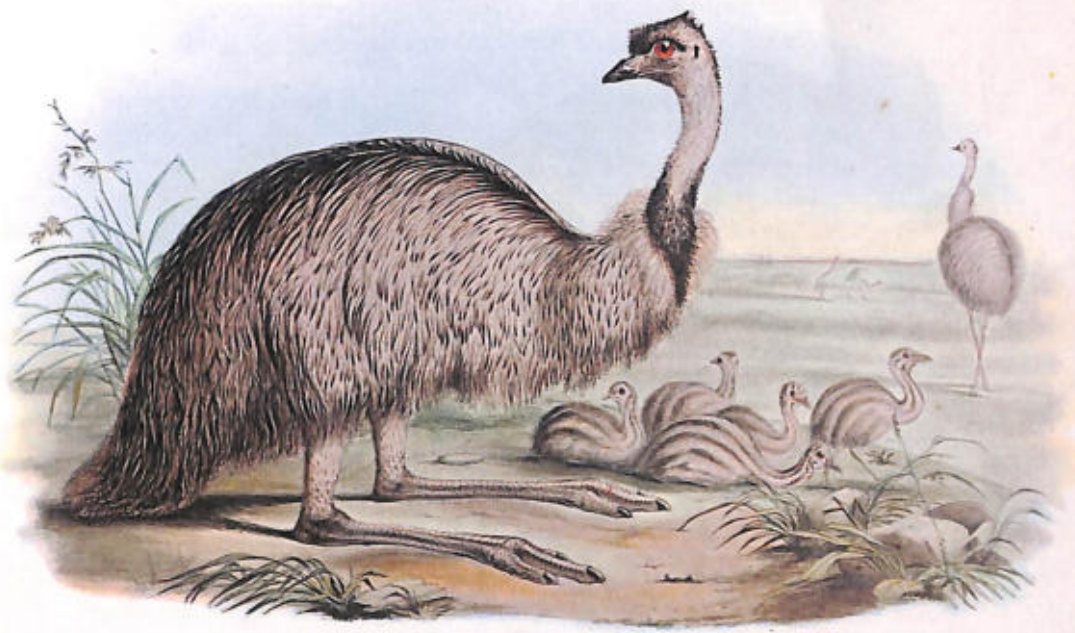
After the Ostrich the Emu is the largest bird alive today. Emus are fairly common in Australia and also in Tasmania where they have been re-introduced. They wander over the broad plains in pairs or small groups. Although their main food is fruit, they also eat plenty of vegetation, so that in sheep-farming country they are regarded as pests. They are steadily being driven out of the cultivated parts, and if it were not for special nature reserves their fate would be a sorry one.

The hen lays 7-10 dark green eggs, each weighing about $1^1/_2$ lbs. and measuring $5^1/_2$ inches in length; they have a rough surface when freshly laid. The cock incubates the eggs for some sixty days and tends the chicks for the first few days after hatching.

The male is usually a little larger than the female and makes guttural noises whereas the female has booming calls, but both sexes grunt and hiss.

Emus breed regularly and successfully in zoos, but they have to be kept in separate enclosures for they are apt to become aggressive towards other birds and mammals.

Despite their great weight, some 120 pounds, they can run at 25-30 m.p.h. and they are excellent swimmers. Emus can defend themselves by kicking sideways or backwards.



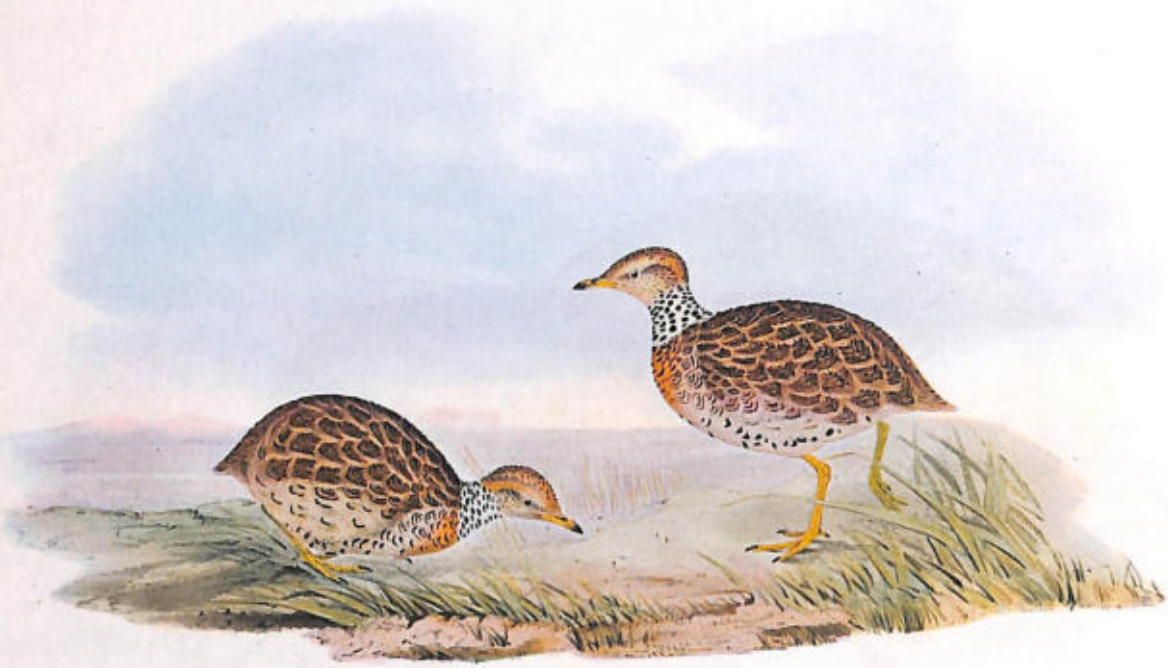
SCRUB FOWL, *Megapodius reinwardt*

(app. 33 cm - 13 in)

These birds are found in pairs or small family groups in the tropical rain-forests of north Australia, New Guinea and some of the neighbouring islands. They are shy and when approached they fly up or run away fast to some hiding-place in the undergrowth. The nesting mounds are found in coastal areas and are made of sand, shells, black earth, leaves, twigs and pieces of rotting vegetation. These incubating ovens may be up to twelve feet high and are used and extended year after year so that they sometimes reach a circumference of forty feet. Each pair has its own nesting mound. The eggs are placed vertically with the pointed end downwards in holes 18 inches to 3 feet deep. They have very large yolks, which are sometimes more than twice as heavy as the white. They are at first pale pinkish-brown but after a few days in the mound they become coffee-coloured. The breeding season lasts from September to December or January.

Scrub Fowls lead a secluded life. They feed on fruits, seeds, berries and young shoots. Morning and evening they utter their loud, harsh cry which is rather like that of a peacock.





COLLARED HEMIPODE,

Pedionomus torquatus

(app. 15 cm - 6 in)

These graceful birds lived in western Victoria, western New South Wales, South Australia and parts of central Australia, where they are also known as the Plain Wanderers. They feed on seeds and insects. When in danger they can easily conceal themselves thanks to their protective coloration. They have the habit of running fast through the grass on their toes, with their necks outstretched, in order to have the best possible view. They only fly when compelled to do so.

The nest consists of a shallow hollow, usually beside a tussock of grass. The four eggs are greyish-white with fine brown and grey patches and dots. The young leave the nest as soon as they hatch and are adept at concealing themselves. The breeding season is from September to January or February.

The birds remind one very much of small bustards. Their call has a hollow ring. Observations on these birds in captivity suggest that they are at least partly nocturnal in their habits.

The male, who hatches the eggs and rears the young, is a little smaller than the hen and duller in colour.

BLACK-BREASTED QUAIL,

Turnix melanogaster

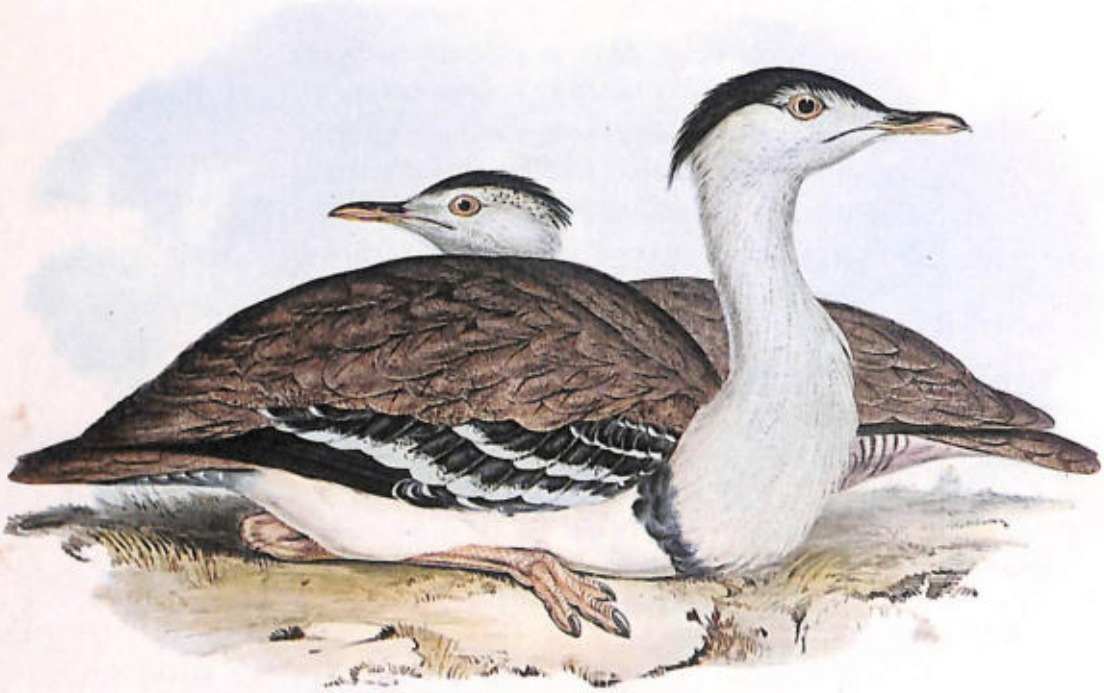
(app. 18 cm - 7 in)

Small numbers of these birds are found in Queensland and New South Wales where they lead a very secluded life, rarely venturing beyond the forest edge into open country. The cock, which is smaller than the hen, is recognized by the brown on the top of the head and the whitish throat. Gould never saw these birds in the wild state, but obtained a few specimens from Moreton Bay near Sydney and named them *Hemipodius melanogaster* as long ago as 1837. He recorded no particular distinguishing marks, but mentioned that the larger of the birds was probably the hen.

Black-breasted Quails are particularly active in the evening and early morning, uttering their loud call. They live in pairs and build a simple nest under a low bush or near a tussock of grass, just scratching a hollow with their feet for the hen to lay her three or four eggs. These are pale-buff with minute reddish-brown freckles interspersed with chestnut-brown, greyish-purple and black spots, with an underlay of very pale lilac-grey. The cock incubates the eggs alone and the hen guards the territory.

Black-breasted Quails feed on seeds, vegetation and insects. The young are led about by the cock, taking the food out of his beak during the first few days. They develop very quickly, soon learn to fly and are fully grown at six weeks. They can breed when they are only four to five months old.





AUSTRALIAN BUSTARD,

Choriotis australis

(app. 114 cm - 45 in)

These large ground-dwelling birds are generally distributed over the whole of Australia. They like open country where the view is uninterrupted. They run across the grassy plains in pairs or small groups searching for grasshoppers, beetles and crickets which are their main food. Apart from these they also eat berries and other fruits, grass and herbs. That they are shy and suspicious is partly due to the way they are persecuted by people who enjoy their flesh. Man is their chief enemy, though nowadays introduced foxes are becoming a great danger to all ground-dwelling birds that breed in open country. The cock is a little larger and deeper in colour than the hen, and his crest feathers are longer as is clearly illustrated here by the bird in the front of the picture.

The cock's call is loud and hollow, he throws his head back and greatly inflates the vocal sac. During courtship the cock is an extraordinary sight with the tail-feathers turned up over his back and the throat feathers and crest widely extended.

Although these birds weigh up to 18 pounds and usually put their trust in their strong legs, they can fly very well, taking a long run first in order to get off the ground. One or two eggs are usually laid on the bare ground under a low bush or in some tall grass. The eggs are olive-green mottled with brown.

AUSTRALIAN CRANE, BROLGA,

Grus rubicunda

(app. 102 cm - 40 in)

This crane is distributed over the whole of Australia except the south-west and also occurs in the southern parts of New Guinea. In Australia it is also called the Native Companion or Brolga. These cranes live in pairs during the breeding season and in flocks during the rest of the year. They inhabit the broad plains, frequenting the marshy areas and in some places they are resident, in others nomadic.

The walk is dignified and the flight gracious and easy. They frequently cover considerable distances across the continent and fly at great heights. They also have the habit of gliding in wide circles high in the air. The dances they perform are celebrated and known as 'quadrille parties' or 'corroborees'.

The usual call is a trumpeting sound. There are no external differences between the sexes except that the female is a little smaller.

Australian cranes feed mainly on insects, frogs, small reptiles and mammals and also on various kinds of vegetable matter.

The two eggs are laid on the bare ground along the coast or in a marsh. Sometimes they will be surrounded by some plants, grass and bents. They are about $3^1/_2$ inches long, light brown or white with purple-red or brownish markings.

Both parents hatch and rear the young, which leave the nest soon after hatching.



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The walk is dignified and the flight gracious and easy. They frequently cover considerable distances across the continent and fly at great heights. They also have the habit of gliding in wide circles high in the air. The dances they perform are celebrated and known as 'quadrille parties' or 'corroborees'.

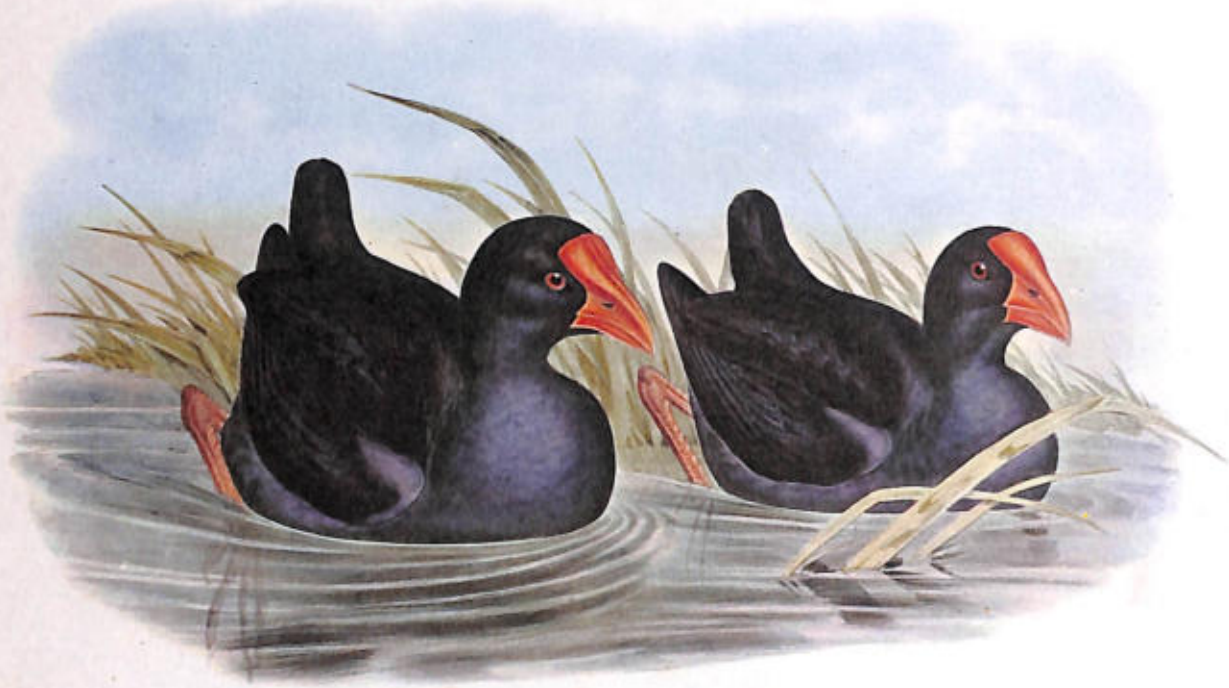
The usual call is a trumpeting sound. There are no external differences between the sexes except that the female is a little smaller.

Australian cranes feed mainly on insects, frogs, small reptiles and mammals and also on various kinds of vegetable matter.

The two eggs are laid on the bare ground along the coast or in a marsh. Sometimes they will be surrounded by some plants, grass and bents. They are about $3^1/_2$ inches long, light brown or white with purple-red or brownish markings.

Both parents hatch and rear the young, which leave the nest soon after hatching.





EASTERN SWAMP-HEN or BALD COOT, *Porphyrio poliocephalus melanotus*

(app. 40 cm - 15.5 in)

These coots are fairly common in Australia (excluding the south-west) and Tasmania, and there are related subspecies in Asia, New Zealand and many other islands. They live close to water, along the edges of rivers and in swamps where they can find plenty of food - aquatic snails, insects, seeds and water plants. They are active in the evening and early morning and also appear in inhabited areas, where they may do a lot of damage in gardens and fields.

They walk very fast and only take to the wing when closely threatened. They are easily tamed and will wander freely round the garden, where they like to perch on a shed or a hut. They have a peculiar habit of clutching the food in one claw whilst eating. They are excellent swimmers.

Bald Coots build a loose nest of reeds, rushes and other plants on a tussock or on a platform of broken reeds. The 5-7 eggs are pale creamy-brown covered with purple-brown and grey markings. The breeding season is from August to December or January. There is no difference in appearance between the sexes.

WESTERN SWAMP-HEN,

Porphyrio poliocephalus bellus

(app. 43 cm - 17 in)

The Western Swamp-hen is a regional subspecies with a range restricted to south-western Australia. It is most frequently seen in pairs or parties in the reed-beds and marshes of the Swan River or on the lakes and rivers near Perth and Fremantle. In many respects this race is more handsome than the Bald Coot; the colours are more varied, with a beautiful azure-blue on the breast and throat, and the bird is also a little larger. All the different races share the same habits; they feed on water plants and aquatic animals, slugs, worms, grass and other vegetation.

The nest is made of rushes, water-plants and reed-flowers and rests on a layer of broken reeds. It is usually placed near the water, lying in the open among grasses or bushes. The 4-7 eggs are creamy-brown, covered with fine grey or purplish-grey markings over which there is a scattering of purplish-red dots.



BLACK-TAILED WATER-HEN,

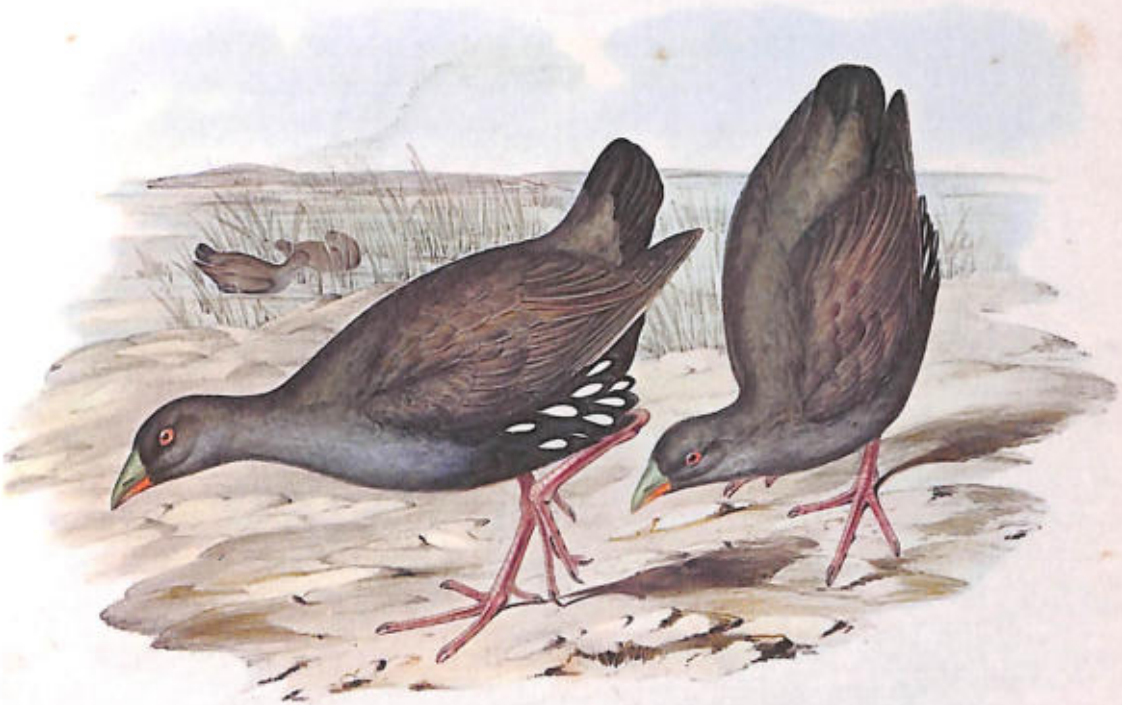
Tribonyx ventralis

(app. 25 cm - 10 in)

These rather dull-coloured birds are found all over Australia except the interior of Western Australia. Very occasionally they are seen in New Zealand. They are essentially nomadic birds which occasionally invade new areas in large numbers and do great damage to crops and gardens. At one time, the aborigines, who had never seen the birds before, put the blame on the white man and named them 'White-men birds'. They frequent marshes and are fond of reed-beds near rivers, where they feed on grass, seeds, water-plants, aquatic animals and insects. They are active birds and walk fast with a stiff, quivering tail. Where the undergrowth is sparse they are adept at hiding behind tree-roots or stones. They fly only when in grave danger.

Black-tailed Water-hens live in pairs during the breeding season; they make a fairly deep, cup-shaped nest of soft stems and dried grasses in a large tussock or under a bush.

There are 5-9 eggs which vary in colour from pale green to pale cream, evenly covered with purple-brown spots and violet-grey markings.





LILYTROTTER or LOTUS-BIRD,

Irediparra gallinacea novae-hollandiae

(app. 23 cm - 9 in)

John Gould painted these birds and wrote about them as the Gallinaceous Parra. They had been observed by a Mr Gilbert on a large lake near Point Smith, where the water was so shallow that he could wade right through it. Here and there he found small families of birds which walked over the lily-leaves looking for their food; this includes insects, small water animals and the seeds of water-plants. Since they are poor fliers, they only cover comparatively short distances by wing. In flight they trail the legs out behind and remain low over the water.

They are extremely shy and give a trumpeting sound when alarmed. The nest is usually placed on a heap of floating water-plants; it is flat and made out of a layer of grass and other plants. While the bird is incubating the eggs may even lie partly underwater.

The eggs are pale brown or reddish-brown, covered with a fine network of black lines; they have a high gloss. The young, seen here in the background, have white underparts, pale chestnut-brown on the top of the head and russet upperparts. The characteristic helmet, which is the most conspicuous feature of the adult birds, is only faintly visible.

SCRUB CURLEW or STONE CURLEW, *Burhinus magnirostris*

(app. 51 cm - 20 in)

This rather large curlew is found nearly everywhere in Australia and here and there in Tasmania; it usually lives in open woodland and on plains with scattered trees. The loud call - *weelroo, weelroo* - is heard particularly at night. Cautious and shy, Scrub Curlews usually take to the wing when one approaches. They will often let a potential enemy get very near, taking on an erect, frozen attitude or flattening themselves on the ground, relying on their good protective colouring until the last moment.

They feed on worms, molluscs, insects and their larvae. At mating time they keep up their song for a long time especially when the moon is shining. The cock, which does not differ in appearance from the hen, will walk round her in circles with his wings drooping and also feeds her from time to time.

A shallow hole in among grass or on the bare ground serves as a nest. The two eggs vary considerably in colour. Typically they are pale yellowish-grey with light-brown markings. The birds remain fixed on the nest while brooding and appear to be so confident of their protective coloration that one can even go up and touch them. The young too are hardly visible against the background.

Scrub Curlews have been kept in a few zoos, where they soon become tame and even breed succesfully.





PIED OYSTERCATCHER,

Haematopus ostralegus longirostris

(app. 43 cm - 17 in)

This is a subspecies which occurs nearly everywhere in Australia and Tasmania, particularly on the coast. Closely related oystercatchers are found in Europe, Asia and North Africa. Oystercatchers are most commonly seen in pairs or small parties on the coastal mudflats and sandbanks, where they find various kinds of shell-fish and other marine animals. They are often seen in the company of other aquatic birds such as sandpipers.

At breeding time they choose places where there are plenty of stones and rocks, preferably on some inaccessible island and lay their two eggs in a hollow in the sand just above high-water mark. The eggs are sand-coloured, and marked all over with uneven black-brown spots and lines.

Oystercatchers are very timid and rise screaming into the air when approached. Soon after hatching the young run fast to safety while the parents fly backwards and forwards trying to lure intruders away from the nest with their harsh cries. In the meantime the young will have found a safe place behind a stone or in a crevice. In the adult birds there is no external difference between the sexes, but the young may be identified by the brown edge to the black feathers on the back. The chicks, which quickly start to walk and run, pick the food from their parents' beak at first, but quite soon they are found in shallow water looking for small animals. The initial black colour of their beaks changes to yellow and then to red.

AUSTRALIAN PRATINCOLE,

Stiltia isabella

(app. 25 cm - 10 in)

This pratincole has strikingly long legs and large flight feathers. Because of the latter, they remind one rather of a swallow and in Australia are are known as Swallow Plovers. They occur in Indonesia, New Guinea and many of the surrounding islands, as well as in most parts of Australia. But they only visit Australia during the breeding season (September-February).

They are birds of the arid country inland where there is hardly a trace of vegetation. They run fast along the ground pecking left and right at the insects which form their main food. They are chiefly found in parties. The flight looks rather awkward but is nevertheless light and extremely fast. They like to fly low over the ground in rapid zig-zag turns, and in this way catch many insects, just as swallows do.

There is no proper nest, the eggs being laid in a hollow in the sand. The two eggs, which are red sand-coloured, are more or less completely covered with irregular dark-brown markings with a greyish tinge underneath. There is no difference in external appearance between the sexes. The young are somewhat duller in colour and are clearly marked on the breast, as is seen on the bird in the centre of the illustration.





SPUR-WINGED PLOVER,

Lobibyx novae-hollandiae

(app. 35 cm - 14 in)

These strange birds are found in flocks or pairs mainly in south-east Australia and Tasmania and occur occasionally in New Zealand. They are also known as the Alarm Birds, for they are very cautious and shy and at the slightest sound give a harsh *kurra kurra* cry that warns all the other birds in the neighbourhood. They also utter this call in flight, especially early in the morning or at sundown.

The birds live close to water and are mostly seen on river-banks and lagoons and in marshes. They feed on all sorts of small crustaceans, insects and vegetation. For a nest they make a shallow hollow in the bare earth with their feet and bodies and there they lay the two to four eggs which are patched and mottled with olive-yellow and blackish-brown.

The spurs on the curve of the wing, clearly illustrated here, are used for fighting. In parts of the country where they are hunted they are extremely timid; in others they will come right up to the house. On the ground they walk like the European Lapwings; the flight however is less jerky owing to the longer wings. The cock's wing-spur is noticeably larger than the hen's, but this is the only apparent difference between the sexes.

RED-CAPPED DOTTEREL,

Charadrius alexandrinus ruficapillus

(app. 17 cm - 6 in)

These small, lively birds occur nearly everywhere on the coasts of Australia, Tasmania and south New Guinea and are occasionally seen in New Zealand. Pairs or small flocks are also seen on coastal lakes and estuaries.

They walk short distances along the water's edge at a great speed, pecking at insects, shellfish and marine worms. When approached they fly up, but soon alight and continue to walk a little further away.

The birds usually nest on the beach just above high tide. The nest is a shallow cup in the sand, lined with broken shells and stones. The two eggs are pale greenish-brown and covered with purplish-black to brown markings and patches.

Red-capped Dotterels are very concerned for their eggs and chicks, and will trick any intruder away from the nest by throwing themselves flat on the ground and flapping their wings as though they were dying. They do this until nearly within hand's reach and then drag themselves off with one leg dangling or one wing flapping so that it looks as if the other were broken. In this way they draw the intruder away from the eggs and young.

The cock can only be distinguished from the hen by his paler colour and markings.



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BANDED STILT,

Cladorhynchus leucocephalus

(app. 40 cm - 15.5 in)

The Banded Stilt, which is common to the whole of Australia, frequents shallow lakes, mud-banks and marshes. The birds prefer salt or brackish water, unlike the White-headed Stilt which has a white back and greyish-black upperparts and an extensive range that also includes a large part of Australia.

Both species are similar in their habits; they live and nest in colonies, building the nest out of water-plants at the waterside or just using a hollow in a mud heap. The first breeding colony was discovered inland on the banks of Lake Grace, a salt-water lake in south-west Australia. The birds do not nest there every year, their arrival seeming to depend on whether there are plentiful supplies of certain animals for food. In South Australia they nest on Lake Callabonna. The 2-4 eggs are chalky-white covered with a network of irregular black, grey and brown lines. The sexes are not distinguishable externally.

Banded Stilts feed on insects, shellfish, molluscs and aquatic plants.

CRESTED TERN, *Thalasseus bergii*

(app. 53 cm - 21 in)

The Crested Tern has a range which covers Australia, Tasmania, southern Africa, the coasts of east Africa to the Red Sea, many parts of southern Asia to the Philippines, Tonga and New Caledonia. Excluding the Caspian Tern, this is the largest of the terns found in Australia and also the most common. It nests in colonies, mostly on islands off the coast.

John Gould obtained the first specimen and eggs from Port Essington and Rottnest island, where Mr Gilbert had come across a large colony of nesting birds on a lonely rock.

The nests are placed very close together. At the first sign of danger the birds leave the nest and circle round in the air screeching loudly. The eggs, one or two in number, lie in a hollow on the ground usually surrounded by plants. Though there are many variations of colour and markings, they are generally grey, blotched with black or brown.

The young have light-grey upperparts, and the head is heavily spotted with white. The adult birds have black crests and black on the head at breeding time; for the rest of the year they look like the bird at the back of the picture.

Crested Terns feed mainly on fish, shellfish and molluscs. They swoop down from a great height till just above the water and snatch the fish swimming at the surface.





NODDY TERN, *Anous stolidus pileatus*

(app. 40 cm - 15.5 in)

These very odd birds have a wide area of distribution stretching through the Indian Ocean and the west Pacific from the Seychelles and Madagascar to Hawaii, northwards to the Riu Kiu and Bonin Islands and southwards to the north coast of Australia.

There are several other subspecies, some of which occur in the Atlantic Ocean and Gulf of Mexico.

The birds flock together in large numbers over the seas near their nesting grounds. They can glide over the water for long periods, searching the surface for fish, squid and other marine animals. They swoop straight down and snatch the prey without entering the water.

Noddy Terns breed in thousands on rocky islands and reefs, the nests being built of seaweeds and dried grass, with a hollow in the centre for the single egg. The nests are usually placed on the ground, or occasionally in a low bush. They are nearly always lined with small shells. The eggs are dull-white, blotched with purplish-brown, especially at the larger end.

The parents share the incubation which takes about 33 days. They are called 'Noddy' from their habit of nodding their heads up and down. They can swim very well but only do so when the sea is calm. There are no external differences between the sexes.

GREY-BACKED STORM-PETREL,

Garrodia nereis

(app. 22 cm - 9 in)

Grey-backed Storm-petrels are entirely dependent on the sea. They inhabit the southern seas including the coasts of Tasmania and south-east Australia and nest mainly in New Zealand, the Falklands and South Georgia.

Flocks skim over the waves often in the wake of a ship and very close to the surface. The flight is erratic and rather like that of butterflies. On one of John Gould's journeys from New Zealand to Australia he was able to catch a few from a small boat following the ship. They feed on plankton, the fat from dead whales and garbage thrown overboard from ships.

Storm-petrels nest in deep tunnels in the ground. Sometimes more than a thousand of these nesting burrows are found together. Each tunnel is about 18 inches long and resembles a rat-hole. The birds spend a few hours there at night, using their sharp claws to help them clamber up the passage. When sleeping they tuck their fragile, webbed feet away under their wings.

The single egg is white, speckled with reddish brown and purple-blue. The young stay a long time in the nest and are reared on food containing a lot of oil which the parents disgorge from the crop.





CAPE BARREN GOOSE,

Cereopsis novae-hollandiae

(app. 70 cm - 27 in)

This goose inhabits the southern coast of Australia, Tasmania and the islands in the Bass Strait. They haunt open country singly, in pairs or occasionally in small flocks, and feed on grass and herbs. They also like the berries of low-growing bushes.

Alas, these birds used to be so tame that they could be felled with a stick or caught in the hand, and this took place on such as scale that the species was seriously threatened. Their flesh is exceedingly tasty. The birds surviving today are wary and shy, and they are by no means easy to find.



They live mainly on land and rarely venture on to water. People have tried to tame them so that they would wander freely in semi-captivity but they have proved unsuitable since they will attack and drive away other animals. The sound they make is rather like the grunting of a pig, hence their other name - 'Pig Goose'.

Cape Barren Geese build a fairly large, flat nest out of dry grass and other plants lined with down. The 4-7 eggs are a shiny, creamy-white. They have been kept succesfully in many zoos where they have regularly hatched and reared young.

MAGPIE GOOSE, *Anseranas semipalmata*

(app. 90 cm - 35 in)

These geese are found mainly in the northern parts of Australia, though they are regular visitors to the south and the east and to Tasmania. Flocks feed at the water-side or search for food in shallow water.

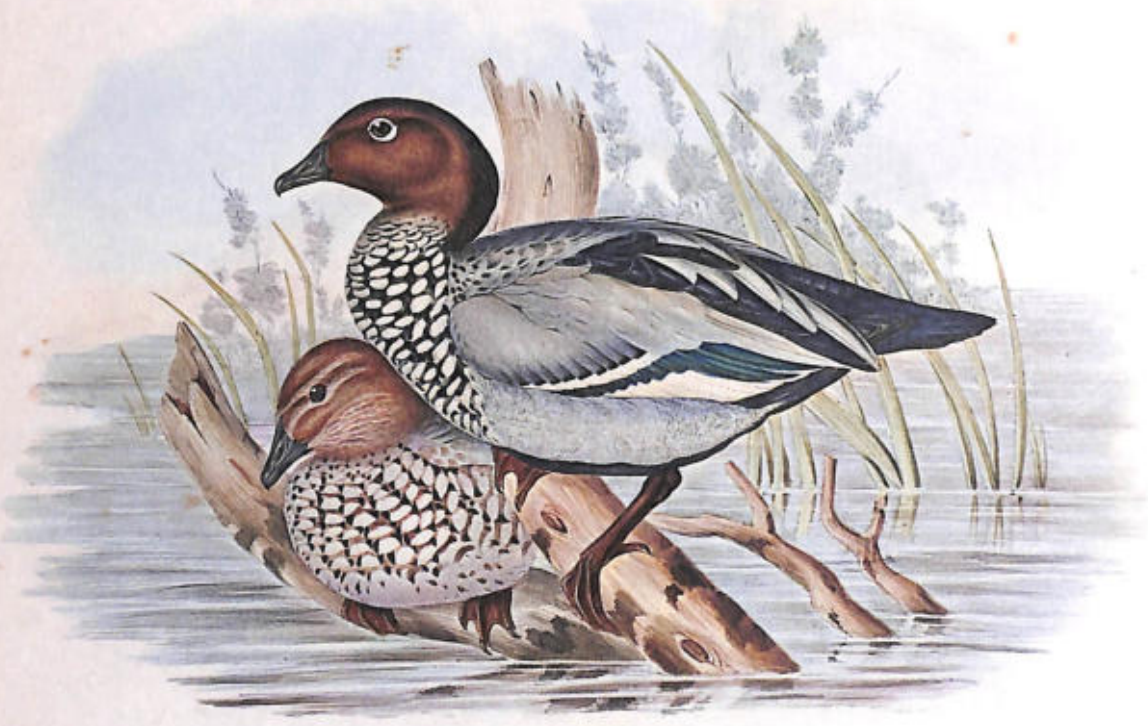
John Gould tells of them wandering in such huge numbers over the estuaries in the Torres Strait that they had become the staple food of the natives there who killed them easily with spears.

The long neck and legs and the bare humped forehead give these birds a rather peculiar appearance. They walk well, if slowly, but swim rather poorly. They feed mainly on water plants. They have a shrill, trumpeting call, which can be very loud indeed. When alarmed they fly up to a tree-top and many even alight on a telegraph wire. They have a rather unpleasant musky smell.

During the rainy season they live inland, afterwards returning to the coast where they build their nests out of mud and water plants in shallow water, the nest rising just above the surface. The goose incubates the 4-8 eggs alone.

Magpie Geese are kept in many zoos but do not breed well in captivity - not, at any rate, in the northern hemisphere.





MANED WOOD DUCK, *Chenonetta jubata*

(app. 45 cm - 18 in)

These geese, which are common everywhere in Australia and Tasmania, frequent woodland lakes usually in pairs or flocks. Although they find their food mainly in water, they also crop plants at the water-side. They are often called Maned Geese in Europe and America.

They nest in tree-hollows, sometimes high up and far from any water. The hole is lined with down and feathers. The 6-12 eggs are creamy-white and shiny. Incubation takes 28 days.

Huge flocks invade the ripening crops and are said to do a lot of damage.

Specimens were brought to the London Zoo for the first time in 1864, after which they were obtained by many zoos and private collectors. They live sociably with other geese and ducks, do a lot of swimming und adjust well to the climate. There may be one, two or even three clutches in a season. In the beginning the young are fed on fresh insects and finely chopped vegetation as well as the usual feed.

The sexual characteristics are illustrated clearly here; the male is not only much bigger but also more colourful.

COTTON TEAL, *Nettapus coromandelianus*

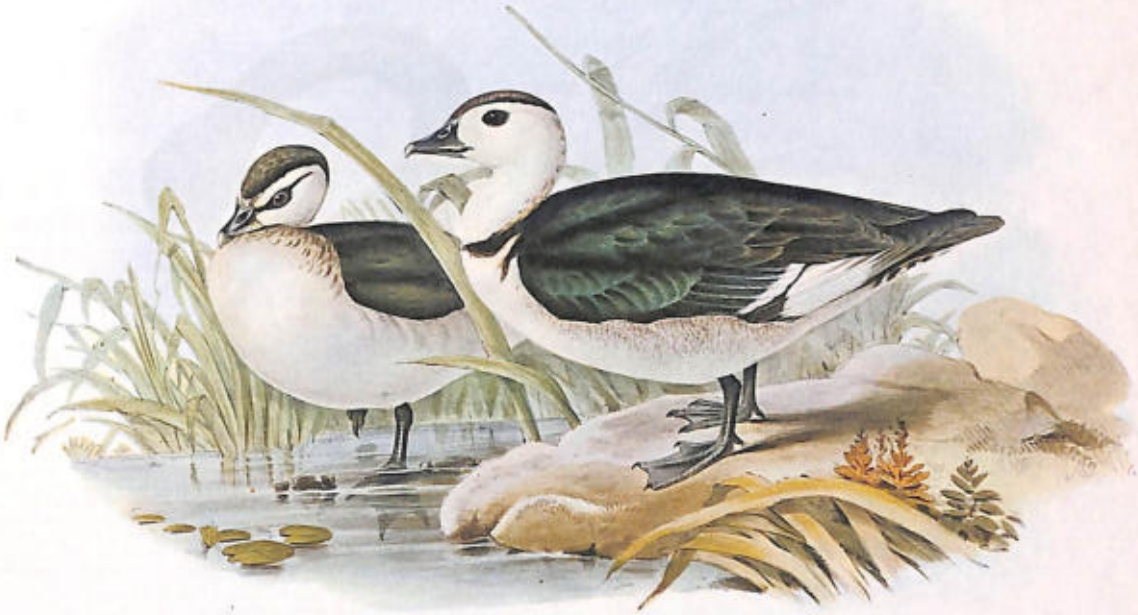
(app. 33 cm - 13 in)

This duck is plentiful in north-east Australia, where it is called 'Green Pygmy Goose', and over a wide area stretching from southern China to India, Malaya and Indonesia. They haunt rivers and marshes in small groups and are quite at home in inhabited parts, indeed they are often seen in parks and lakes. They nest in tree-hollows though the nests have often been found under the roofs of pagodas and temples or in the walls of derelict buildings.

They are rather awkward on land, but swim and dive very well. The flight is fast and they can fly about easily among the trees. When threatened they usually seek safety by diving. They are hunted a lot, for the flesh is very tasty.

It is not difficult to distinguish the sexes. The bird at the front of the picture is the male, conspicuous for his larger size and brilliant colours. The female has a distinctive dark stripe through the eyes. The 8-12 eggs are chalky-white in colour.

The Cotton Teal has only rarely been brought into Europe and is seldom seen in collections. Great care has to be taken with the acclimatisation, but the bird eventually becomes quite hardy. Although a few pairs have been kept in zoos for many years, they have not apparently bred in captivity.





BLACK SWAN, *Cygnus atratus*

(app. 100 cm - 39 in)

These swans range over the whole of Australia except for the most northern parts and also occur in Tasmania; they have been introduced into New Zealand. They first reached Europe about 1791, although two specimens were brought from Australia to Djakarta in 1746. They live in pairs or flocks in estuaries, inland lakes and marshes. In Sweden a few pairs have been turned loose and have begun to breed in parks and gardens.

They have practically been exterminated in some parts of Australia; they are very easy to catch at moulting time when they lose their flight feathers and are unable to fly. They now enjoy a certain degree of protection. They soon become reasonably tame and are kept all over the world, being one of the most beautiful of the ornamental birds.

They feed on water plants and water animals and like to nest on small, inaccessible islands. The large nest is built of twigs, reeds and water plants and is lined with down. The 5-6 eggs are greenish-white and slightly shiny. In this species both sexes share in the incubation which takes about 35 days. The young enter the water as soon as they have hatched and like to climb on their parents' backs for a rest.

The male is slightly larger than the female, but otherwise the sexes are similar.

WHITE-HEADED SHELDUCK,

Tadorna radjah

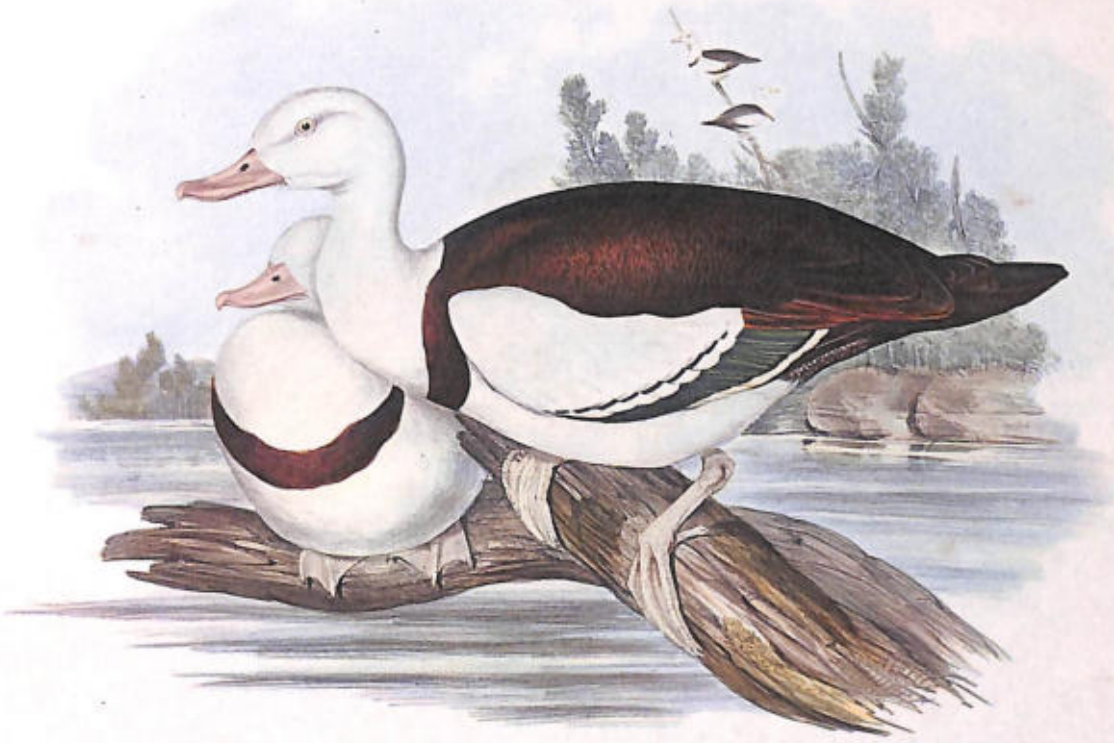
(app. 45 cm - 18 in)

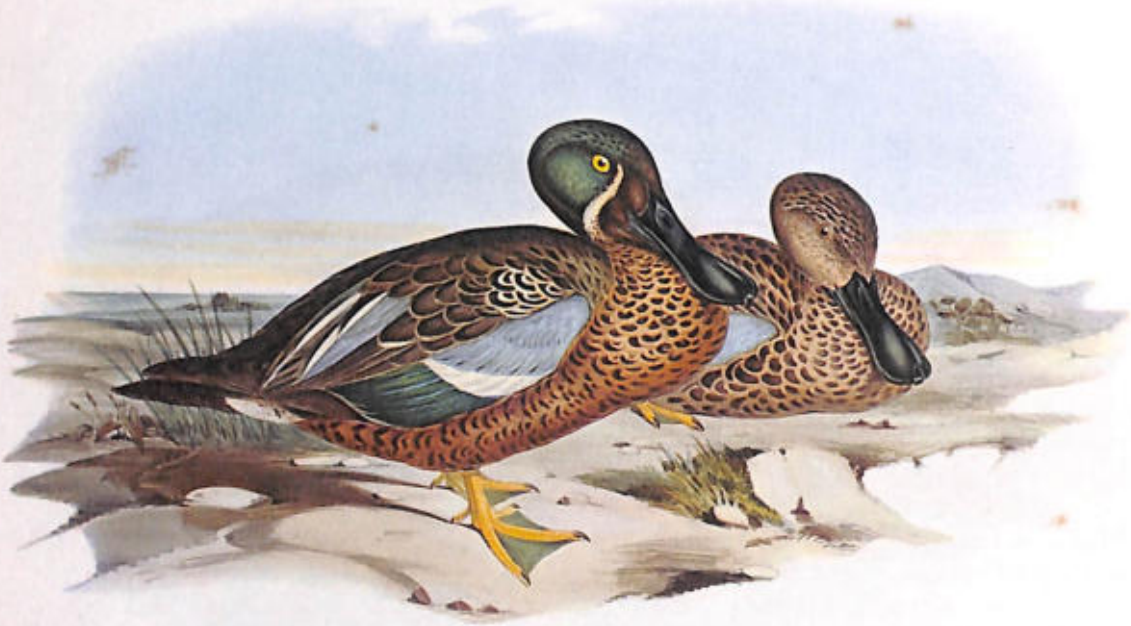
The White-headed Shelduck, also known as the Radjah Shelduck, lives in the tropical parts of Australia, New Guinea and the Molucca Islands. They are found in flocks on the banks of rivers and lakes. They like shallow water and are fond of mangrove woods for nesting. They feed on animals and vegetable matter and have a great partiality for worms, which they bring to the surface by stamping on the ground with their feet.

They fly fast and perch in the highest trees they can find, where they will also roost at night. They make a nesting-cup of down in a tree hollow, in which they lay their 6-12 cream-white eggs. The incubation period is thirty days. The young leave the nest as soon as they have hatched and follow their parents down to the water. These have chestnut-brown on the top of the head, and black-and-white plumage. There is no difference in appearance between the two sexes.

In the rainy season the water level in the pools and marshes rises so high that the birds can no longer find any exposed roots or reeds on which they live, and they then move to coastal mudflats where they can find plenty of crabs, shellfish and molluscs at low tide.

These ducks were introduced into France in 1866, but it was 1940 before they were bred and reared in Europe.





BLUE-WINGED SHOVELER,

Spatula rhynchotis

(app. 50 cm - 19.5 in)

These shovelers live and breed in south and east Australia, Tasmania and New Zealand; they are very similar in appearance to the European shoveler. The duck is distinguished from the drake by her plain brown plumage as can be seen in the picture.

These ducks are very shy and cautious and like to keep to the middle of open water. They are often seen with other ducks. They feed on living organisms at the surface, but also eat many other kinds of aquatic plants and animals. When feeding they paddle about rapidly. In flight they make a characteristic whistling sound with the wings.

Blue-winged Shovelers build an open, cup-shaped nest among thick reeds in a remote spot, placing it just above the surface of the water; they may also choose tussocks on dry land. The 4-11 largish eggs are creamy-white and shiny, shot with green. Incubation takes about 25 days.

Their flesh is tasty and they are often hunted. They are only rarely seen in European zoos.

PINK-EARED DUCK,

Malacorhynchus membranaceus

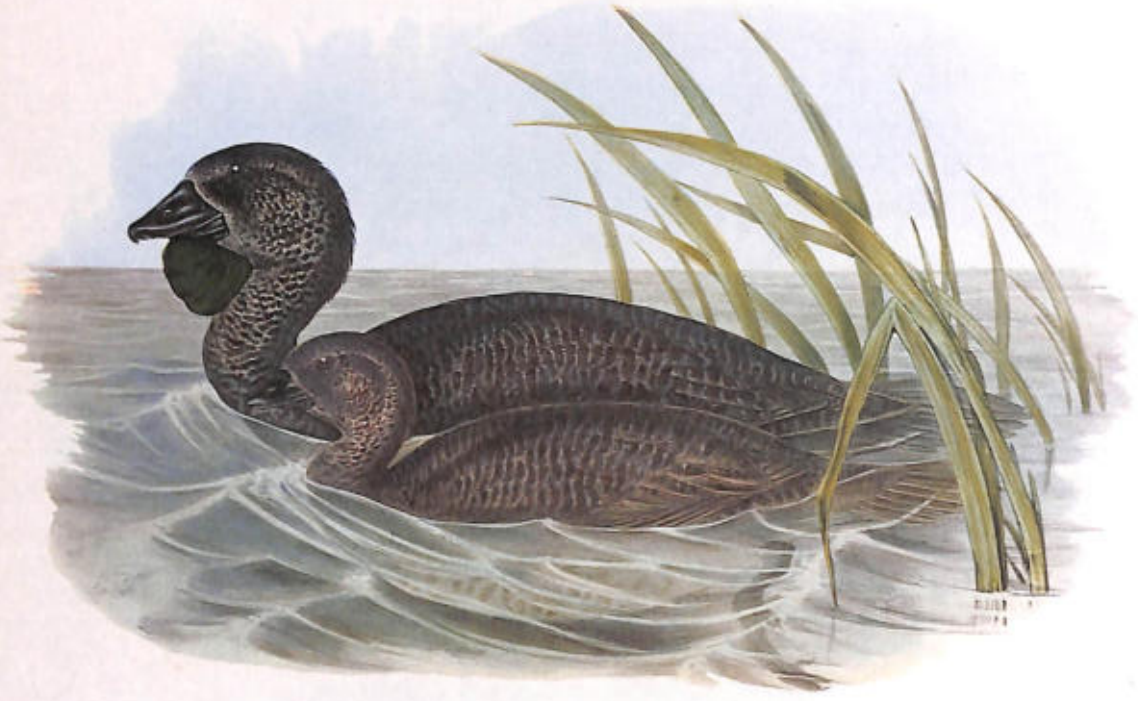
(app. 43 cm - 17 in)

These birds, also known as Zebra Ducks, are found nearly everywhere in Australia except Western Australia south of North West Cape. They are usually seen in pairs or small flocks on shallow lakes or marshes and mostly in inland districts. They are rarely seen on the coast. The soft, overhanging, flaps at the end of the bill are very distinctive and help to sort out the many kinds of organisms found in the mud of pools and hollows that form during the rainy season. They paddle their way along the muddy bottom, often remaining for a long time with the head under water.

The nests are built among floating plants growing in the water or on another bird's deserted nest. They are cup-shaped and furnished with a thick layer of down plucked from the breasts of the parent birds. Nests have also been found at the foot of hollow trees up to a height of 20 feet. The 6-8 eggs are a dull white. In most places the breeding season is from August to November.

There are no external differences between the sexes. The flight is fast and the wing-beat powerful.





MUSK DUCK, *Biziura lobata*

(app. 65 cm - 25 in)

These ducks are found in the southern parts of Australia and in Tasmania, usually on inland ponds surrounded by reeds. They rarely fly in the daytime and when alarmed will dive or flutter over the surface of the water. They may cover long distances at night by walking. They feed mostly on animal matter such as frogs, insects, fish, molluscs and crustaceans.

The comparatively short bill has a large black lobe of skin under the lower mandible. The male is much larger than the female.

The birds usually nest among clumps of reeds or in a tree hanging over the water. The nests rest on a bed of bent or broken reeds and are covered with grass and down. The eggs are large and greyish-green in colour. A clutch usually contains 3-6 eggs. The young will climb on to the back of the female and cling firmly to her when she dives.

These ducks are more interesting for their behaviour than for their coloration. The drake courts the duck by sweeping water forwards with his wings and making hissing noises. He swims towards her with his tail spread or quivering up and down; he then throws himself head over heels and spins through the water like a top. The drake has a musky smell during the breeding season.

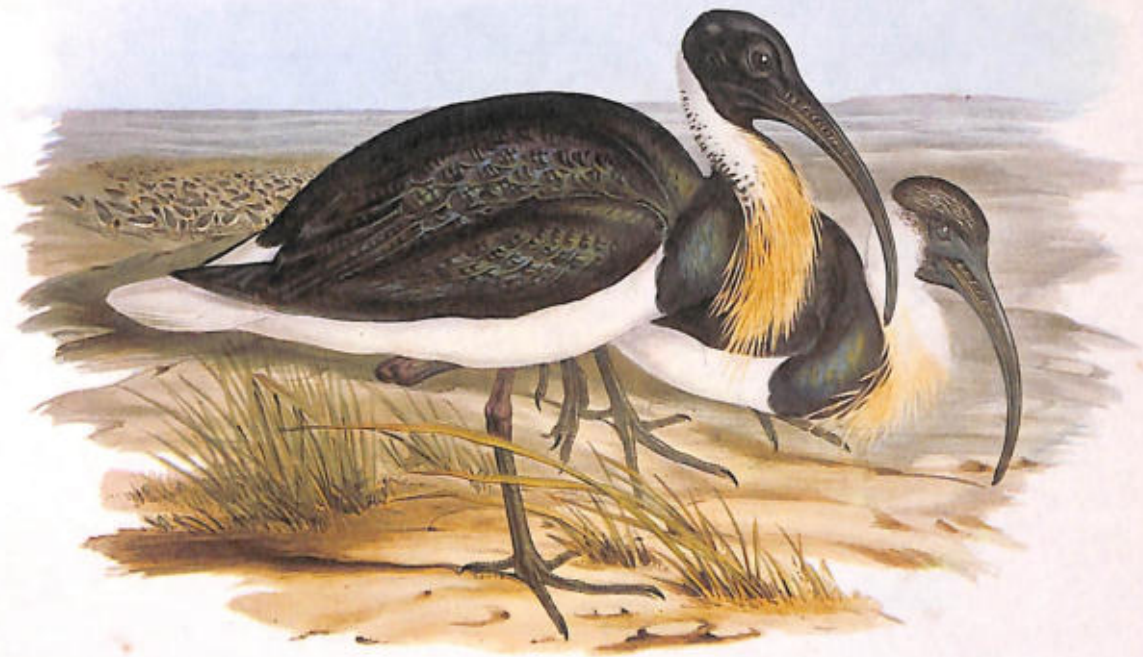
STRAW-NECKED IBIS,

Threskiornis spinicollis

(app. 65 cm - 25 in)

This ibis visits marshes, meadowland and river-banks all over Australia and is also seen from time to time in Tasmania. The birds are nearly always found in flocks. They are known as the 'Farmer's Friend' for the good work they do in devouring huge numbers of grasshoppers; they follow the plough and pick up the insects and their larvae. They range over a very wide area, suddenly arriving in places plagued by insects. They are still very common and enjoy adequate protection.

Straw-necked Ibises breed in colonies, thousands at a time, usually in an impenetrable swamp. The nests are built on the ground among reeds, which the birds bend over or break off, and they are covered with grass and down. The 3-5 eggs are dull white. They often nest in the company of the White Ibis, *Threskiornis molucca.* The birds will approach inhabited areas in search of food and do not seem to be shy. They are sometimes to be seen in European zoos.





PIED HERON, *Notophoyx picata*

(app. 48 cm - 19 in)

This heron has a black crest at the back of the head. It is found in Celebes, southern Moluccas, Aru Islands, New Guinea and northern Australia. It is often seen alone or in pairs in swampy areas. It is assumed that the birds that visit and nest in northern Australia in spring and summer are migrants. These retreat to the seclusion of inland swamps, often accompanied by other herons.

Pied Herons nest in bushes or trees sometimes at heights of up to fifteen feet, and the nests are made of twigs and sticks. The three or four eggs are dark blue-green. Young birds can be identified most easily by their white underparts.

John Gould was sent his first specimens by Mr Gilbert and Mr Ince; these had been shot near Port Essington.

MANGROVE BITTERN, *Butorides striatus*

(app. 41 cm - 16 in)

This species is very widely distributed throughout the warmer parts of the world from Panama to Argentina, from India to Malaysia and Japan and in Australia. The plumage is multi-coloured, deep-green on the back, with russet stripes on the neck. The birds go about singly or more often in pairs, visiting mudflats and sand-banks in estuaries for food. Their favourite habitat seems to be mangrove swamps where they can find plenty of small fish, worms, crustaceans and molluscs. They like to perch on boughs hanging over the water. When alarmed they freeze with their heads in the air, just like other bitterns, so that they are hardly visible among the tall stems.

They build their nests out of twigs and branches of mangrove; these are in the form of a loose platform and contain 3-4 dull, pale bluish-green eggs. Incubation takes about 21 days. The young probably stay four weeks on the nest, but this is difficult to check for they climb about the branches around the nest much sooner.





OSPREY, *Pandion haliaetus*

(app. 55 cm - 22 in)

The Osprey is a cosmopolitan bird, with a number of races in all parts of the world except South America and the Pacific islands. Pairs are found on river-banks, on lakes and in coves. They feed almost entirely on live fish, plunging down to catch them in their powerful talons and then carrying them back to a perch to be eaten. Sometimes they will dive right underwater.

They take two weeks to build the large nest of branches, lined with sea-weed, ferns and palm leaves; they place it on a rock or on the outermost bough of a tree. The two or three eggs are buff, blotched at the rounded end with purple-red patches. They are incubated for about 35 days, mostly by the hen. The male bird brings food to the nest for the incubating hen and the young; sometimes he will throw a fish down to the hen who catches it skilfully. The fish are eaten - bones, scales and all; occasionally Ospreys will eat frogs.

The young stay on the nest for more than two months. The flight is heavy and laborious, though the bird can sail round majestically, high in the air, with apparent ease.

BLACK-CHEEKED or PEREGRINE FALCON, *Falco peregrinus*

(app. 43 cm - 17 in)

The Peregrine is generally distributed throughout Australia and Tasmania, and also occurs in Europe, North America, Asia and Africa.

This is the fastest and most daring of the Australian falcons and can easily take on birds bigger than itself. It preys mainly on ducks and small parrots swooping down at high speed and killing them with a single blow of the hind claw.

Peregrines like heavily wooded, mountainous country. The nests are built on crags or in a hollow branch and very occasionally on the ground. The 3-4 eggs are laid on the unlined bottom; they are buff, blotched and lined with reddish-brown. The female is a little bigger and darker than the male.

When a Peregrine has caught its prey, which may be just as heavy as itself, it drops to the ground and plucks a patch bare before starting to feed.

Sometimes this falcon hunts by waiting on the ground until its victim flies up; it will not take birds resting on the ground.





RED GOSHAWK, *Erythrotriorchis radiatus*

(app. 45 cm - 18 in)

These birds are found in northern and eastern Australia from Kimberley in the north-west to New South Wales. They mostly occur singly or in pairs along the edges of forests and in overgrown places in swamps. They hunt birds, reptiles and small mammals and are very similar to Sparrow Hawks in their habits.

Gould records their presence in the dense woods on the banks of the Manning and Clarence on the east coast of New South Wales.

Red Goshawks build their large nests out of twigs and branches high up in a tree and line them with leaves. The two eggs are bluish-white, sprinkled here and there with pale-brown or purplish markings.

The other related birds of prey that live in Australia are both considerably smaller in size. These are the Grey Goshawk, *Astur novae-hollandiae,* which preys on small birds, beetles, crickets and large grasshoppers, and the Australian Goshawk, *Astur fasciatus,* which feeds mainly on small birds and their young; it is also known as the Chicken-hawk.

BLACK-BREASTED BUZZARD,

Hamirostra melanosterna

(app. 55 cm - 22 in)

The Black-breasted Buzzard, which has very strikingly marked plumage, is found in several parts of Australia, usually on wooded river-banks or in lowlands where there are scattered clumps of trees.

The birds live together in pairs. The hen is considerably bigger than the cock and more conspicuously coloured. The nest of twigs and sticks is placed on a forked branch high up in a tree and is lined with leaves. The birds do not regularly visit woods except at breeding time, and they never roost in trees, but always on the ground where they also eat their prey.

They circle round high in the air searching for quarry, which is more often than not one of the smaller mammals such as rabbits, though they also eat reptiles, especially lizards. They have the peculiar habit of stealing Emu and Bustard eggs, which they smash with a stone held in the talons. There are usually two eggs which are yellowish-white and mottled with reddish-purple and lavender.

While the hen is incubating the cock feeds her at the nest.





LETTER-WINGED KITE, *Elanus scriptus*

(app. 37 cm - 14 in)

This Kite has black and silver-grey markings. It lives singly or in pairs in the southern and central parts of Australia and in southern Queensland. The identifying mark, the black curve on the under-wing shaped like a letter (hence the bird's name) is only visible in flight. It hunts in open country with scattered trees and preys on mice, lizards, grasshoppers and other large insects. These Kites are migrants which arrive at the nesting grounds in spring and depart for northern regions in autumn.

They build their nests high up in trees, out of sticks and twigs and line them with leaves and fur. There are usually 3-4 bluish-white eggs with reddish-brown markings which may cover the whole egg or be concentrated at the rounded end. Sometimes in Queensland there is an explosion of the rat population and these kites congregate in huge flocks to hunt them; they are one of the most useful birds of prey.

CRESTED HAWK, *Aviceda subscristata*

(app. 40 cm - 15.5 in)

This graceful predator inhabits the north and east of Australia; there are several related races to the north and east of the country. They frequent woods on river-banks or open plains, building their nests of boughs and twigs in tall trees. The cupped nest usually rests on a thin, horizontal branch and is supported by a few leafy upright branches. It is sometimes found at heights of up to 50 feet.

Crested Hawks are regarded as rather harmless birds which feed mainly on insects and their larvae, although they are also sometimes seen to eat carrion.

They fly fast and turn somersaults to the accompaniment of a clear, whistling call.

The 3-4 eggs are pale bluish-white at first, but later become stained from lying in the nest. The breeding season is from October to December.





SPOTTED HARRIER, *Circus assimilis*

(app. 45 cm - 18 in)

The Spotted Harrier is common to nearly all Australia and Tasmania and is also found from Celebes to New Guinea. It is closely related to the European Marsh Harrier, *Circus aeruginosus*. It is mostly seen singly or in pairs in open country and often rests on the ground or perches on a stone or fallen tree-trunk.

When hunting they fly low over the ground with regular wing-beats, dropping down suddenly as soon as they see a victim. They take snakes and other reptiles, birds and small mammals; the birds they often catch in the air, but they always devour their prey on the ground. The nests are built in overgrown trees, well-hidden in the foliage. They consist of a loose platform of twigs lined with leaves. There are 3-4 dull, bluish-white eggs. The newly hatched chicks are covered in greyish-white down. The breeding season is from August to October.

AUSTRALIAN PELICAN,

Pelecanus conspicillatus

(app. 100 cm - 39 in)

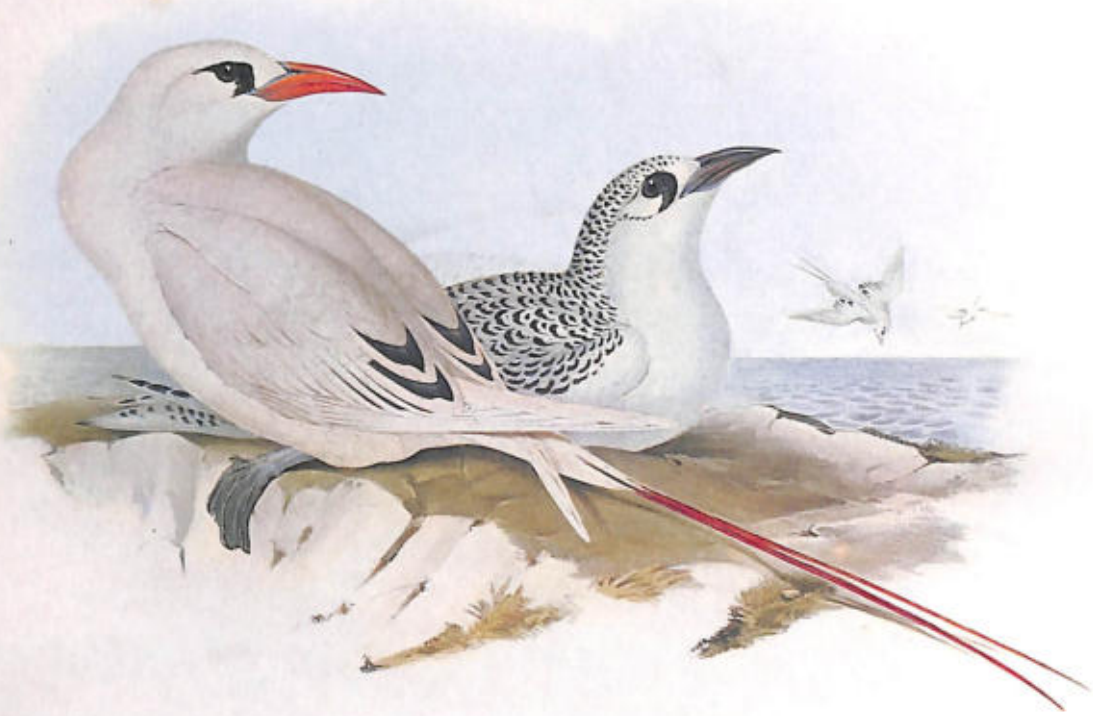
The Australian Pelican is found all over Australia and Tasmania, in Amboina and New Guinea and also occasionally in New Zealand. It frequents river estuaries, coastal mud-flats and offshore islands, where it can be seen searching for food in the sand. The birds prefer shallow water where they can catch the freshwater and marine animals that make up their diet. They are as much in their element in the air as in water and can outfly many other kinds of birds. On land however, they are clumsy and waddle along the ground. They roost on sand banks. When John Gould was visiting Australia they were very numerous.

When nesting time approaches they drag all sorts of material such as grass, plants and sticks together to fill a hollow they have made in the sand just above the high-tide mark. They breed in colonies, the nests lying only about a yard away from each other. The 2-3 eggs are yellowish-white but soon become dark from the nesting material. Incubation takes 38 days. The young birds have the throat pouch, but their bills are very small.

The parents care for their young in exemplary fashion and are regarded as the epitome of parental love.

These pelicans are kept successfully in many zoos where they have frequently reared young.





RED-TAILED TROPIC-BIRD,

Phaethon rubricauda

(app. 100 cm - 39 in)

This graceful bird is found in the tropical parts of the Indian and Pacific Oceans, from Madagascar and Mauritius to the Galapagos Islands, and from the Hawaiian Islands to Australia. They only come on to land to take a rest or to nest. They can often be seen circling round ships, sometimes coming down to perch on a rail. They feed on fish and squid.

At nesting time they retire to islands and lay a single egg on the ground or in a rock crevice. It is dull white or pink and covered with dots, patches and stripes varying from pinkish to blackish-brown. During the breeding season the birds spend the day fishing and then return to the nest in the afternoon. They glide and swerve high in the air, circling round before alighting. The young are quite different in appearance from the parents, as the picture shows.

The Red-tailed Tropic-bird is easily distinguished from the other related species by the long, red tail feathers. Tropic-birds rely on their wings for protection and they fly with considerable ease. They hover in the air then drop down at speed on to their quarry which rarely escapes them.

LESSER FRIGATE-BIRD, *Fregata ariel*

(app. 80 cm - 31 in)

This agile sea-bird is common to all tropical seas and is seen off the north-west, north-east and south of Australia. They have very long wings and the flight is fast and full of turns; the birds can glide for hours over the sea, and when in need of a rest they retire to a rock or tree-top. They feed mainly on flying fish, though they will also steal from other birds, harrying them until they are forced to regurgitate or drop their prey, which may be crabs, fish, young turtles or squid. John Gould observed how they spent their time chasing terns, gannets and pelicans. They throw the prey up in the air, catching it so that they can swallow it in one. They also take carrion from the sea, but without actually going into the water. They breed in colonies on islands such as the Galapagos, Hawaii and South Trinidad. The nests are placed close together on the ground or in low bushes and are made of twigs, stalks and plants. There is a single white egg. The red throat pouch is swollen during the breeding period.

John Gould tells of Captain Ince who shot a pair of birds in one of the breeding grounds. When he went back there some days later he found that the chick was being cared for in a neighbouring nest. This was the only nest to contain two young.





AUSTRALIAN DARTER,

Anhinga novae-hollandiae

(app. 90 cm - 35 in)

The Australian Darter is generally distributed over Australia and appears here and there in New Guinea and occasionally in New Zealand. It lives singly or in pairs on inland lakes or in marshes where there are deep pools. Darters are often seen fishing in flocks; they harpoon the fish with their long, pointed beaks, sometimes diving a few feet down. They swim with most of the body above water, but when alarmed they sink until only the head and beak is showing. They can also dive right underwater and emerge some distance away. When swimming with only the head and neck above water they look very like snakes. They fly to a bare branch to eat their prey and they are also seen perching for hours in tree-tops. They are retiring and very difficult to approach.

The nest, which is usually built on a branch hanging over the water, is a platform of sticks and twigs covered with a canopy of thin, leafy branches. There are 3-5 greenish eggs which are coated with white lime. The hen is much paler and has a white breast and neck.

WHITE-BREASTED CORMORANT,

Phalacrocorax fuscescens

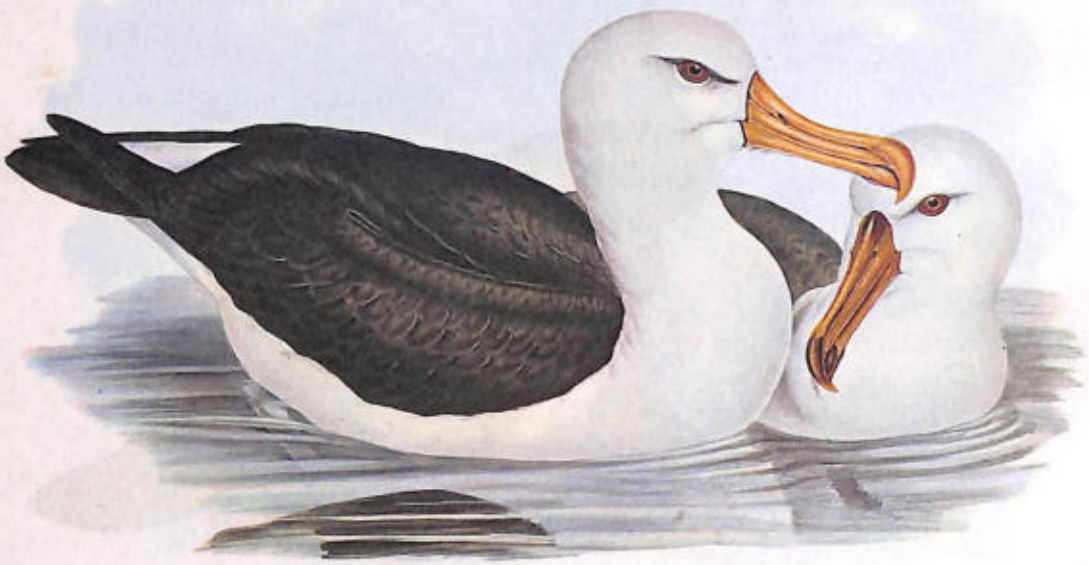
(app. 90 cm - 35 in)

The White-breasted Cormorant is found nearly everywhere along the southern coasts of Australia and the northern coast of Tasmania, usually with other species. Occasionally one sees a solitary bird; more often than not however, they are in huge flocks which go fishing in sandy bays and coves. Their favourite habitat is a rocky coast with flat, sandy beaches, and they know exactly which tides and which currents will provide a good catch. They can eat an enormous amount of fish and stuff themselves so full that the fish tails hang out of their beaks while they sit on a stone or sandy beach to digest the meal. They are good swimmers, but after diving they have to sit for a while with wings held out to dry, for the loose plumage absorbs a great deal of water.

In China and Japan these birds are used for hunting; they are ringed round the neck to prevent them from swallowing the prey.

The nests consist of driftwood and seaweed spread out over a flat bit of rock, and the birds breed together in large numbers, usually on inaccessible islands. The 2-4 bluish-white eggs are covered here and there with lime. The sexes do not differ externally.





BLACK-BROWED ALBATROSS,

Diomedea melanophrys

(app. 88 cm - 34 in)

This is one of the most common of the albatrosses inhabiting the southern oceans. Off the east coast of Australia it follows fishing smacks and ships a long way out to sea. John Gould caught a great number of them with a hook and line on his journey to Australia, ringed their legs and set them free. Many of the birds that he caught on the following day some 130 miles away were the same ones.

The birds are not at all shy and are easily tamed, though they are not easy to keep alive. Apart from scraps thrown overboard they eat fish, cuttlefish and other marine animals.

There are no external differences between the sexes; immature birds have a dark beak, and only the adults have the clear, yellow beak shown here on the bird at the front of the picture. They breed on islands such as the Falklands, South Georgia, Auckland and Kerguelen. The nests are built on the ground out of earth and plants. There is only one egg, which is white, but quickly becomes stained.

None can match the Albatross as a flier, and they make a splendid sight in the air. When hunting they drop on to the water but do not dive. They can spear even large squid with the downward curving tip of their powerful beak.

ROCK-HOPPER PENGUIN,

Eudyptes crestatus

(app. 62 cm - 24 in)

These penguins occur in sub-antarctic seas including those to the south of Australia and Tasmania. John Gould saw only one or two that had been stranded on the beach after a hurricane. They nest in large colonies on St Paul's, Prince Edward, Kerguelen and other islands.

They feed mainly on shellfish, crustaceans and cuttle-fish which they catch by diving. Latham says they are called 'Jumping Jack' from their habit of springing out of the water over obstacles. On land they progress by hopping, and in steep places they use their sharp claws to help them clamber up the rock, leaving tell-tale grooves behind.

They are rather stupid birds that are easily caught or killed. The natives must have slaughtered thousands and thousands to make lamp-oil from the fat. The head skins and crests were woven to make mats. In some places thousands of eggs are still taken every year. The species is thus seriously threatened.

Rock-hoppers do not make nests but lay their 1-2 eggs on the ground. Incubation takes about 40 days. When nearly three months old the young are encouraged to enter the water by the parents, where they begin to learn to hunt. Penguins are among the most attractive birds in zoos, where some species have bred succes-fully.





ORIENTAL CUCKOO, *Cuculus saturatus*

(app. 32 cm - 13 in)

This Cuckoo has a lot in common with the European species. It has however a rather broader diagonal stripe on the breast and fawn underparts. It occurs in Siberia, Japan, Formosa, and India as well as in New Guinea and the north and south-east of Australia, where it is mostly found in coastal woodlands (only in winter). It is a shy bird which leads a secluded life, so not much is known about its behaviour. The hen probably lays her eggs in the nest of one of the Warblers. The egg is white and oval in shape. The call consists of a run of notes getting higher and louder, interrupted now and then with shrill moaning cries.

Together with the Pallid Cuckoo, *Cuculus pallidus* which is widely distributed all over Australia, they are most useful birds, for they devour huge quantities of insects and larvae, being especially fond of the hairy sort that hardly any of the other birds will touch. The stomach lining is completely covered with the hairs from these larvae.

Like its European cousin, the Pallid Cuckoo is regarded in Australia as the harbinger of spring.

SHINING BRONZE CUCKOO,

Chalcites lucidus

(app. 16 cm - 6 in)

The Shining Bronze Cuckoo forms a special group within the large Cuckoo family. It is not very big and lays its eggs in the nests of small insectivorous birds. The form illustrated here is distributed over most of Australia particularly in the east, and also in Tasmania and New Zealand. In New Zealand they move to the north after breeding.

The birds feed mainly on insects and their larvae. Their relaxed movements when looking for food are very distinctive; they hop from branch to branch, pecking left and right at insects. The flight is fast and undulating. The hen is distinguished by her duller upperparts, the fainter black-and-white markings on the underparts and a brownish tinge.

The egg, which is laid in any domed nest of several different species, is greenish-olive or bronze in colour. The birds that nest in southern Australia spend the winter in the Lesser Sunda Islands, New Guinea and probably the Bismarck Archipelago. The New Zealand breeders winter in the Solomon Islands.





CHANNEL-BILLED CUCKOO,

Scythrops novae-hollandiae

(app. 65 cm - 25 in)

The reason why this cuckoo is often mistaken for a toucan or hornbill is obvious from the picture.

They are fairly common in the wooded areas of New Guinea, Celebes, the Moluccas, the Aru Islands and Australia except the south-west.

They are migrants which arrive at the nesting grounds in very early spring, about September, and leave again for the north towards winter. Pairs may be seen early in the morning or at dusk; they utter screeching cries while in flight, or when some birds of prey appear in the vicinity. They live in the foliage at the tops of trees and sometimes visit parks.

Their diet consists of large insects, fruits and berries. These birds can hover in the air like hawks, before swooping down on to their prey. Like the European Cuckoo which is taken to be a sign of rain on the way, this cuckoo is taken by the natives to mean stormy weather.

This cuckoo lays in the nests of five different species, mainly currawongs and crows. The egg varies from whitish to pale-brown and is covered irregularly with reddish-brown dots and patches.

These are difficult birds to tame and are rarely found in collections.

RED-CROWNED PIGEON,

Ptilinopus regina

(app. 25 cm - 10 in)

The Red-crowned Pigeon is found in eastern Australia and also occurs in New Guinea and the islands in the Torres Strait. There are various races which only vary slightly in colour, and it is easy to confuse them. The one illustrated here is the one that John Gould obtained from the country between the Hunter River and Moreton Bay. At that time great numbers inhabited the low woods along the Clarence River, where they could find plenty of berries and figs to feed on.

Red-crowned Pigeons are migrants which arrive in south-east Australia in October and November. They build a rather flat nest usually high up in the branches of a tree. One often hears the call, *coo-coo,* repeated several times, without ever actually seeing the bird. As can be seen here, they have good protective coloration. There are no external differences between the sexes.

The female lays one pure-white egg, which can usually be seen from the ground through the scanty nest.

The Purple-crowned Pigeon is very similar in appearance and habits. It frequents the same habitats, but can be distinguished by the white underparts with a blue-black diagonal stripe across the breast.





WHITE-HEADED PIGEON,

Columba norfolciensis

(app. 40 cm - 15.5 in)

Pairs or small flocks of White-headed Pigeons are found in the forests and scrub country of the eastern parts of Queensland and New South Wales. John Gould saw quite a large number on the islands lying at the mouth of the Hunter River. On the mainland they usually keep close to the coast.

They roam around looking for ripe fruit and berries. A few of these rather heavy birds will perch on a ripe fig tree to eat the succulent fruit at the tips of the branches.

They come down to the ground to drink, and the slightest sound sends them flying back to the refuge of the foliage. They have a fast, powerful flight which enables them to cover great distances.

The nests are usually built on the fork of a high branch and they are made of twigs laid horizontally across each other to form a thin platform. Sometimes the nests are placed in tangled creepers, usually at heights of up to twenty feet.

The hen bird is smaller and less colourful than the male.

TOP-KNOT PIGEON,

Lopholaimus antarcticus

(app. 35 cm - 14 in)

There used to be great numbers of these pigeons in the tropical regions of east Australia and a few in Tasmania. Since their flesh is very tasty, they were hunted on such a scale that the numbers were gravely reduced, and the species has only been saved from extinction by protective measures.

These birds live in flocks which roam about in search of seeds, fruit and berries. They settle on the topmost branches of trees and only come down to the ground to drink. In the breeding season the pairs build a platform-shaped nest of twigs on the thin branches of a tree. They lay a single egg which is pure white.

After the breeding season the birds congregate in huge flocks and sometimes wander over great distances. The flight is fast and strong. The bill and throat are constructed in such a way that the birds can swallow fruit the size of a walnut in one gulp.

This bird reached London alive in 1867; since then a number of the birds have been kept from time to time in several European zoos.





CRESTED PIGEON, *Ocyphaps lophotes*

(app. 30 cm - 12 in)

These attractive little pigeons are found everywhere in Australia except the north-west. Pairs and flocks frequent the woods on river-banks, plains and marshes with Acacia and Polygonum. In the dry season hundreds of them gather round the watering places. Gould noted their habit of choosing one special tree on which they perch very close together, taking it in turns to fly down for a drink.

They nest in low trees or bushes, making a platform of crossed twigs, through which the two white eggs are clearly visible. They live almost entirely on the seeds of grass and herbs which they find on the ground. When one of these birds alights on a branch, it erects its crest, throws its head back and spreads its tail.

The birds take turns in brooding the eggs, and incubation lasts 14 days. The hen bird is rather smaller than the cock.

RED-PLUMED PIGEON,

Lophophaps ferruginea

(app. 25 cm - 10 in)

This quail-like pigeon is virtually restricted to an area between Shank's Bay and West Kimberley in north-west Australia. In the wild it can easily be mistaken for a partridge. The Plumed Pigeon, *Lophophaps plumifera* lives further north and is distinguished by its lighter cinnamon tints, the white underparts and a broad, white breast stripe.

These are so-called terrestrial pigeons that live in pairs or coveys in sandy or rocky places where their excellent protective coloration makes them difficult to detect. They run along the ground and only when seriously threatened will they take to the wing, flying up with a whirring noise. They soon glide back to the ground again.

John Gould heard of these birds from Mr Grey, one of the most famous of the explorers of Australia, who told of a drinking-place which was visited by some 500 pigeons within half an hour.

These birds do not build a true nest, but lay in a slight hollow in the ground, under the shelter of a bush. There are usually two creamy-white eggs, and the parents take turns in incubating them for 14 days.





KAKAPO, *Strigops habroptilus*

(app. 55 cm - 22 in)

The Kakapo of New Zealand illustrated here is one of the rarest parrots, and there are very few of them surviving today. It is very different from the rest of the parrot family.

These are typical terrestrial birds with very rounded wings and a small breast-bone, both of which indicate that they are no longer accustomed to flying. Indeed they do not fly in the proper sence of the world. They do however climb up sloping tree trunks, using their tails more than their beak to do so, and then glide down to the ground. They can run fast and make paths for themselves which they use at night when out looking for berries, roots, green shoots and leaves. They can dig roots out of the ground with their long beaks, disgorging the undigested cellulose matter in pellets. They make nesting-holes in hollow trees or under large roots, sometimes storing food there as well. The 2-3 eggs rest on a layer of mould.

Like so many terrestrial birds, they seem destined to become extinct despite preservation measures taken in their area of distribution. Their disappearance is largely due to the pigs, cats, dogs and other animals introduced by the European settlers.

KEA, *Nestor notabilis*

(app. 50 cm - 19.5 in)

The Kea is another bird peculiar to New Zealand. In John Gould's opinion, these birds, like the kiwi, the huia and the kakapo, are the surviving members of a fauna belonging to an age before part of the country was swallowed by the sea. It is certainly true that there are many plants and animals in New Zealand that are unique and worthy subjects for further investigation. The Kea is now very timid and cautious and is being driven further and further into the wild mountains. They have been ruthlessly harried and slaughtered by people who wrongly suspected them of killing and eating sheep. They may have been seen pecking at sheeps' heads and other offal that shepherds had left behind, but experience in zoos shows that these birds live almost entirely on vegetable matter. They do however catch and eat mice and rats that come within their reach. The young that were hatched in zoos were reared on lettuce, nuts, dog-biscuits, fruit and boiled rice and maize.

Keas are very playful and are most active at night. They can also be tamed. In their natural surroundings they, like many other terrestrial birds, are threatened with extinction.





RAINBOW LORIKEET,

Trichoglossus moluccanus

(app. 30 cm - 12 in)

This elegant, colourful lorikeet is found in the east and south of Australia and in Tasmania, usually with other species of lorikeet. They frequent flowering eucalyptus, feeding on the blossoms and nectar. They also eat fruit, can do a great deal of damage in orchards and are therefore hunted and killed. They make an incessant noise while feeding and emit shrill cries as they fly away in flocks.

They nest in tree-hollows and usually lay two white eggs which are incubated by the hen for 24 days.

These are essentially arboreal birds and only come down to the ground to drink. They have been kept successfully in aviaries and have produced young. Experience has shown that the pairs must be kept on their own for they molest other occupants. They become very tame and will soon eat out of the hand; they are playful by nature. A specimen was once kept as a domestic pet for 16 years, but as a rule they are not suitable for keeping in cages. In an aviary the pairs are active the whole day long and are amusing to watch.

BLUE-BROWED LORIKEET,

Opopsitta coxeni

(app. 12 cm - 5 in)

This elegant little bird is fairly plentiful in the southern part of Queensland and the northern part of New South Wales. They frequent the scrub and dense woodland, usually in small flocks. They are very retiring and difficult to observe for they are not easy to see among the thick foliage and they make no noise; while they are feeding in fruit-bearing trees however, their presence is often given away by falling fruit. They appear to live mainly on figs. Little is known of their breeding habits except that they nest in tree-hollows and hatch the 2-4 white eggs in the period between September and November.

John Gould obtained specimens, which had been shot near Brisbane, from Mr Waller.





GREAT PALM COCKATOO,

Probosciger aterrimus

(app. 70 cm - 27 in)

This extraordinary cockatoo is found only in the Cape York district of north Queensland and in parts of New Guinea and the Aru Islands. Of all the parrots this has the largest and most powerful beak; it can open the hard nuts of the nonda plum holding them against the upper-beak with the tongue and rubbing them up and down with the edge of the under-beak to make a hole in the shell. When a piece has broken off the bird breaks up the kernel into small pieces with its pointed upper-beak and then licks up all the bits from the ground with its barbed tongue. Apart from nuts they also eat larvae from under tree-barks and the young shoots of palms and other juicy plants. They fly very well and can glide for long distances.

Palm Cockatoos build a platform of twigs at the bottom of a tree hollow, on which they lay their single egg.

These handsome birds become quite tame in captivity, but they require a roomy enclosure or they become bored and fall sick. They enjoy playing together and when they become excited, the bare skin on the face blushes a deep red. They are very destructive and soon reduce feeding and drinking bowls to rubble - only metal utensils can withstand them.

RED-TAILED BLACK COCKATOO,

Calyptorhynchus magnificus

(app. 60 cm - 24 in)

Small flocks of these birds occur in the east of Queensland, in Victoria, New South Wales and the neighbouring parts of southern Australia. There is also a race in south-west Australia. They are identified by the flame-coloured stripe across the tail. They remain near water most of the time and are fond of perching in eucalyptus trees where they find larvae under the bark. They also take fruit, seeds and buds. The flight is rather heavy, but even so they are good fliers and go long distances to find water. They utter a shrill, plaintive cry when in the air.

The nests are built in a tree-hollow or felled trunk. The 1-2 white eggs are laid on a bed of mould. The young grow slowly and are fed from the crop for four months. It takes four years for the cock to develop his full plumage and become sexually mature. The difference between the sexes is clearly illustrated here. When the cock is courting the hen he makes deep bows and spreads his magnificent tail. The birds have been kept in many zoos, but it has been found that adult birds adjust very badly to the new environment and cannot be tamed. It is only if they are taken from the nest when young and hand-reared that they become tame and affectionate. They have been successfully bred in captivity.





WHITE-TAILED BLACK COCKATOO, *Calyptorhynchus baudini*

(app. 55 cm - 22 in)

Pairs or flocks of this cockatoo are especially common in south-west Australia. The cock has greyish-white ear-patches and a black bill, while the hen has white ear-patches and a horn-coloured bill.

The habitat usually is forests, where the birds feed on the seeds of various trees and the white larvae found under the bark.

The flight is heavy, with powerful wing-beats, and the birds emit shrill cries while in the air. They are very fond of nectar which they suck out of blossoms and as they hang upside down on a branch the nectar runs out of their beaks. The hen lays two eggs in a tree-hollow on a bed of twigs chewed into little pieces. Usually however only one chick is reared.

Sometimes these birds do a lot of damage in orchards and pine-nurseries. The closely-related Yellow-tailed Black Cockatoo, *Calyptorhynchus funereus,* is found in east and southern Australia; it is distinguished by brownish-black plumage, clear yellow ear-patches and a diagonal yellow stripe across the outer tail-feathers. It rarely comes down to the ground and finds all its food in the trees. It is more common in aviaries than the other species. Both species are useful to forestry for they keep many harmful timber insects in check.

GANG-GANG COCKATOO,

Callocephalon fimbriatum

(app. 35 cm - 14 in)

This is definitely the most fascinating of the cockatoos living in Australia. They are fairly plentiful in the heavily-wooded mountainous regions of New South Wales, Victoria and Tasmania, where they are usually seen in pairs or small parties, feeding on the seeds of eucalyptus trees and various acacias. While busily engaged, and uttering their curious grunting call they appear to be no longer aware of their surroundings, and one can observe them from nearby. They seldom come down to the ground for they can find all their food in tree-tops.

The pairs are easily distinguishable: the hen lacks the scarlet head and crest, though a few of the head-feathers are red; the feathers on the underparts are edged with orange-red, and she has a few greyish patches on the tail. The cock's beak is darker than is shown here. The young resemble the hen at first, but the cock birds soon show red feathers on the head. It takes two years for them to develop their full plumage. Since their habitat is fairly inaccessible, these cockatoos are holding their own very well. From time to time they leave the tree where they have been feeding and fly round for a little, returning to continue their meal as suddenly as they left.

They nest in tree-hollows and lay two white eggs.





PINK COCKATOO, *Kakatoe leadbeateri*

(app. 38 cm - 15 in)

The very beautiful Pink Cockatoo is widely distributed in western and north-western Australia, including parts of the interior and in Victoria, New South Wales and Queensland.

They are usually seen in pairs or small flocks, feeding on seeds on the ground. When disturbed they fly away with strong wing-beats to another tree or a more secluded spot on the ground. They react to danger with raucous cries and bristling crests. Besides seeds they also eat fruit and berries. Because of their dry habitat they sometimes have to fly long distances to drink

They nest in tree-hollows, and the 3-4 white eggs lie on a bed of wood-shavings and mould.

They have been an attraction in zoos for many years and are commonly considered to be the most beautiful of all parrots. Unfortunately adult birds refuse to be tamed; neither will the birds allow themselves to be touched. They are not suitable for cages for they need plenty of room to move about if they are to keep in good condition. They have often bred in captivity.

GALAH, *Kakatoe roseicapilla*

(app. 38 cm - 15 in)

The Gala, a great favourite among bird-lovers, is found in pairs or small flocks in the interior of Australia, and sporadically in Tasmania.

They frequent open country with scattered woods and like to perch in trees on banks of small rivers. Their clear song is often heard early in the morning and towards dusk, but for the rest of the day the birds are quiet. They find their food mostly on the ground; it consists of all sorts of seeds, bulbs and roots and the green shoots of plants and trees. They fly up with shrill cries of alarm when disturbed, making a gorgeous spectacle with their lovely pink underparts and grey upperparts. There are no external sexual differences. These birds nest in tree-hollows, usually lining the bottom with green leaves. The 4-5 white eggs hatch out after 28 days. The young remain on the nest for seven weeks and are fully-fledged when they leave. The young birds are recognized by their lighter colouring and some grey markings.

Bird-lovers keep single specimens or pairs and have managed to breed from them.





LONG-BILLED CORELLA,

Kakatoe tenuirostris

(app. 44 cm - 17 in)

The Long-billed Corella inhabits the south, west and north-west of Australia. They haunt the bush or woods near to rivers, usually in pairs or flocks. They spend most of the time on the ground hunting for roots and bulbs which they pull up with their beaks. They also feed on the seeds of grasses and other plants, young shoots, berries and nuts. When alarmed they fly up with harsh cries, and the flight is strong and straight. They nest in tree-hollows high above the ground, preferring those growing at the water-side. The 3-4 eggs are white and they lie on a bed of mould. The birds visit farmland, sometimes in huge flocks, and cause such a lot of damage by plundering cornfields and digging up and eating roots, that farmers have had to resort to guarding their land.

They are not often kept as pets but they are frequently seen in zoos, where one or two have bred occasionally. If they are not given sufficient opportunity to dig and gnaw with their beaks, the upper part may grow too long.

PRINCESS PARROT, *Polytelis alexandrae*

(app. 45 cm - 18 in)

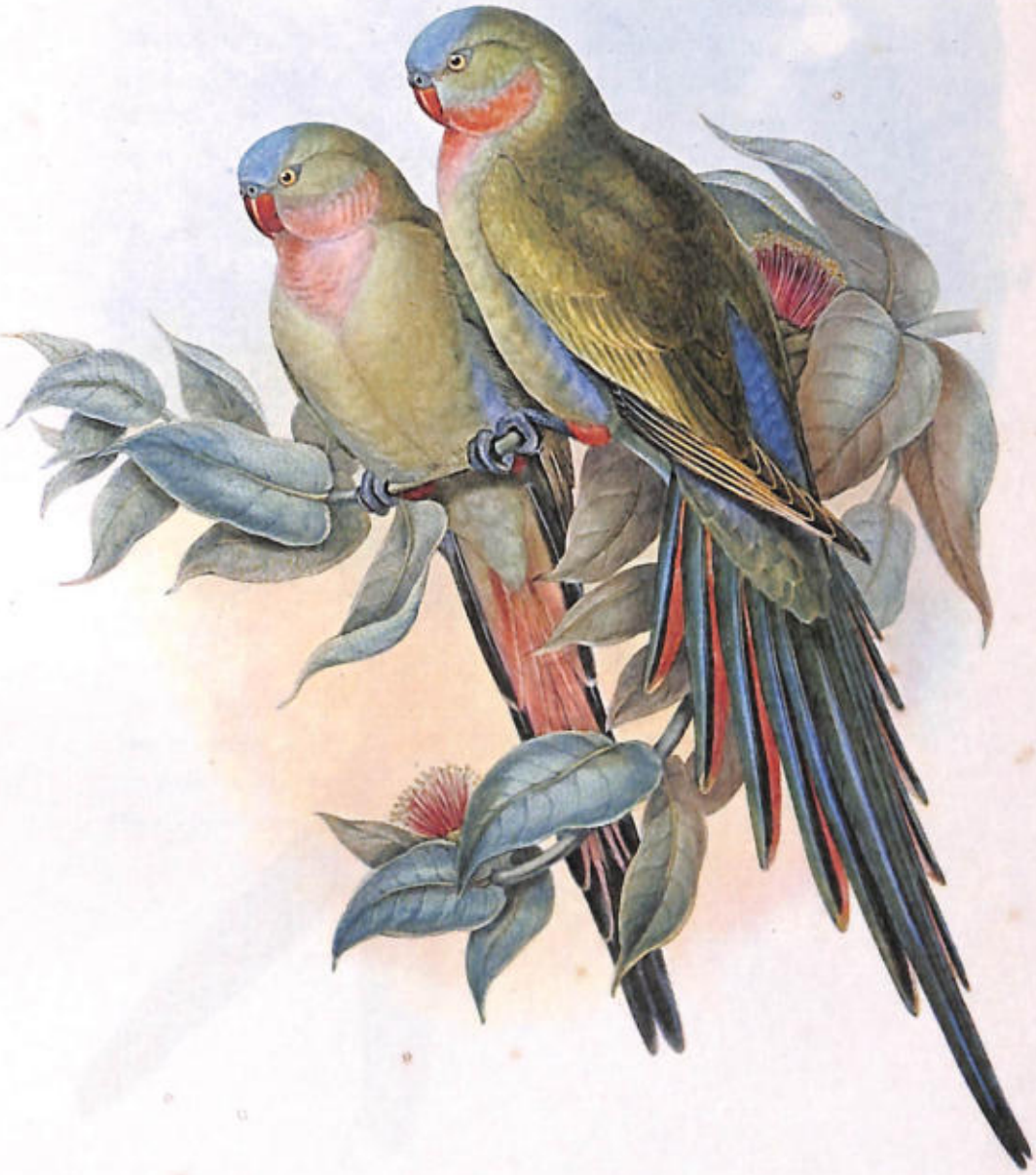
The Princess Parrot is a regular visitor to the dry parts of central, north-west and west Australia, either in pairs or flocks. The choice of habitat is determined by the supply of food and water. The birds may stay away for a few years and then suddenly return in huge flocks and stay to nest. They like to perch on trees at the sides of rivers but find their food mainly on the ground; this consists of the seeds of grasses and various herbaceous plants.

These birds have the peculiar habit of lying full-length along a bough, more like a lizard than a parrot which normally chooses a resting-place among the foliage. They are not very shy and only fly up when one approaches too near. The flight is fast and straight and the wing-beats strong.

The 4-6 white eggs are laid in a hole in a tree usually at the water-side, and they rest on a bed of mould.

Generally speaking the hen's plumage is a little duller in colour, but this is by no means an infallible way of distinguishing the sexes, since all the young are duller than the cock for the first two years.

These birds are kept in many zoos, and breeding is not exceptional. They require a large aviary if they are to develop their capabilities to the full.





KING PARROT, *Alisterus scapularis*

(app. 45 cm - 18 in)

The very beautiful King Parrot lives in pairs or small families, and ranges over an area stretching from Cairns in Queensland to the south of Victoria. They frequent dense woodland, keeping particularly to lofty eucalyptus trees or thick bushes. They roam around after the breeding season, sometimes visiting parks and gardens in towns. As can be seen in the illustration there are marked differences between the sexes; only the cock has the gorgeous scarlet head and underparts. This brighter colouring may perhaps account for the fact that he is shyer than the hen and more inclined to keep out of sight in the foliage. When flushed the birds fly away with slow but powerful flight. They give harsh cries when in the air, though the cock can also produce soft melodious whistles. They feed on fruit, nuts, berries and seeds, and if a large flock alights in orchards or ripening maize fields, it can do a lot of damage. They are often accompanied by other parrots such as the Crimson Rosella.

The 3-6 white eggs are laid in tall, hollow trees. These are popular parrots in zoos where they breed well and often hybridize with related species.

CRIMSON ROSELLA, *Platycercus elegans*

(app. 37 cm - 14 in)

The Crimson Rosella is found all over eastern and south-eastern Australia, and also on King Island and Norfolk Island. In pairs or small flocks they frequent mountain forests, woodland in the plains and areas of scrub. During the daytime they are busily engaged in pecking seeds from grass and herbs, and berries and nuts from trees and bushes, chattering away all the time. They give shrill cries of alarm when disturbed. Because of the harm they did to crops and orchards, they used to be shot in large numbers; nowadays, however, they are afforded some protection.

There are practically no external differences between the sexes. They nest high up in hollow trees. The 6-8 roundish, white eggs are incubated by the hen for three weeks. The nestlings, which are at first covered in white down, remain in the nest for a further five weeks.

These birds are greatly prized by aviculturists for the readiness with which they breed in aviaries. Some pairs even breed twice in a season. They need a roomy enclosure and a varied diet of seeds, vegetable matter and fruit.





GREEN ROSELLA, *Platycercus caledonicus*

(app. 42 cm - 17 in)

These rather rare birds live in pairs or small family groups in Tasmania and on the islands in the Bass Strait. Though the habitat is usually dense forests, in the daytime the birds often visit more open woodland and farmland. They feed on the nectar and blossoms of eucalyptus and also come down to the ground for the seeds of grass and other plants.

In behaviour they are no different from the Crimson Rosella. They like to nest in trees that are completely hollow so that the eggs actually lie on the ground. The 4-5 roundish, white eggs are incubated by the hen for 38 days. The hen shown here on the nest, is distinguished by the red mark on the throat, which the cock lacks. The young are pale green on the underside, and only reach full plumage after eighteen months. These birds are not much sought after by collectors and only occur sporadically in zoos. This is probably because of their plumage which is less variegated than that of the other large parrots. The pairs have to be kept apart from other species for they are not very sociable, though they have - apart from breeding on several occasions - also been known to hybridize with related species.

YELLOW ROSELLA, *Platycercus flaveolus*

(app. 40 cm - 15.5 in)

Small flocks or pairs of the Yellow Rosella are found in Victoria, central New South Wales and in the Murray River Valley in southern Australia. They perch in the tops of trees on river banks, or hang from the outermost branches of eucalyptus where they feast on the blossom and seeds. They are often seen on the ground eating grass seeds and berries. In the trees one hears them chattering more often than one sees them, for they are hardly visible among the leaves.

Sometimes the hen has small red feathers on the throat and breast but this is the only external difference between the sexes.

If they are disturbed when feeding on the ground, they fly up with a shrill whistle to the nearest tree.

Although they are seldom kept in collections quite a few things are known about their habits. For instance they need far more fruit and vegetable matter than other species and also fresh willow twigs to chew.

They too nest in hollow trees, and the 4-5 eggs lie on a bed of wood-mould. Cross-breeding between the Yellow Rosella and the Crimson Rosella has produced young that exactly resemble the Adelaide Rosella, *Platycercus adelaidae,* a species that occurs wild and as such should perhaps be considered a hybrid.





EASTERN ROSELLA, *Platycercus eximius*

(app. 35 cm - 14 in)

The Eastern Rosella ranges from southern Queensland to Victoria, South Australia and Tasmania. They are usually seen in pairs or flocks in open woodland and farmland, though they also visit parks and gardens in towns and cities. They do such a lot of damage in orchards and cornfields that very many are shot each year. Apart from the blossoms and seeds of eucalyptus, they mainly feed on seed and fruit found on the ground. Despite their vivid colouring they are not easy to see on the ground, but when alarmed they fly up screaming into the air. The call consists of a number of pleasant whistling notes repeated at varying pitch. They have a characteristic way of chattering while eating. All the rosellas have a direct, undulating flight and spread their tails when swooping down.

The Eastern Rosella nests in hollow trees and the 4-7 eggs lie on mould. The hen incubates the eggs for three weeks and the nestlings remain in the nest for five weeks or more. The young birds usually stay with their parents throughout the first year. This Rosella often breeds twice a year and the parents and both broods unite at the end of the breeding season to form a single flock.

NORTHERN ROSELLA,

Platycercus venustus

(app. 31 cm - 12 in)

The Northern Rosella or Smutty Parrot lives in pairs or small flocks in the open country and woods or on the tree-clad river banks of northern and north-western Australia. These birds also haunt the mangrove forests which flourish on the north coast. Their flight is fast and zigzag with the undulations characteristic of the rosellas. In the air they utter rapid metallic notes and when feeding they make a chattering noise.

They come on to the ground often to find grass seed and berries. When disturbed they fly up with a raucous cry.

Northern Rosellas nest in tree-hollows high up above the ground. The hen bird lays 2-3 white eggs.

These birds are popular with collectors for they are less aggressive than most of the other large parrots and, once acclimatized, soon begin to breed. They need a roomy enclosure and easily become adapted to their new environment. They have hybridized with various other rosellas.





TWENTY-EIGHT PARROT, YELLOW-NAPED PARRAKEET,

Barnardius semitorquatus

(app. 38 cm - 15 in)

The Twenty-eight Parrot is fairly common in the well-wooded parts of south-west Australia, though its range is more restricted than that of the related Port Lincoln Parrot, *Barnardius zonarius*, which extends into north-west and southern Australia. They usually live in pairs or flocks in scrubland or open forest. Their name is derived from the call which consists of a series of notes thant sound like '*twenty-eight*'. These parrots feed on the seeds of grasses and other plants and also take berries, fruits and flowers.

They nest in a hole in a tree, the female laying four to six or even seven white eggs. They interbreed freely with related species, and pure strains of this parrot are only rarely seen in aviaries. Most bird-lovers may keep only one in their possession for many years without being able to find a partner for it.

GOLDEN-SHOULDERED PARROT,

Psephotus chrysopterygius

(app. 27 cm - 10.5 in)

This species is found in the northern parts of Queensland. They live in open-forest country and also frequent mangrove forests along the coast, spending most of the time on the ground eating the seeds of grasses and other plants. When disturbed they fly away screaming to the nearest tree, but return again as soon as the coast is clear. At mating time the cock erects the black feathers on his head and stands up very straight so that he looks rather fat; at the same time he sings his sweet, pleasing song.

This parrot nests in termite mounds, making an entrance tunnel which leads to a nesting chamber. The 4-6 snow-white, roundish eggs lie on a layer of loose earth. Incubation takes three weeks and the young remain in the nest for a further five weeks. When fledged they remain with their parents for quite a long time, which accounts for the fact that these birds are always seen in groups after the breeding season has ended.





SCARLET-CHESTED PARROT,

Neophema splendida

(app. 22 cm - 9 in)

The Scarlet-chested Parrot occurs sporadically in New South Wales, Victoria and south and west Australia, and then always in pairs. Parties and families have been seen only once or twice in recent years. This does not necessarily mean that the species is in imminent danger, but it is probably true that the numbers used to be greater. They like an arid and rather inaccessible habitat and are probably vagrants, which would account for the fact that they are only occasionally observed.

They spend most of the time on the ground looking for grass seed, their main food. They are rather shy and when threatened fly to a thick bush until danger has passed. The flight is fast and undulating and in the air the birds give a trilling, plaintive call.

They have been recorded as breeding in September. They nest in hollow trees. The hen broods for about three weeks and the young leave the nest after four. These beautiful birds are no longer rare in European zoos and breed there regularly; in this way the species will surely be preserved.

BOOBOOK OWL, *Ninox boobook*

(app. 40 cm - 15.5 in)

Pairs or single specimens of the Boobook Owl are found in woodlands nearly everywhere in Australia. By day they hide away in hollow trees, in dense foliage or in rock crevices. They come out towards dusk and one hears their call *,boobook* or *mo-poke,* from which they have got their name. Their food consists of small birds, rodents and insects.

They nest in hollow boughs of large trees or in a hole in the trunk. A bed of twigs and feathers is made for the 3-4 white, roundish eggs.

The members of the genus *Ninox* are identified mainly by their relatively long wings. Quite a number of related species occur in the same general region. They are resident, but wander over a large territory after breeding. The breeding season lasts from September until December or January. They disgorge undigested food, such as bones and skin, in the form of pellets.

These birds have very good eyesight, though compared with other birds eye movement is fairly restricted; this is compensated for by the fact that the bird can move its head a full 270°. Its hearing is also exceedingly sharp.





SPOTTED OWL, *Ninox novae-zeelandiae*

(app. 35 cm - 14 in)

The Spotted Owl occurs in pairs or alone in New South Wales, Victoria and Tasmania and also in New Zealand. They like to keep to the well-wooded parts. On hearing their call, *mopoke* or *boobook,* the first immigrants used to think they were some sort of night-cuckoo.

These birds are rarely seen, for they keep to thick foliage or hollow trees by day and only appear towards dusk. Then on silent wings they begin their hunt for small rodents, birds and insects. They usually swallow the prey whole, disgorging the indigestible bits a few hours later in the form of a pellet. It is not true that owls cannot see by day; their eyes are, however, very sensitive to light so that even in very poor light they can see sufficiently well to hunt. Full sunlight tends to blind them, which explains their habit of closing their eyes to small slits.

Spotted Owls nest in hollow trees. The 2-3 eggs are rounded and lie on a bed of leaves, twigs and feathers. The breeding season lasts from October until January. The hen is noticeably bigger than the cock.

WINKING OWL, *Ninox connivens*

(app. 45 cm - 18 in)

The Winking Owl is found on the Molucca Islands and New Guinea as well as over the whole of Australia. It generally occurs singly or in pairs in open woodland, low woods or scrub.

Like most of the other owls they remain well out of sight in the daytime in thick foliage or hollow trees. When disturbed they make a grunting noise. Their characteristic call, which sounds like *'kerr, kerr, kerr, koo-wook'*, can be heard when the birds are out hunting from dusk until dawn. Their favourite quarry is large insects such as beetles and grasshoppers, though small mammals and birds are also taken.

The call at mating time is a *'hoo-woo-woo'* or *'kioew'*. The birds usually nest in hollow trees, although nests have been found in rabbit-warrens. The 2-3 white, roundish eggs are laid on a bed of down and feathers. The breeding season lasts from August to October, and incubation takes about one month. The hen broods alone, the chicks however are reared by both parents. They are hatched with the eyes closed and are covered in white down.





POWERFUL OWL, *Ninox strenua*

(app. 60 cm - 24 in)

This large owl inhabits eastern Queensland, east New South Wales and eastern and southern Victoria. These birds keep to hollow trees by day or hide under thick layers of leaves. When disturbed they fly away with powerful wing-beats. They have a spine-chilling call not easily forgotten. The flight is fast and noiseless.

Towards evening they go out in search of prey, mostly small mammals and birds, giving their horrifying call. The pairs nest in a hole in a tree, and the hen incubates the 2-3 white, roundish eggs for more than a month. Nests with eggs or young have been found most frequently in November.

Both parents bring food to the chicks as soon as they have hatched. The chicks are blind at first, and since they have to take the food from the beak the parents first dismember the prey and then touch the chick's beak with a piece. Food left over may be wrapped up again in the skin and devoured later.

The illustration shows one of these birds with its victim, a koala bear.

OWLET-NIGHTJAR, *Aegotheles cristata*

(app. 23 cm - 9 in)

The Owlet-nightjar, which is brown in colour marked with fine grey and white stripes and wavy lines, ranges from New Guinea throughout Australia as far as Tasmania. It is rather like an owl to look at, and its habits are similar. The birds' original home was New Guinea, but they have gradually extended their range. They have a small, rather broad beak which is almost completely hidden by the small whiskery feathers. The nostrils are in the form of slits at the extreme tip of the beak.

During daytime they hide in hollow trees, despite the fact that their protective colouring would make them difficult to detect against a tree trunk. They appear again towards dusk and start the hunt for centipedes, beetles and moths. The loud, grunting call is heard in flight and also in the day-time whenever the bird is disturbed - as with the bird in this picture, which has gone to the entrance of the hole to find out what is happening.

They build their nests in a hollow bough or tree-stump, using a layer of leaves and a few feathers. The 3-4 eggs are white in colour and round in shape; sometimes they may be spotted. Breeding takes place from September to December.





MARBLED FROGMOUTH,

Podargus ocellatus

(app. 50 cm - 19.5 in)

The Marbled Frogmouth is found in New Guinea and northern Queensland. Originally it was thought that these birds preyed mainly on flying insects at night, making good use of their relatively enormous beaks. Later observations, however, have shown that their general behaviour is quite different from that of the nightjars, and that they usually take their food from the ground, making only short flights from their perch.

Beetles, centipedes, scorpions, snakes and frogs form the bulk of their diet, but they also take small birds, mice and sometimes fruit. They are usually seen in pairs or singly in regions where there are plenty of bushes or trees, and they may occasionally be seen in churchyards sitting on a gravestone.

They keep to the shelter of leafy creepers by day, going out to hunt at dusk uttering their dull, monotonous call, *kooloo-kooloo*.

The 2-3 rather round eggs are incubated by the hen for about thirty days. The chicks stay in the nest for a month and are reared by both parents. Breeding takes place in October. The nest is a platform of twigs, built on the horizontal fork of a branch.

PLUMED FROGMOUTH,

Podargus plumiferus

(app. 54 cm - 21 in)

The Plumed Frogmouth, which is much rarer than the Marbled Frogmouth, lives in the dense, low woods of south-eastern Queensland and northern New South Wales.

When threatened, both these species have the peculiar habit of assuming an attitude of alarm, stretching out flat along a bough, beaks tilted in the air, so that they have a striking resemblance to their background. They only do this when taken unawares in the daytime, at night they rely on their wings to take them to safety. Their food consists of mice, frogs and large beetles, and these they take from the ground or a tree. They build their nests in the form of a platform of twigs on a horizontal branch. The tip of each branch overhanging the nest is carefully broken off and added to the platform. The 2-3 eggs are a glossy white and almost round.





RAINBOW-BIRD, *Merops ornatus*

(app. 25 cm - 10 in)

These graceful, beautifully coloured birds occur in Australia, Celebes and New Guinea. In Australia they are migrants which appear in September or October, leaving for more northern parts in February or March. In the daytime they can be seen in pairs or flocks in dry scrub country, where from a perch on a bare branch or tree-stump they survey their hunting terrain. With their swift flight they chase large insects and various kinds of beetles. Towards evening they form large flocks and fly off together to find some tree for the night. The nest is a tunnel, sometimes more than a yard long, in a steep, sandy bank. At the end of the passage there is a nesting chamber. The 5-7 shiny white eggs are usually laid on a bed of the wing-cases of beetles and other insects.

Rainbow-birds, which belong to the bee-eater family, like to haunt the nest of hornets and bees. They sit waiting at the entrance for the insects to appear and pick them up greedily, swallowing them whole; they seem to be immune to the stings. The call is shrill and whirring. The flight is fast, and they catch all their food in the air.

DOLLAR-BIRD,

Eurystomus orientalis pacificus

(app. 32 cm - 13 in)

The Dollar-bird is a migrant that appears in pairs towards the end of September or the beginning of October in north or north-western Australia. A few will wander further south as far as Tasmania or even New Zealand. Their favourite habitat is woodland, and they spend the greater part of the day in the tree-tops. From a perch there on a bare, dead branch they chase after the flying insects that form their main food. They are especially active towards the evening, flying for hours over the trees. Sometimes, however, they come down to the ground for termites, slugs and beetles, and they have been seen clinging on to tree-trunks, rooting out larvae from under the dead bark with their sharp beaks. Dollar-birds nest at a great height in a hollow, broken branch. The 3-5 white, roundish eggs rest on a little mould. They usually breed in the period October to December. The call is hoarse and tuneless. They often perform somersaults when in flight, hence their other name: the Broad-billed Roller. The light patch on the wing becomes rounded in flight to resemble a dollar.





LAUGHING KOOKABURRA,

Dacelo gigas

(app. 43 cm - 17 in)

The Laughing Kookaburra usually lives in pairs in habitats with widely different vegetation, though preferably near water. They frequent the gum-trees and are not afraid of living close to man. Their peculiar song, like a loud, human laugh, is heard most often early in the morning and at sundown. It begins softly and then swells to a loud laugh that can be heard over a very great distance.

Laughing Kookaburras are found mainly in the east and south of Australia; they have been introduced in the west and in Tasmania. They are considered very useful birds, for they devour small rodents, snakes and harmful insects. They also raid the nests of other birds, taking the young, and are known to prey occasionally on chickens.

They nest in hollows in thick trees. The 2-4 eggs are white and the breeding season lasts from September to January.

They can become very tame and even allow themselves to be touched. As can be seen from the picture the young have a dark lower beak, which, like the tail, is at first very short.

BLUE-WINGED KOOKABURRA,

Dacelo leachii cervina

(app. 43 cm - 17 in)

Various subspecies of this beautifully coloured Kookaburra are found in different parts of Australia and in New Guinea. The one illustrated here makes its home in the Northern Territory and in north-western Australia as well as on a few neighbouring islands.

In the daytime the birds usually sit together in pairs on a dead branch up in a tree, looking out for prey, which consists of snakes, lizards, grasshoppers and small rodents. They frequently rob other birds of their young and eggs.

They nest in holes high up in a tree, using their sharp beaks to chisel out passages and nesting chambers. The 3-4 white eggs take more than three weeks to hatch and the young remain in the nest for about a month. They are no different in general behaviour from the Laughing Kookaburra, and they too are easy to keep as pets in a roomy aviary. To aid digestion they need to take a certain amount of indigestible matter so that food pellets will form. Mice and sparrows make excellent foods, though mealworms, and eggs and fish may also be included in the diet. The upper bird in the picture is the hen, the tail forming a very striking mark of identification between the sexes.





SACRED KINGFISHER, *Halcyon sancta*

(app. 19 cm - 7.5 in)

This elegant bird is found nearly everywhere in Australia, New Zealand and on many of the surrounding islands. Most of the pairs arrive in Australia at the beginning of September and leave again in March; a few, however, have become resident and these spend the year wandering about the breeding range.

They are true arboreal birds, preferring thick woodland to the grassy plains where there are few trees. They frequent mangrove forests on the coast, where they feed on crabs and fish, as well as inland regions where they hunt insects and small reptiles. They have the habit of perching on a bare branch, whence they have a good view over their hunting ground. They always return to the perch with their prey, killing it first against the branch before swallowing it. The penetrating *pee-pee* call can be heard in the breeding season and at night.

Sacred Kingfishers nest in the hollow of a eucalyptus tree, or, as frequently happens, in a termite nest in a tree, in which they bore tunnels with their closed beaks. At the end of these tunnels they make nesting chambers big enough to accommodate the whole family, using their beaks and feet. The birds take it in turns to incubate the 4-6 white eggs. The breeding season lasts from October to January.

FOREST KINGFISHER,

Halcyon macleayi

(app. 20 cm - 8 in)

In the breeding season from October until December or January the Forest Kingfisher is found in the north west, north and east of Australia, and as far south as the northern parts of New South Wales. They are residents in the northern breeding grounds and visitors in the more southerly ones. In the daytime they keep mainly to the trees, perching on a jutting branch from where they can survey the hunting terrain. They prey on large insects, small reptiles and fish, and their shrill, short call can be heard at all times of the day.

The illustration shows the cock in flight, which is the only time the wing surface is visible. The hen is easily recognised by her neck which lacks the white band at the nape.

Like the Sacred Kingfisher, these are also fond of nesting in termites' nests high up in a tree, usually about thirty feet above the ground. They use their closed beaks like drills, and in hollowing out the nest chamber use their feet to get rid of the loosened material.

The 4-6 eggs are pure-white and rounded. Both birds take turns in incubating the eggs for a period of three weeks, and in rearing the young. Their noisy behaviour soon betrays the whereabouts of the nest.





AZURE KINGFISHER, *Ceyx azureus*

(app. 15 cm - 6 in)

This gaudily coloured Kingfisher is found in Tasmania, the Molucca Islands and New Guinea, as well as in the north, east and south of Australia.

They are resident birds which frequent woodland in pairs, searching shores or river banks for food, which consists of fish, shellfish and insects. Like the European Kingfisher they dart swiftly over the water or take a rest on an overhanging branch or on a tree-stump, constantly on the watch for prey in the water below. Not only is the flight fast, it is also full of turns, which the birds perform just above the surface of the water. In flight they repeat a shrill, penetrating call.

They dig out tunnels in the bank, making a nest chamber at the end. The 5-6 glossy-white eggs are incubated by the birds in turn. The young stay in the nest for about a month. Fish bones and other left-overs are allowed to pile up round the chicks and cause an unpleasant smell. The young learn to dive as soon as they have left the nest.

WHITE-TAILED KINGFISHER,

Tanysiptera sylvia

(app. 30 cm - 12 in)

These elegant birds are the only members of the genus, *Tanysiptera,* to appear in New Guinea and northern Queensland. They do not arrive in Australia until spring and at the end of the breeding season they leave again for New Guinea and the surrounding islands. They haunt the well-wooded coastal regions, and rarely come down to the ground - only doing so to find their food which consists of reptiles, beetles and other insects. They have only ten tail feathers instead of twelve, and the two in the centre are very long. The head feathers are silky and form a short crest. The middle tail feathers of the hen are a little shorter. The song is persistent and shrill.

The young birds are much duller in colour, and their middle tail feathers are only a little longer than the others. The birds nest in abandoned termite nests, either high in a tree or on the ground. They chisel out passages with their sharp beaks and get rid of the loosened material with their feet. The parents take turns in incubating the 3-4 white eggs.





BLUE-BREASTED PITTA, *Pitta mackloti*

(app. 18 cm - 7 in)

This gaily coloured Pitta lives in north-east Queensland, from Cape York to Cardwell, in New Guinea, the Aru Islands, Malaysia and Java. Those that spend the summer in Australia are migrants from New Guinea.

They frequent woods where the earth is overgrown with creepers and moss. They dart at great speed in and out of the greenery, where they find their food; this consists of small reptiles and insects.

The two whistling notes of their mournful song are heard most often towards sundown and appear, strangely enough, to come from quite a different direction from where the birds are.

Although quite definitely terrestrial birds, they may be seen near the tops of the tallest trees, in which case the nest is probably in a tree not very far away. More often, however, they build the nest a few feet from the ground on a tree-stump or among overgrown creepers. The nest is dome-shaped and made out of twigs and leaves and lined with fine plant fibres. The entrance is at the side. The 3-4 eggs are creamy-white, with purple-brown and blue-grey markings.

SUPERB LYREBIRD, *Menura superba*

(app. 100 cm - 39 in)

The Superb Lyrebird inhabits the dense undergrowth of the vast woodlands that cover eastern Australia from southern Queensland to Victoria. They lead a retiring life, particularly the cock. They are heard more often than is realised, for they can imitate other sounds extremely well. The cock can reproduce perfectly at least twenty different bird songs. Their own call consists of a resonant *tsjoo, tsjoo*.

The cock prepares one or two dancing or display mounds, about three feet in diameter, where he sings his varied song and performs his courting dance, his tail spread out over his back so that the white underside is clearly visible. The attitude of the bird in the picture is typical only of the moment he starts his display.

Lyrebirds are true terrestrial birds which scratch about underneath leaves for larvae, worms and small crustaceans. The hen builds an oven-shaped nest of twigs, fern leaves and moss and lines it with down. The single egg is pale-grey to purplish-brown with grey and brown-black markings. The young bird is blind, helpless and more or less naked at first, but its back soon becomes covered with long black down.





PRINCE ALBERT'S LYREBIRD,

Menura alberti

(app. 80 cm - 31 in)

It used to be thought that these birds, which inhabit wooded country in the south of Queensland and the north of New South Wales, were the young of the Superb Lyrebird. They live a secluded life, mainly in the rain-forests of the low hill-country, and as the land is being developed they are decreasing in number.

When displaying, the male bird walks around in a dignified manner, with his tail spread out over his back so that it is only a few inches from his head. The tail-feathers, which form a lyre, are just a plain, brown colour. The imitative talent of this species is just as great as that of its relative; it can reproduce the Kookaburra's laugh perfectly. Its own call is sonorous and varied.

These are timid birds which run away when alarmed with their tails erect, or fly to the nearest tree, where, with great hops in and out of the branches, they seek a safe place.

The oven-shaped nest is made of twigs, fern fronds and moss and is lined with soft material and down. The single egg hatches in about one and a half months and breeding takes place during the Australian winter (June-July). The young develop slowly; when they are four months old they are still completely covered with brown and greyish down.

NOISY SCRUB-BIRD,

Atrichornis clamosus

(app. 20 cm - 8 in)

The Noisy Scrub-bird was sighted for the first time in 1842 in a wood in south-western Australia. The birds were extremely shy and difficult to approach, although the loud call was heard continuously. The specimens from which Gould made his plate had been shot near Perth and were damaged. There has been little opportunity since then to check on whether the bird at the top is a female or a juvenile, for the presumed last specimen was shot in 1889, and the species was thought to be extinct. However it was re-discovered in 1961. The related Rufous Scrub-bird, *Atrichornis rufescens,* of eastern Australia, is a little smaller in size but provides good evidence of their general behaviour. These birds live in dense woods, where they scuttle about on the ground with tails in the air, searching for insects, slugs, worms and seeds. They churn up the earth with their strong feet. The call is loud and shrill and the song is full of imitations.

The covered nest is built on the ground and lined with damp woodpulp, which, when dry, resembles cardboard. The two pinkish or buff eggs with darker markings are laid in October.





PURPLE-CROWNED WREN,

Rosina coronata

(app. 16 cm - 6 in)

The range of the Purple-crowned Wren stretches from the west of Australia to Queensland and covers the whole of the north.

These birds fly in and out of the reeds or pandanus palms growing on river banks, usually in pairs or small family groups. They are birds of the humid, tropical regions and they feed almost entirely on the small insects that they find in flowers and under leaves. Their call is not very pronounced.

John Gould obtained a few specimens from some naturalists who had made a journey full of hardship from the north-west coast along the Victoria river to Moreton Bay. The hen is pictured on a flowering *Schoenia oppositifolia,* the cock at the bottom of the picture is perching on a *Genetyllis tulipifera.*

These birds make a large nest with a side-entrance near the top, out of thin bark and grasses; it is lined with fine grass roots. It usually hangs in among cane-grass. The three eggs are pinkish-white covered with brownish-pink markings.

BLUE WREN, *Malurus cyaneus*

(app. 10.5 cm - 4 in)

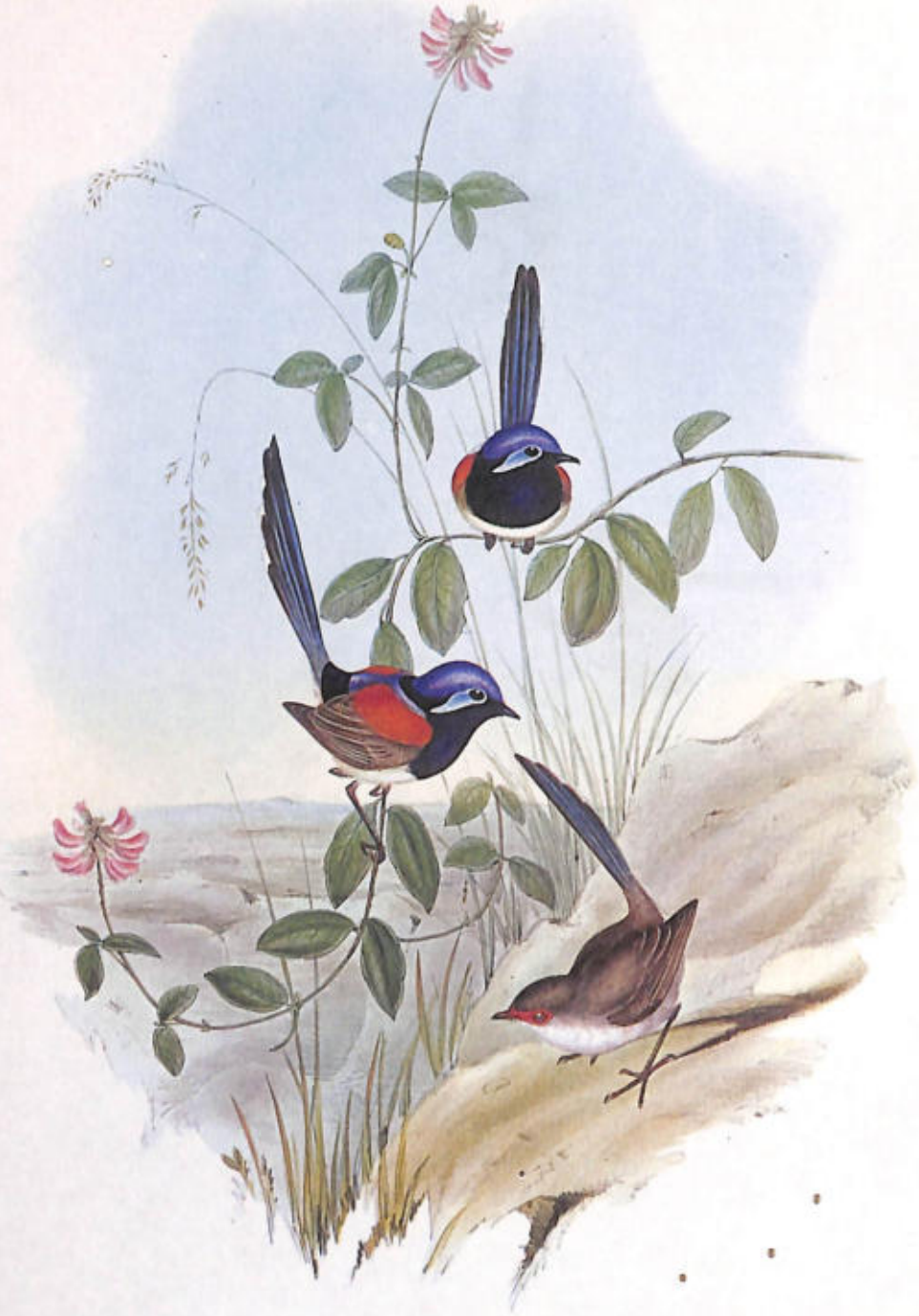
These attractive birds range over most of the southern parts of South Australia, Kangaroo Island, Tasmania and the area stretching from Queensland to Victoria. They prefer wild country that is overgrown with thorny bushes and make their homes in ravines or on river banks. In winter they wander beyond the limits of the breeding grounds and are very popular visitors to gardens and orchards.

The young males are indistinguishable from the hens, but later become blue - to start with, during the breeding season only; after they are about three years old the cocks remain blue. The birds usually hold their tails straight in the air.

The birds will build their beautiful, pouch-shaped nest in inhabited areas. The Shining Bronze Cuckoo, *Chalcites lucidus,* likes to lay its egg in the nest of a Blue Wren, which rears its foster child with great care. The illustration shows the young Cuckoo sitting full of anticipation while some cocks bring food to the nest.

The song consists of a series of quick, musical notes and is heard occasionally at night. The birds find their food-insects - mainly on the ground.





BLUE-BREASTED WREN,

Malurus pulcherrimus

(app. 10 cm - 4 in)

These very beautiful birds are scattered plentifully in pairs or family groups in many parts of south and west Australia. They haunt the thickets growing on hill slopes and in dry river-beds. In general behaviour they are no different from the related species. During the winter the cock is hardly distinguishable from the hen which has a reddish-brown eye stripe.

As the breeding period approaches the cock changes completely, he becomes very lively and displays his courting dress, singing his endless little song. His back, collar and bridle are a deep velvety black, the shoulder feathers chestnut, the wings brown and the top of his head and the broad stripe running down the middle of his back are violet-blue. The indigo-blue on the throat is outlined beneath with a thin, black stripe and the feathers of the undertail are white. The ear and eye patches are greenish-blue. There are two cocks and a hen illustrated here.

These birds build a dome-shaped nest of dry grass and strips of bast, choosing a site just above the ground in a thick bush. The 3-4 eggs are white with reddish-brown markings.

TURQUOISE WREN, *Malurus callaïnus*

(app. 13 cm - 5 in)

The attractive Turquoise Wren lives in pairs or families in southern Australia and some parts of the interior. The picture shows two cocks. The hen is fawn-coloured on the upper parts. The birds illustrated here are not quite true to life, for the blue on the back and head should be deeper.

The cocks are exceedingly shy and keep to the thick undergrowth, particularly along creeks. Their song is like the soft tinkling of bells. These birds like to frequent narrow passes that are difficult to reach, and there they build a domed nest in a dead bush overgrown with rank grass, or in tangled undergrowth. They use soft hay and plant fluff as building material. The 3-4 eggs are white with reddish markings. They breed from November to April.

At first the young males resemble the hen, but after the first moult the blue tail appears, closely followed by the darker feathers on the neck and breast, then the blue feathers on the head and finally the back.





WESTERN GRASS-WREN,

Amytornis textilis

(app. 14 cm - 5.5 in)

John Gould made pictures of two birds which he named the 'Large-tailed Wren' and the 'Textile Wren' respectively. They showed, however, only minor differences and nowadays they are considered to belong to one and the same species, of which there are some local varieties.

The ones reproduced here are found in pairs or parties in western and central Australia. Like the Blue Wren they hold their tails erect. The pairs stay close together and return every evening to a favourite roosting-place in a bush.

These are true terrestrial birds and seldom fly. They cover the ground very fast with small steps and little jumps, using their wings to help them along, so that they look rather like a ball that rolls and bounces forward at high speed. As they run along the ground they point their beaks downwards and their tails upwards. They sing their low, plaintive song when at rest. They feed on seeds and insects.

The nest is cup-shaped and made of bark and soft plants. It is built in the middle of a thick bush. The 2-3 eggs are reddish-white, covered with grey-purple markings on which there are some red patches.

EMU WREN, *Stipiturus malachurus*

(app. 18 cm - 7 in)

These birds, which have a body only 6 cm long, whereas the tail measures 12 cm, frequent the dense brushwood, damp, coastal heathland and grassy plains in east and south Australia and Tasmania. In general behaviour they remind one of the European Wren, but they always stay close to the ground, scuttling along like mice. They much prefer marshy country with tall grass and reeds, where they rarely come out into the open. The short, rounded wings indicate a minimal ability to fly. They run very fast along the ground with the tail stiffly erect and feed entirely on small insects. The hen, shown here at the top of the picture, has a rust-coloured, yellow throat instead of a bluish-grey one. The birds build their nest in a thick tussock or in an overhanging bush. The nest is oval-shaped with an entrance at the side; it is made of grass. The 3-4 eggs are white with red markings. The loose structure of the tail feathers is like that in the Emu, hence the bird's name. The cock's tail is a little longer than the hen's. The song is little more than a reedy chattering noise.





SPOTTED SCRUB-WREN,

Sericornis maculatus

(app. 12 cm - 5 in)

There are about eleven different members of this genus, of which six are found in Australia. The one illustrated here inhabits the south and south-west. They are very retiring and rarely fly, but move as quickly as mice in and out of the grass. The most suitable habitats are found in ravines overgrown with vegetation, forest fringes and the banks of dry rivers that are heavily covered with bushes.

Although they rarely come out into the open, their shrill, chattering song or call is heard regularly. This species is distinguished from the others by the white tips to the tail feathers.

The dome-shaped nest has a side entrance, and is made of bark, leaves and grass with a lining of feathers. The three whitish eggs are spotted with purplish-brown patches, particularly at the rounded end. The hen, shown here at the top of the picture, is very slightly smaller than the cock.

LITTLE THORNBILL, *Acanthiza nana*

(app. 10.5 cm - 4 in)

The Little Thornbill is common in eastern and southern Australia. They are seen in pairs or small flocks and are similar to the tits in their habits, so that they are also known as Little Tits. They often can be seen on the outermost branches of trees and in some areas show a marked preference for eucalyptus, in others for banksia or casuarina. They are true arboreal birds, feeding exclusively on the insects found lying under leaves or on branches. They only come down to the ground if they see insects moving about there, or to take a drink.

These very active birds build a small, domed nest, which has a side entrance near the top, in a leafy tree, choosing a site either right at the very top or at the extreme tip of a high branch. The nest is made of grass and bark and is lined with hair and feathers. The 2-4 eggs are whitish in colour, sprinkled with lavender-blue and red-brown dots.

There is no difference in appearance between the sexes or between the young and the adult birds.



YELLOW-TAILED THORNBILL,

Acanthiza chrysorrhoa

(app. 11 cm - 4 in)

The Yellow-tailed Thornbill occurs everywhere in Australia except in the Northern Territory and in the north-west. They usually frequent open woodland and farmland in small flocks and are regular visitors to orchards and gardens. They are very tame and allow themselves to be approached quite close before flying up to settle elsewhere. The whole of the tail is distinctive in flight.

As the illustration shows these birds build a large double nest out of leaves, grass and wool, which they bind together with cobwebs; it is often placed at the tip of a branch. The inside is lined with hair, fine grass and feathers. The lower compartment of the nest shows the hen brooding while the upper one is said to be occupied by the cock at night.

The Shining Bronze Cuckoo, *Chalcites lucidus,* likes to lay its egg in the nests of these birds, and Gould found on more than one occasion that a young cuckoo had driven out the other young and had taken sole possession.

The song consists of a few pleasing notes rather like that of the Goldfinch. The birds feed on insects and their larvae which they mostly take on the ground. The four eggs are a pale flesh colour with reddish spots at the rounded end.

ROCK WARBLER, *Origma solitaria*

(app. 12 cm - 5 in)

The Rock Warbler is found all over central New South Wales, on the sandy or chalk banks of small rivers and streams where there are caves in which they can build their nests.

They never perch in trees, preferring the waterside where they hop from stone to stone, making shrill cries and picking up the insects on which they feed exclusively.

Rock Warblers nest in natural caves and also in sheds, under bridges and in mine-shafts. The nests are ingeniously designed; they are bulb-shaped and are suspended from the ceiling of the cave by a strand which is made principally of cobwebs. The rest of the nest is made out of moss, bark, grass and plant fibre and is lined with plant fibre and feathers. Frequently, a number of nests are built close together.

Three pure-white eggs are laid, and these may show a few fine markings. The breeding season is from July to December. There is no difference in appearance between the cock and the hen.





REED WARBLER, *Acrocephalus australis*

(app. 17 cm - 6 in)

The Reed Warbler is a migrant which arrives in southern Australia and Tasmania in August. It frequents the banks of rivers and lagoons, where it nests before leaving again for the north in March-April; only a few pairs remain in the south for the winter.

This bird closely resembles its European relative, but its song is louder and more tuneful. This is to be heard night and day even by artificial lakes in parks and is a lively contribution to the country scene. The identical male and female start to nest in late spring. They make a deep, sturdy nest out of dry rushes and reeds and place it between three or four stalks in a reed-bed usually about eighteen inches above the water surface.

The 3-4 eggs are greyish or bluish-white, sometimes yellowish-brown, and are covered with lavender-blue and reddish-brown markings. Whilst the hen is sitting on the nest the cock warbles loudly from a nearby reed. The birds take many insects from the surface of the water as well as those that live in and about the reeds.

GOLDEN-HEADED FANTAIL-WARBLER, *Cisticola exilis*

(app. 11 cm - 4 in)

There are several races of the Golden-headed Fantail-warbler in Australia, except the south-west; the one illustrated here was named *Cisticola ruficeps* by Gould on account of the reddish-brown colour on the top of its head. They are all identical with each other in behaviour.

These are birds of the rolling plains, marshland and bamboo fields. They keep to the ground in the grass or reeds and seldom show themselves. They fly up only when nearly underfoot.

As the breeding period approaches the cock loses the stripes on his head, which then becomes a beautiful pure brown. He is very active and seeks out a high perch at the top of a tall reed from which he sings his song, which consists of a humming tune interspersed with one or two whistles. It is heard most often early in the morning, and also when the cock is fluttering with quivering wings above the nest.

The nest is a marvel of architecture; it is the size of a tennis ball and is placed about eighteen inches above the ground or water. It is made of grass, plant fibre and cobwebs, and the outside is adorned with green leaves woven into the structure. There are 3-4 eggs which are bluish-green with reddish-brown markings.





CRIMSON CHAT, *Ephthianura tricolor*

(app. 11 cm - 4 in)

These birds are found in pairs or small groups in the scrub country of eastern and central Australia and in the southern part of South Australia. They spend most of the time on the ground, where they hunt insects, their main food. Apparently they are vagrants and are not resident in any one place.

A pair is illustrated here, the one at the top is the hen which has brown on top of the head, though her breast is paler. Her rump and upper tail feathers, however, are as deep in colour as those of the cock. The call is a metallic, '*ting, ting*' sound.

They build a cup-shaped nest of grass, roots and plant fibre in a low bush or dense tussock, lining it with soft material. The 3-4 eggs are white, with a scattering of purplish spots.

The breeding period varies considerably, according to the climatic conditions that prevail in the different parts of the very extensive range.

LOG-RUNNER, *Orthonyx temmincki*

(app. 18 cm - 7 in)

A very retiring bird found in northern New South Wales and south-eastern Queensland. These birds are characterized by exceedingly long feet and claws, which they use to scratch food from under leaves, and also by the elongated tail feathers which they use as supports. They feed mostly on insects, particularly beetles, small snails and slugs.

The birds make a terrible noise as they run over the fallen trees and mossy stones; they give a series of short cries and appear to be in a state of great agitation. Apart from this they also have a pleasing song. There is a marked difference between the sexes, the hen having a red-brown throat and the cock a white one. The nest is built either on the ground or near to it and is a domed construction of sticks, lined with moss. The entrance is at the side. Two white eggs are laid.





GREY-CROWNED BABBLER,

Pomatostomus temporalis

(app. 26 cm - 10 in)

Flocks of 8-12 of these very noisy birds are found among eucalyptus and angophoras and other trees nearly everywhere in eastern and south-eastern Australia. Their favourite habitat is open country with scattered trees and thick undergrowth. They spend much of the day on the ground looking for the insects on which they live. Besides the many strange noises they produce, there is a definite call that sounds like *ye-hoo, ye-hoo*. There are no external sexual differences.

They always act in unison and when one goes hopping over the branches into a tree, the others follow at once, and they all perch at the top of the tree with tails erect, peering down below to find out the cause of the alarm.

The large, dome-shaped nest has an entrance in the shape of a spout. It is made of loosely-woven twigs, but the lining is thick and composed of bark, grass and wool and this gives the nest the necessary body. It is placed on a forked branch at heights of up to twenty feet.

The 3-6 eggs are pale brown, veined with darker brown. There are often seven or eight nests in one tree.

EASTERN WHIPBIRD,

Psophodes olivaceus

(app. 26 cm - 10 in)

These birds range from north-eastern Queensland to Victoria. They are named after their call, which is a fluting sound that ends like the crack of a whip, followed by two softer '*choo-choo*' sounds. These loud 'whip-lashes' can be heard all day long in the dense woods and undergrowth on the coast, although that very good imitator, the Lyrebird, which also makes its home there, is probably responsible for some of the sounds. The birds are seldom seen for they are good at concealing themselves in thick undergrowth, where they also find their food under leaves and stones. They are very lively and move about the dense bushes with great agility. They waggle their crests up and down and spread their uptilted tails in an elegant manner. In spring when the young cocks chase each other about, one can hear whole concerts of whip-lashes.

The nest is built in a low bush or undergrowth. It is cup-shaped and made out of twigs and roots and is lined with soft material. The two eggs are pale-blue or bluish-white with irregular markings in lavender and black. The hen is rather smaller and a little duller in colour. The young birds are a brownish colour.





WEDGEBILL, *Sphenostoma cristatum*

(app. 19 cm - 7.5 in)

The Wedgebill is found in Polygonum woods and thickets everywhere in the interior and from western Australia to western Queensland and New South Wales. They are rarely seen on the coast but roam along the banks of dried-out rivers in pairs or singly. The plumage blends well with the general tones of the flat, inland country. In flight the white tips of the outer tail feathers are very distinctive.

The voice is tuneful but melancholy and is reminiscent of the tinkling of small bells - hence some of the names by which this bird is popularly known, such as 'Chiming Bird'.

The bowl-shaped, rather shallow nest is built on the fork of a bush or low tree at a height of only about three feet from the ground; it is made of twigs, bark and grass and lined with hair, grass and plant fibre. The hen lays 2-3 eggs which are bluish-green with a few black markings. They breed from August-September to January.

RED-THROATED WHISTLER,

Pachycephala rufogularis

(app. 19 cm - 7.5 in)

This bird is found in South Australia and the bush country of north-west Victoria. The birds are only seen when they come down to the ground for food. John Gould discovered some in the open woods near Adelaide. They are quiet little birds with very striking plumage and are usually found in pairs. The cock has brick-red underparts and throat. He sings a subdued, plaintive melodious song. Both birds have fine moustache-like bristles round the beak (not shown here in the illustration).

The birds build a bowl-shaped nest out of thin strips of bark and grass which they bind together with cobwebs; the rim of the nest is usually woven with green tendrils; the lining consists of fine grass and flowers. The nesting site is a thick bush or a tussock of tall, prickly grass. The 2-3 eggs are cream- or buff-coloured, marked with dark-brown and lavender patches.

It is interesting to note that these birds are more or less restricted to areas where the Mallee scrub flourishes.





GREY SHRIKE-THRUSH,

Colluricincla harmonica

(app. 20 cm - 8 in)

This thrush-like bird with rather insignificant plumage was one of the first species to be discovered in the country. It is very common in eastern and south-eastern Australia and is also found in Tasmania and on Kangaroo Island.

These birds are friendly, and their song is often heard in inhabited areas. They are resident but roam about the warmest part of their range when the breeding season has ended. They are very useful for they destroy innumerable grubs, beetles and other harmful insects in orchards, woods and gardens. Their musical, fluting notes are also heard when they are looking for food. They build a bowl-shaped nest in cracks in walls, in thick shrubs, in the fork of an upright branch and also, as the picture shows, in sawn-off tree-stumps. It is constructed out of pieces of bark, tough stalks and grass, and lined with fine plant fibre and grass flowers. Occasionally the nest is found on the ground between tree roots or in a hole in a river bank. The 3-4 eggs are creamy white with brown and bluish-grey markings.

GREY FANTAIL, *Rhipidura fuliginosa*

(app. 15 cm - 6 in)

The Grey Fantail is not only distributed over the whole of Australia and Tasmania but also over New Caledonia, New Hebrides and New Zealand.

They are to be found near water, where they frequent tree-tops and wooded valleys. They only leave their perch for short flights to chase after passing insects, usually returning with their victim. They are seen in their full glory in the air as they gracefully twist and turn over the tree-tops with widely spread wings and tail. As they flutter among the branches they make a soft, cheeping sound. They are active and constantly on the move. They are not at all shy and when chasing after mosquitoes will even enter houses situated in woodland.

Grey Fantails are much more timid in the breeding season and choose a nesting site somewhere in the open wood, in thick undergrowth or on a hanging branch. The nest is shaped like a wine-glass without a base; it is strengthened with cobwebs and a special sort of bark and is lined with fine grass, ferns, moss and down. The 2-3 eggs are buff-coloured with reddish and lavender-blue markings.

On leaving the nest the young birds are in no way different from their parents.





RUFOUS FANTAIL, *Rhipidura rufifrons*

(app. 15 cm - 6 in)

The range of the Rufous Fantail extends from north-west and north Australia south to Victoria. It is also common on the islands to the north.

In spring the birds migrate to southern regions, returning to northern Australia and the islands again in autumn. On passage they frequent open woodland, while in the breeding season they keep to dense forests. They feed mostly on insects, which they hunt mainly on the ground. They move along quickly, hopping over, or on to, tree-stumps with outspread tail. Flies and mosquitoes they catch in the air.

The only way of identifying the hen is by her somewhat smaller size. The nest is cup-shaped with a stem below that is two to three inches in length. It is made of grass and pieces of bark fastened together with cobwebs to make a sturdy compact structure which is lined with fine grass. There are usually two eggs, occasionally three. They are buff-coloured, with an area of lavender around the larger end.

SATIN FLYCATCHER,

Myiagra cyanoleuca

(app. 11 cm - 4 in)

These beautiful little Flycatchers live in the ravines and dense woods of east Australia and Tasmania, which they visit in spring for the breeding season, leaving again for more northerly parts in autumn.

They are most plentiful in the low hill country where they keep to tree-tops. Lively, active birds, they make a most attractive sight, hopping from branch to branch with sudden forays into the air after insects, their tails quivering to and fro. The mating call consists of a few short, low, fluting notes repeated once or twice.

The hen is less glossy than the cock on the upper parts and her throat and breast are a rust-red. The young cocks resemble her during their first six months. Both the sexes are illustrated here.

The nest is built at the end of a dead branch, often protected by a live one above. It is cup-shaped and made of thin strips of bark fastened together with cobwebs. The lining consists of soft, plant fibre. The 2-3 eggs are dull white, mottled with brown and lavender.





BLACK-FACED FLYCATCHER,

Monarcha melanopsis

(app. 16 cm - 6 in)

The Black-faced Flycatcher lives in small groups in the woods and forests of east Australia as far south as Melbourne, and also in New Guinea.

They are migrants, arriving in spring and leaving again at the end of the breeding season. Their favourite habitat is woodland with abundant undergrowth. They feed on different kinds of insects, among the leaves and in the air. They are especially active during the breeding season, flitting in and out among the branches. The song is a series of loud, fluting sounds, *way-ooh, way-ooh,* repeated once or twice.

The picture shows the cock and young bird. The hen resembles the young bird, though Gould had no definite knowledge of this when he made the plate. Dissection, however, has proved that all the birds with a black mask are cocks.

Nests are usually placed on the vertical fork of a branch; they are cup-shaped and made out of green moss and are lined with fine plant fibre. The birds choose a site quite high up in a leafy tree. The 2-3 eggs are white with lavender-blue and red patches.

FLAME ROBIN, *Petroica phoenicea*

(app. 10.5 cm - 4 in)

The Flame Robin is found in South Australia, Victoria, New South Wales, Tasmania and the islands of the Bass Strait during spring and summer.

They nest in the cultivated areas on the coast. In pairs they search for a suitable nesting-site in woods or on rocks at the water's edge. The nest is built in a rock crevice or tree-trunk, or it may be suspended from the fork of a branch. It is bowl-shaped and made out of strips of bark, grass and roots. The nest is lined with hair and moss and covered on the outside with cob-webs and moss. The four bluish-white eggs have lavender-blue markings which are blotched with fine brown spots.

The cock likes to perch on a large stone or clump of earth to display his flame-red breast, and when the hen is brooding he goes and sings from a branch above her. The birds find their food entirely on the ground; it consists of insects and worms. They also visit gardens and orchards a lot for they are not at all shy.

After breeding they congregate into large flocks. The cocks then have a plain, brown dress and like the young birds, resemble the hens. They are not always in their display plumage at the beginning of the breeding season but they sing no less ardently despite this.





SOUTHERN YELLOW ROBIN,

Eopsaltria australis

(app. 13 cm - 5 in)

These friendly birds are distributed over New South Wales and other parts of south-eastern Australia. They are popular visitors to woods and gardens inland and near Sydney. They are not at all shy and will remain perched on a fence or garden path even when people are nearby. As they flutter from bush to bush the clear yellow patch on the rump is a good distinguishing mark. They usually gather their food, mainly insects, on the ground. They begin their penetrating, fluting song at dawn and go to roost only when night has fallen.

They are resident birds, remaining in the same place summer and winter. The cup-shaped nest is built in the fork of a branch either very high in the tree or very low. It is made of roots and grass strengthened with cob-webs. It is usually lined with small, dry leaves and is sometimes decorated on the outside with loose-hanging strips of bark and pieces of lichen, so that it is more or less invisible against the branch.

The two eggs are apple-green, marked with chestnut and pale brown. After fledging the young birds develop stripes but they soon gain their full colouring. The hen is a little smaller than the cock.

NORTHERN SCRUB-ROBIN,

Drymodes superciliaris

(app. 22 cm - 9 in)

These birds lead a very secluded life in the dense forests in the north-east of Australia. They usually live in pairs and are rarely seen, for when approached or in danger they take huge hops over the ground, to some safe place in the thick foliage. When searching for food, which consists of live insects, they walk along without haste over the leaves lying on the ground, turning them over one by one. The loud call consists of a tuneful whistle, which the birds will answer if imitated.

The hen builds the nest by herself on the ground among some old leaves. It consists of a small hollow in which twigs, leaves, plant fibre and grass are placed to make a cup; leaves are laid round the outside up to the rim. The lining is made from finer material.

The two greyish eggs, which have brown markings at the rounded end, are incubated by the hen. The sexes are identical, except that the hen is very slightly smaller than the cock.





BLACK-CAPPED SITELLA,

Neositta chrysoptera pileata

(app. 12 cm - 5 in)

Parties and flocks of these birds frequent the open woodland of the extreme south-east of New South Wales, South Australia and Victoria. They are very lively and move in and out of the branches and up and down the tree-trunks with great agility. Like the European Nuthatches they find larvae and insects in or under the bark. They chatter away softly all the time they are searching for food.

The orange-brown speculum on the wings is very conspicuous as the birds fly from tree to tree; the bird at the top of the picture illustrates this. The hen is shown at the bottom of the picture and is distinguished by the black mask and the rather upturned beak, which starts to curve in the middle.

The nest is built on the vertical fork of a branch and is a sturdy cup-shaped structure of bark, plant fibre, cobwebs and insect-cocoon silk. On the outside it is covered with small pieces of bark, so that it matches the tree-trunk. Because of this, plus the fact that it is usually built high up, the nest is very difficult to detect. The three eggs are greyish-white, marked with olive-green and slate-grey patches.

MISTLETOE-BIRD,

Dicaeum hirundinaceum

(app. 10 cm - 4 in)

The Mistletoe-bird is common to the whole of Australia. They are usually seen in pairs in the tops of trees or among blossoms of the mistletoe *(Loranthus),* a parasite which grows on the trunks of trees; its seeds are disseminated by this rather swallow-like bird. Apart from these sticky mistletoe berries the birds feed chiefly on the insects that hover around the blossoms. The song is soft and warbling and is only audible from right under the tree in which the bird is perching.

The hen lacks the glowing colours of the cock and is plain grey-brown on top and whitish-grey underneath. The picture shows clearly the pear-shaped nest with a sitting hen.

The nest is made from various kinds of soft plants that have been worked together with cobwebs to make a felt-like fabric. It is usually suspended from a thin branch of a leafy tree at a height of about 25-30 feet above the ground. Both birds help to build the nest, but the incubation of the three pure-white eggs is done by the hen alone; the cock, however, assists in feeding the young.





SPOTTED PARDALOTE,

Pardalotus punctatus

(app. 9 cm - 3.5 in)

The Spotted Pardalote is the most widely distributed member of its genus in Australia; it is found over the whole of the southern part and northwards to Queensland on the east side. The birds live mainly in pairs and frequent the outermost branches of eucalyptus trees, looking for insects. They are slow of movement but never idle. The monotonous call consists of a high and a low note and sounds like *slee-p, babee.*

They have peculiar nesting habits; they dig a tunnel 18-24 inches long in a bank of earth usually by a river or stream, at the end of which they make a nest chamber out of fine plant fibre and eucalyptus bark. The entrance to the passage is often overhung with grass so that only the birds flying in and out disclose the whereabouts of the nest. How the birds manage such a beautiful little construction in darkness is a mystery. The birds share the incubation of the 4-5 eggs which takes ten days. The hen, shown here at the top of the picture, is easily recognised because she lacks the clear yellow throat.

YELLOW-BREASTED SUNBIRD,

Cyrtostomus frenatus

(app. 12 cm - 5 in)

These elegant birds are found on the north-east coast of Australia as well as on Celebes, New Guinea and the Solomon Islands.

A pair can often be seen hovering like hummingbirds in front of the blossom of a flowering tree, which they strip of nectar and small insects. Now and again they dart away after a flying insect. The song is a sustained warble, and as the birds are flying around the call sounds like *tsee-tsee-tsee*.

In the breeding season the cock acts aggressively towards other birds. The oval-shaped nest has a side entrance protected by a canopy above. It is hung from a low bush or in some places from a veranda. It is made of bark, fine grass, leaves and cobwebs and is lined with plant down. The 2-3 eggs are greenish-grey marked with brown.

The illustration shows two cocks and a hen who lacks the blue throat.





WHITE-NAPED HONEY-EATER,

Melithreptus lunatus

(app. 11 cm - 4 in)

These birds may be found in pairs or small flocks in Queensland southwards to Victoria and westwards to Western Australia, particularly where the eucalyptus flourishes. They scramble along the thinnest outermost branches to reach the blossom, where they feed on insects, pollen and nectar. While thus engaged they chatter away, in a cheerful manner. They can also produce a shrill, whistling sound. Though they are resident birds they wander about after the breeding season.

They build a beautiful cup-shaped nest of thin strips of bark stuck together with cobwebs; it is lined with fine grass, hair and wool. The birds are often seen on the backs of horses and cows, plucking hair for the nest.

As the picture shows, the nest is suspended from the tip of a branch, usually some feet above the ground. The 2-3 eggs are buff-coloured, and marked with purplish-grey and red-brown, especially at the rounded end.

The young birds are not black on top of the head but brown. The hen is slightly smaller than the cock.

REGENT HONEY-EATER,

Zanthomiza phrygia

(app. 19 cm - 7.5 in)

This gorgeously coloured bird is resident nearly everywhere from South Australia and Victoria northwards to southern Queensland.

It is definitely one of the most beautiful of the honey-eaters. It is confined to regions with eucalyptus for it feeds among the blossom and will wander from place to place according to the flowering season. The birds will choose a tall, heavily-flowered tree and chase all the other birds away. They are particularly aggressive towards the younger members of their own species. Thier diet consists chiefly of nectar, but also includes small insects.

Regent Honey-eaters make a lot of noise and have a loud, laughing call. They build their large, cup-shaped nest out of strips of bark and grass on a jutting branch of eucalyptus, and line it with thistle-down and hair. The two eggs are reddish-buff with reddish and brown markings at the rounded end.

The young birds lack the wart-like, bare patches on the face. The hen, which is a little smaller in size, is shown here on the nest.





YELLOW WATTLE-BIRD,

Anthochaera paradoxa

(app. 40 cm - 15.5 in)

Pairs and flocks of these birds are seen among flowering eucalyptus and banksia in Tasmania and the islands of the Bass Strait. The long yellow wattles form their most striking feature, for it is lacking in some other members of the family. The rather smaller Red Wattle-bird, *Anthochaera carunculata,* of south Queensland, has similar plumage but its wattles are dark-red and shorter.

The birds are not very shy, and as they get very fat in winter are often shot for food and oil. They use their long tongues, which have a bristly tip, to extract nectar from deep flowers and they also take pollen and insects. They are very lively, active birds and hang on to or scramble along the thinnest branches in all manner of ways, making strange, gurgling sounds. The cup-shaped nest is made of thin twigs and grass, and lined with grass plumes and plant down. It is placed on the forked branch of a tree about 15-20 feet above the ground. The 2-3 eggs are a pinkish-buff marked with red-brown and purplish-grey.

The illustration shows a pair, the hen is a little smaller than the cock and has shorter wattles.

NOISY FRIAR-BIRD,

Philemon corniculatus

(app. 29 cm - 11.5 in)

The Noisy Friar-bird is the most familiar of the honey-eaters. It is found in open inland woods and scrub all over eastern Australia from Cape York to south Victoria.

These are noisy, quarrelsome birds, rather like jays. The cock is conspicuous more by the way he sings from a perch high in a tree than by his appearance. The naked head and neck have earned them the names, 'Monk' and 'Leatherhead'.

The flight is powerful and undulating and the birds frequently fly high over the woods. They do all sorts of tricks, holding on to a bough with their powerful claws, or even hanging upside down from one foot. The food consists of nectar, insects, fruit and berries, and the birds do quite a lot of damage in orchards.

The birds become bold at breeding time and lose all fear of people and of large birds such as hawks, crows and magpies. They build a cup-shaped nest on a branch overhanging the water, using twigs and bark stuck together with cobwebs and lining it with fine grass and fibre. The three eggs are pale salmon-pink with a few hazy markings.





BANDED HONEY-EATER,

Myzomela pectoralis

(app. 11 cm - 4 in)

Small flocks of these birds haunt flowering trees and shrubs on the tropical north coast of Australia. The picture shows two cocks and a hen. Apart from the reddish-grey back, which also distinguishes the young birds, the hen lacks most of the black breast band.

There are other members of the same genus in north and east Australia that have deep scarlet on the rump and head.

Banded Honey-eaters usually go about in flocks, searching for nectar and insects. The call consists of a short, harsh note and is heard while the birds are flitting from flower to flower.

They build a cup-shaped nest out of thin strips of bark and grass stalks fastened together with cobwebs and placed on the fork of a jutting branch; it is lined with fine grass and hair. The two eggs are buffish-white and darkest at the rounded end.

BLUE-FACED HONEY-EATER,

Entomyzon cyanotis

(app. 25 cm - 10 in)

The range of this brilliantly coloured bird extends through the whole of Australia except the south-west, They inhabit open forest country lying between the mountains and the sea. They feed on nectar and insects and on a variety of native berries and fruit, particularly those of the pandanus palm.

They go about in pairs or small groups and often associate with large parrots and other related species. They work their way gracefully over the thinnest branches which bend under their weight. The call is a single, monotonous, loud note.

The nest is a platform of twigs surmounted by a cup-shaped structure made of bark and grass. Gould tells of seeing the birds making a hollow in the nest for their eggs. The two eggs are salmon-pink marked with rust-brown.

The cock and the hen do not differ from each other in appearance. An adult bird and a young one are shown here. The young birds have yellow, bare patches on the face which turn blue after the first season.





BELL MINER, *Manorina melanophrys*

(app. 19 cm - 7.5 in)

The Bell Miner makes its home in east Australia from south Queensland to Victoria. Its favourite habitat is wet marshland surrounded by impenetrable overgrowth where the foliage of the trees matches the tones of its plumage.

In groups of 10-14 these birds perform all sorts of acrobatics while inspecting eucalyptus leaves for insects. They fly from tree to tree with outstretched wings and sometimes hang by one foot from the tip of a branch. The monotonous chorus sounds from afar like the tinkling of bells.

They are resident birds and stay several years in the same area. Owing to their bold, inquisitive nature it is quite easy to lure them by imitating the call. They have the remarkable habit of all rising together at a given signal and then going off to settle on a nearby tree.

The cup-shaped nest of bark and grass is suspended from the fork of a branch. The 2-3 eggs are flesh-coloured and spotted with red-brown, purple and grey. There are no external differences between the sexes.

WESTERN SPINEBILL,

Acanthorhynchus superciliosus

(app. 15 cm - 6 in)

The Western Spinebill is a resident bird in the woods of south-western Australia, where tea-trees and banksia flourish. They are usually seen in pairs, even in the gardens of Perth and other towns.

They feed on insects and nectar. They can protrude the tongue very far, and are thus able to reach the nectar lying in very deep flowers.

These very lively birds flit from flower to flower, and also visit low flowering shrubs. As they rise straight in the air they utter a tuneful series of quick piercing notes.

The round, compact nest is made of bark, grass and moss lined with fine grass and feathers; it is placed among the long leaves of banksia. The walls of the nest are very thick. The two eggs are pale pinkish-white and are marked, particularly at the rounded end, with reddish-brown and purplish-grey.

The hen is very slightly smaller and more slender than the male, but otherwise the sexes are externally indistinguishable.





GREY-BACKED SILVER-EYE,

Zosterops lateralis halmaturina

(app. 11 cm - 4 in)

These birds are common all over New South Wales, Victoria, Tasmania and most of South Australia, in woods and especially in gardens where, unfortunately, they do a lot of damage to berry bushes. Apart from this they are useful birds that destroy many harmful insects.

The soft, sustained song is melodious and includes the notes of various other birds. In their movements they are as nimble and graceful as the tits. They search the leaves thoroughly for insects, assuming the most extraordinary attitudes. In the breeding season they live in pairs and during the rest of the year in flocks.

They usually nest in a bush or small tree. The nest is cup-shaped and made of grass, moss, hair and wool strengthened with cobwebs and lined with fine plant fibre and grass. The three eggs are pale bluish-green. The hen's slightly duller tint is the only distinguishing mark between the sexes.

WELCOME SWALLOW,

Hirundo tahitica neoxena

(app. 13 cm - 5 in)

The Welcome Swallow is widely distributed throughout Australia and Tasmania. It is often found near houses and farms and is common in gardens and parks. In the early part of the year when the breeding season is over the birds form huge flocks before moving off to their winter quarters in northern Australia.

The flight is swift and full of evolutions, and in the air the birds make a soft, chattering noise. They skim over land and water, catching insects in the air.

The intricate, cup-shaped nest is made from pellets of mud strengthened with bits of grass. Fine grass, feathers and hair are used for the lining. Unlike the one illustrated here, the nests are rarely built in trees but are more commonly fixed underneath bridges, eaves, or on to the walls of caves.

The 4-5 white eggs are marked with blue and purplish-brown, particularly at the rounded end. Incubation takes twenty days. The young sometimes return to the nest for a few nights after fledging and the parents continue to feed them for quite a long time.





FAIRY MARTIN, *Petrochelidon ariel*

(app. 14 cm - 5,5 in)

The Fairy Martin is common to the whole of Australia and Tasmania; it spends a great deal of time wandering about, but if the weather conditions are favourable it will stay in one region the whole year through.

The birds live together in flocks and usually choose a habitat near streams and rivers, but avoiding woods and thick scrub. In common with all the Swallows they catch their food, which consists of many kinds of insects, in the air.

The retort-shaped nests of the Fairy Martin are relatively large. Clusters of these nests are built into hollow trees, against rocks, in caves and under eaves and overhanging banks. Sometimes only the entrance to the nest is visible. Each nest is made out of pellets of mud cemented together; it is lined with dry grass and feathers.

The 4-5 eggs are dull white and marked at the rounded end with yellowish or light-russet patches. The breeding season lasts from August until February.

BLACK CURRAWONG,

Strepera fuliginosa

(app. 43 cm - 17 in)

Although these birds look very like crows they actually belong to quite another family which has a very wide distribution in Australia. The species illustrated here is a native of Tasmania and the islands of the Bass Strait, although a few are found on the mainland in South Australia.

They usually live in large flocks, which cause a lot of damage in fields and orchards and also steal chicks and ducklings from farmyards. They haunt river banks and low-lying marshland near the coast. Their diet includes insects and larvae as well as seeds and berries.

They are lively birds and run and hop along the ground, where they find most of their food.

They nest in trees, mostly tall ones. The nest is a rather flat, open structure of twigs, lined with grass and plant fibre, and placed in a vertical, forked branch.

The 2-3 buffish eggs are marked with purplish-brown and red-brown. The birds give their call, a loud piping, mostly while in flight. Apart from the slightly smaller size of the hen there is no difference between the sexes.





WHITE-BACKED MAGPIE,

Gymnorhina tibicen hypoleuca

(app. 40 cm - 15.5 in)

These birds are widely distributed over South Australia as far as New South Wales and Tasmania in the east. They have been introduced into New Zealand where, in most cases, they have increased in number, probably because farmland is a favourite habitat.

They are very popular birds, not only for their striking plumage, which enlivens the countryside, but also because they are avid destroyers of insect pests. In addition they have a cheerful melodious song usually given by a number of birds in chorus in the evening and early morning.

White-backed Magpies frequent open country in the daytime where they search for food, mainly grasshoppers, on the ground.

They make a deep, cup-shaped nest of sticks and twigs in an upright forked branch high above the ground. In regions where there are few trees they build on telephone poles and walls. Sometimes people living in these regions hang up large nesting boxes, known as 'Magpie's Maternity Homes'. The 3-4 rather long eggs are bluish-white marked here and there with red. Young birds have no white on the back and are tinged with grey. There is no external difference between the sexes when adult.

GREY BUTCHER-BIRD,

Cracticus torquatus

(app. 28 cm - 11 in)

The Grey Butcher-bird, which is rather similar to a shrike in appearance, is exceedingly common in east, south and central Australia and in Tasmania.

At the edge of forests near or on the coast, or in open country inland the bird perches motionless in a commanding position in a tall tree scanning the ground below for prey. Time and again it flies to and fro with a lizard, mouse, insect or bird in its beak. It stores its prey, impaling it on a nearby thorn or jamming it into the fork of a branch to be eaten at leisure. This bird has a rich, flute-like song.

The intricate cup-shaped nest is usually built in a very high forked branch out of twigs, roots and vine tendrils and is lined with dead grasses. It normally contains three eggs, which are greenish-grey or yellow-brown with some darker patches which look like ink-spots. The birds are timid for the most part, though if they suspect or see prey they become very bold.





MASKED WOOD-SWALLOW,

Artamus personatus

(app. 21 cm - 8 in)

The Masked-swallow, which belongs to the family, *Artamidae,* resembles the swallow and the starling in several respects. It hunts in flocks for flying insects like the swallow, and roosts in tree-top colonies like the starling; it is not, however, related to either in any way. The family is more or less restricted to Indonesia, southern Asia and Australia. They are distinguished by a long, downward curving beak and wide mouth. The pointed wings give them the ability to fly extremely fast and to make long glides and swerves.

Like the Swallows they chase after insects, sometimes very high in the air, and while doing so, make a nasal, chattering noise. They are common to the whole of Australia; in the south, however, they arrive in September and leave again in February at the end of the breeding season.

They build flimsy, open nests most often in a bush or palm tree and use thin stems, grass and bark, lining the inside with softer material. The three eggs are whitish-grey to pale greenish-grey with brown markings.

These birds like built-up areas and will sometimes sit in long rows on bare branches or telegraph wires. When there is a locust plague they gather into huge flocks to go and hunt these harmful pests.

WHITE-BREASTED WOOD SWALLOW, *Artamus leucorhynchus*

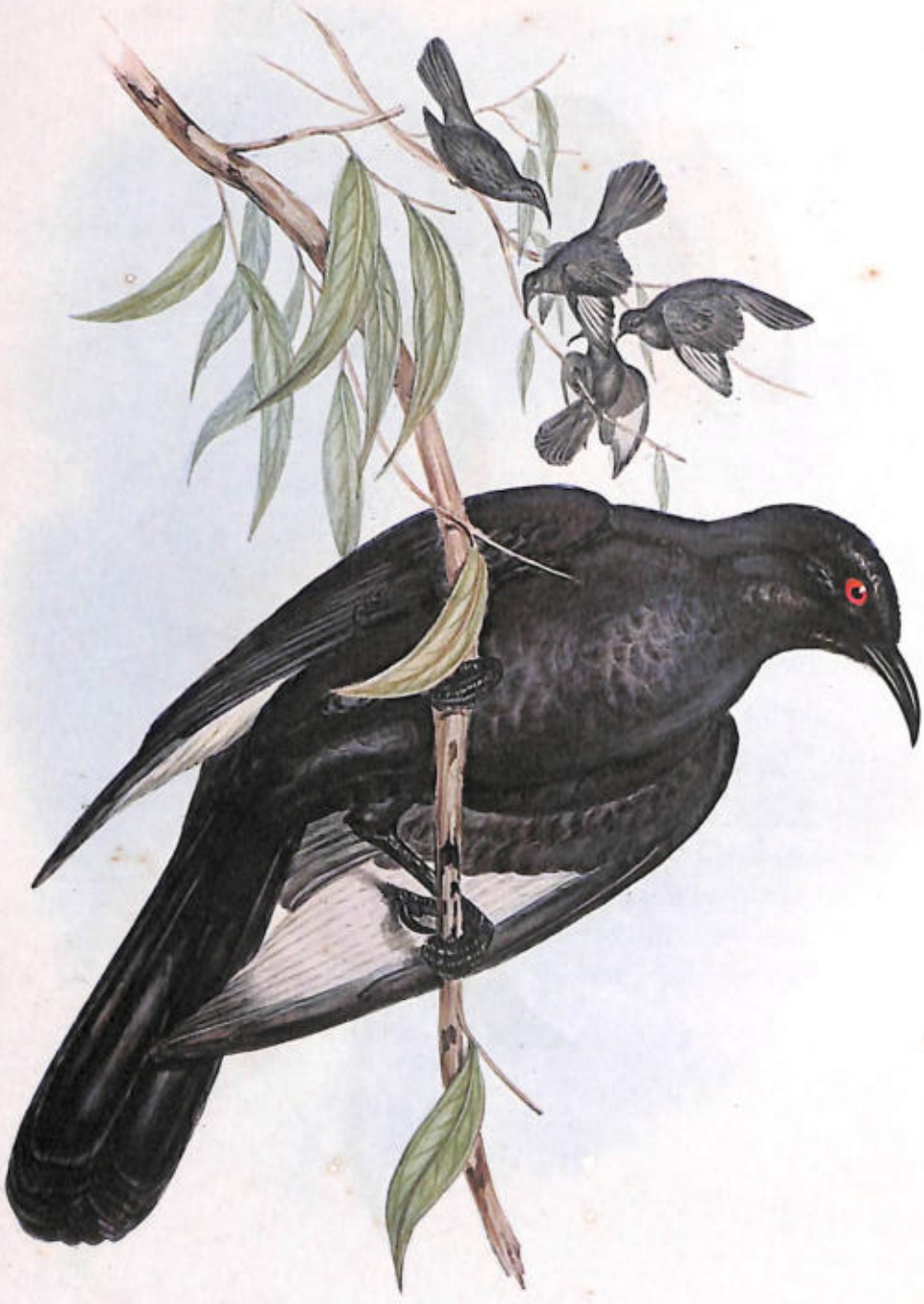
(app. 19 cm - 7.5 in)

Flocks of these long-winged birds are seen all over Australia with the exception of the south-western parts. Their habitat is always near water, and they are not averse to built-up areas.

In some regions the birds remain for the whole year, in others they are migrants, arriving in September and leaving again at the end of the breeding season in March. They are elegant and graceful and are very popular with the inhabitants on account of the huge numbers of harmful insects they destroy. They go out hunting in parties, usually from a base in one particular tree where they perch on a branch in a single long row. They are most active in the morning and evening and spend the hot afternoon sitting completely still. They only come down to the ground when flying insects are scarce; here they will eat creeping insects, larvae and sometimes seeds.

As the picture shows, these birds build their nests in the hollow of a fallen branch, thought they will also use the abandoned nest of a Magpie-lark. The 3-4 eggs are creamy-white, mottled with brown and blue-grey, chiefly at the rounded end. The breeding season lasts from August until February.





WHITE-WINGED CHOUGH,

Corcorax melanorhamphus

(app. 38 cm - 15 in)

These Choughs are resident birds throughout Queensland and in the coastal regions of New South Wales. They are usually seen in flocks of 6-10 searching the ground for food.

They are very agile and only take to the wing when disturbed, uttering harsh, unpleasant cries of alarm. They fly to the nearest tree and hop quickly from one branch to the nest so that they are soon hidden from view. The white patch on the wings can only be seen properly in flight. From the tree they scan the ground below for prey, making a dreadful clamour, so that the woods ring with their harsh, rather mournful whistles. The flock remains together and when searching for food one bird will walk quickly in front, making a thorough inspection for anything edible. They feed on insects, larvae and soft fruit.

The nest is made out of grass and mud and is in the shape of a bowl. It is placed on a horizontal bough often jutting out over the water. The 5-7 eggs are creamy-white with olive and purple-brown markings. Frequently a number of birds help to build the nest, and it is not unusual for two females to lay in the same nest.

APOSTLE-BIRD, *Struthidea cinerea*

(app. 29 cm - 11,5 in)

The Apostle-bird is found inland in north and eastern Australia. They are to be seen in groups of twelve or more, in the open forest country. Although these birds are apparently quite at home in trees, they find their food chiefly on the ground, running or walking along with their tails quivering up and down. In inhabited areas they soon become quite tame. The call is loud and harsh. Insects are their main food though they also take some seeds.

The nest is in the shape of a basin and is made of mud reinforced with grass, and lined with very fine grass. It is impossible to distinguish the sexes, and it is almost certain that several birds help to build the nest, while from the number of eggs found there, more than one hen seems to use it to lay her eggs in. The eggs are bluish-white covered with purplish-grey and blackish-brown markings. The breeding season is from August to December.





HUIA, *Heteralocha acutirostris*

(app. 50 cm - 19.5 in)

In 1836 John Gould wrote an account of two of these odd birds, in which he came to the conclusion that since the beaks differed so much in length and shape, the birds did not belong to the same species. Later it was discovered that the one with the straight bill was the cock and the one with the curved bill the hen.

These birds used to inhabit the North Island of New Zealand but since there have been no further signs of them since 1907 it is generally supposed that they are now extinct. Gould was already aware of this possibility, for the Maoris used to lure the birds out of the trees with long whistles and then beat them to death with sticks. The tail feathers were often given away by the Maoris as presents. The birds fed on insects and seeds.

The pairs lived together permanently and when the cock was unsuccessful in unearthing an insect from the decayed wood with his strong beak, the hen would use her longer, slimmer one. The nest was made of grass, stalks and leaves, usually in a tree hollow, and the two eggs were purple-grey with brown patches. Nesting apparently took place in October and November.



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MANUCODE, *Phonygammus keraudreni*

(app. 33 cm - 13 in)

New Guinea was the original home of the Manucode, particularly the eastern part and the interior. The birds are still found there in the mountains up to altitudes of about 5,000 feet. Some members of the species have also been seen on the Aru Islands and in northern Queensland.

The few specimens that Gould saw had been brought back from one of Captain Stanley's expeditions and it was from these that he made this plate. To judge from the elongated, lanceolate feathers on the back of the head and the neck they must have been cocks.

Manucodes frequent tall fruit trees and usually associate with other fruit-eating species. They have a deep melodious call and also a rather loud gutteral note. They feed on berries and fruits.

The nest is a rather flat, open structure made of creeper tendrils, usually placed at a great height in a leafy tree, and often near to one that has a nest of the Black Butcher-bird. The two eggs are pale purplish-red with chestnut-brown and purplish-grey spots and stripes.





PARADISE RIFLE-BIRD,

Ptiloris paradiseus

(app. 30 cm - 12 in)

This Rifle-bird lives in the dense woods of eastern Australia from central New South Wales to central Queensland.

As the stumpy wings suggest these birds are rather poor fliers and only use their wings to get from one tree to the next or from one side of a wood to the other. The birds feed on insects and fruits.

The picture shows that unlike the cock the hen lacks the metallic sheen on the plumage and is a rather sombre colour; she has grey-brown upper parts and buff-coloured underparts. At mating time the cock displays from a perch on a bare, horizontal branch, singing his hoarse song.

The nest is hidden under thick leaves high in a tree; it is shallow and made of twigs and leaves and lined with finer material. The rim is decorated with pieces of sloughed snake skin. The two pinkish-cream eggs are marked with chestnut-brown and purplish-grey spots and stripes. The young birds show tones of colour varying from those of the cock to those of the hen.

VICTORIA RIFLE-BIRD,

Ptiloris victoriae

(app. 27 cm - 10.5 in)

This very beautiful Rifle-bird is found in the big scrubs and on a few offshore islands in the north-east of Queensland. Gould named it after Queen Victoria, not only out of respect but also out of gratitude for her letting him dedicate his great work to her.

They usually live in pairs and their call is similar to that of the Paradise Rifle-bird. They feed on native fruits and insects.

The nest is open and cup-shaped and constructed of twigs, leaves and tendrils; it is lined with fine twigs and often decorated externally by scraps of sloughed snake skin which are woven into the outer wall. The two eggs are flesh-coloured with handsome markings of red, purplish-grey and reddish-violet.

Two cocks and a hen are illustrated here.





MAGNIFICENT RIFLE-BIRD,

Ptiloris magnificus

(app. 30 cm - 12 in)

These birds are found in the dense scrubs of northern Queensland as well as in New Guinea. Although rarely seen, the characteristic, penetrating call of the cock is often heard; he sings it from a perch right at the top of a tree. The birds feed mainly on the insects and larvae they find under the bark of trees. They climb the trunks like woodpeckers.

When close to a hen the cock will display on a conspicuous bare branch. He begins in a hunched attitude and opens and shuts his wings, making a strange rustling sound. Sometimes he puffs himself out with his head bent backwards so that the wings form a wide oval and the iridescent blue and green throat catches the light. The brownish-black fringes on his flanks hang down on either side of his tail.

These birds nest in thick foliage high up in a tree. The cup-shaped nest is made out of dead leaves and plant stalks. As the picture shows it is sometimes placed in a hollow tree. The two eggs are creamy-white, striped and blotched with red-brown and olive-brown.

STANDARD WING, *Semioptera wallacei*

(app. 29 cm - 11.5 in)

Although the Standard Wing is not strictly an Australian bird but comes from the forests and mountains on the islands Batjan and Halmahera, John Gould included a beautiful plate of this gorgeous bird in his book.

Only the cocks have the two elongated whitish feathers on the upper part of the wings. During the courting dance the cock spreads the wings with a rustle, puffs out his metallic green breast into a broad shield and ruffles the white back feathers to form two great V's. The hen is a dull brown.

The nest stands isolated high up in a tree and is made out of twigs and creeper stems.

The forest silence is broken by the short, raucous cries interspersed with a rhythmic, rattling murmur which betray the courting cock. The birds climb tree trunks like woodpeckers when looking for their food, which consists of insects and berries.





GREAT BOWER-BIRD,

Chlamydera nuchalis

(app. 38 cm - 15 in)

These very interesting birds inhabit the open forest and scrub of tropical northern Australia. Gould obtained one or two specimens from officers of the *Beagle*.

The Captain of this vessel told how, on one of his expeditions to the interior, he had found strange constructions consisting of two rows, each about two feet long, of twigs and grass twined together at the top to form a tunnel. The birds decorate the outside walls of this tunnel or bower with small bleached bones, shells, pieces of dried snake skin, fruit kernels and bits of coral. The floor is usually covered with twigs built into a sort of dais on which the cock displays.

Although these birds are shy they will approach inhabited areas. They feed on seeds, fruit and insects. The nest is placed high up in a tree; it is cup-shaped, fairly shallow and made of twigs, lined with thin stalks. The two eggs are greenish-grey with brown and purplish-grey markings. The picture shows a young bird and a cock. The hen has no ruff round the neck.

REGENT BOWER-BIRD,

Sericulus chrysocephalus

(app. 30 cm - 12 in)

This is one of the most beautiful birds of Australia. It lives in the dense forests of eastern Australia and is even seen near Sydney, at the southerly limit of its range. It often associates with the Satin Bower-bird and the Green Catbird; Gould observed all three together in fruit trees, such as wild cherry and fig, where they find most of their food.

Regent Bower-birds are not at all shy, and one can observe them feeding or perching on a high branch. They too build a special courting place, making a platform of twigs with walls eight inches long and six inches high. The floor of this bower is then decorated by the bird with leaves, shells and brightly coloured berries. Only a few fully-fledged cocks will be found in one flock and it takes the young males a long time to develop their full plumage.

Nesting takes place high above the ground. The nest is made out of twigs and is saucer-shaped. It contains two yellowish-white eggs delicately marked with purple-grey and dark brown.





GREEN CATBIRD, *Ailuroedus crassirostris*

(app. 30 cm - 12 in)

Green Catbirds are found in the eastern parts of New South Wales extending north into Queensland. Their favourite habitat is dense mountain forest. They associate with the Satin Bower-bird and the Regent Bower-bird, all three feeding on wild cherries and figs. Besides fruit they also eat palm seeds and many beetles.

They have got their name from their call, which sounds like *mia-auw* and is heard most often early in the morning and at dusk. The cock's courting is restricted to a long flight in pursuit of the similarly coloured hen. The birds build a cup-shaped nest of long twigs and creeper stems round a platform of big broad leaves and a little moss. The lining is composed of fine twigs. The nest is found at a height up to forty feet from the ground. The 2-3 eggs are cream or creamy-white. The breeding season is from September to January.

GROUND CUCKOO-SHRIKE,

Pteropodocys maxima

(app. 34 cm - 13.5 in)

This rather cuckoo-like bird is found widely distributed in Australia, except in the north-west. At the time John Gould was in the country, people rarely entered the interior, so that he only saw a few specimens in New South Wales.

The birds live in pairs or small family groups in the dry, flat country where there are few trees or bushes. Their food, which they find on the ground, consists mainly of insects. They move quickly along the ground and fly screaming to the nearest tree when disturbed in their hunt for food, feeling as much at home among the foliage as on the ground.

The nest is saucer-shaped and made of plant-stems, grass and roots, strengthened with plant down and cobwebs, and there is a lining of fine grass. It is built on the fork of a horizontal branch high up in a tree. The three eggs are pale green and covered with indistinct olive-brown markings.





SPANGLED DRONGO,

Dicrurus hottentottus bracteatus

(app. 34 cm - 13.5 in)

This Drongo occurs in northern Australia and from Queensland south to Victoria and is seen from time to time in Tasmania. It also lives in New Guinea.

The birds live in pairs in many different kinds of habitat, but are particularly found on the fringes of forests and in mangrove swamps. Their food consists mainly of insects which they catch in flight or among foliage. They have a harsh, screaming call.

They nest in tall trees, preferably in thick foliage, and as far from the trunk as possible. The nest is suspended from a fork and is shallow, saucer-shaped and open. It is made out of thin tendrils of creepers and may be lined with roots. The 3-5 eggs are pinkish-white or pale reddish-grey and are marked with pink and purplish-grey.

The back plumage is silky and there is a high gloss on the wings and tail and particularly on the throat feathers. The long, pointed wings indicate the fast, wheeling flight that enables them to catch insects.

GOULDIAN FINCH, *Poëphila gouldiae*

(app. 10 cm - 4 in)

The vividly coloured Gouldian Finch, a great favourite among aviculturists, inhabits tropical northern Australia. There are three varieties, a black-headed, a red-headed and a golden-headed. These birds are often kept in cages and aviaries not only in Australia but also in Europe and America.

They frequent regions where lush meadows lie alongside rivers and streams, providing an abundant supply of food the whole year through. They feed exclusively on grass seed and will also visit very dry country, travelling great distances in the evening to find a drinking place.

Gouldian Finches nest in tall grass or hollow trees, and the bottle-shaped nest is made of dried grasses. They lay 5-8 pure-white eggs.

Two cocks are illustrated here, the hen displays the same colouring and markings but the general effect is much duller. The cock has a soft twittering song and he stands and puffs himself out to deliver it. From his perch on a branch he performs a most extraordinary courtship dance with all sorts of little bows and hops. The young are olive-green and take a few months to reach full plumage.





SHINING STARLING, *Aplonis metallica*

(app. 24 cm - 9.5 in)

This migratory Starling is very common in northern Queensland and on many tropical islands; it is also found in Celebes, the Moluccas and New Guinea where it breeds in very large numbers.

There is clearly a great difference in plumage between the bird at the top of the picture and the one at the bottom, the first is a young bird and the other an adult. These birds live in flocks of 10-12, flying over the trees like starlings and breeding in colonies. They nest in tall trees, where they hang their large, covered, pouch-shaped nests; there may be as many as two hundred in a single tree. The nests have a side entrance and are made chiefly out of the stalks of creepers. The lining consists of thin strips of palm leaves and various kinds of hairy material. The 2-3 eggs are bluish-grey marked with red-brown and purplish-grey, particularly at the rounded end.

The call is short and shrill, a *'twee-twee'* sound repeated once or twice in quick succession. These birds feed mainly on mace as well as many kinds of native fruits, and on insects.

ESTD : 1875

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6