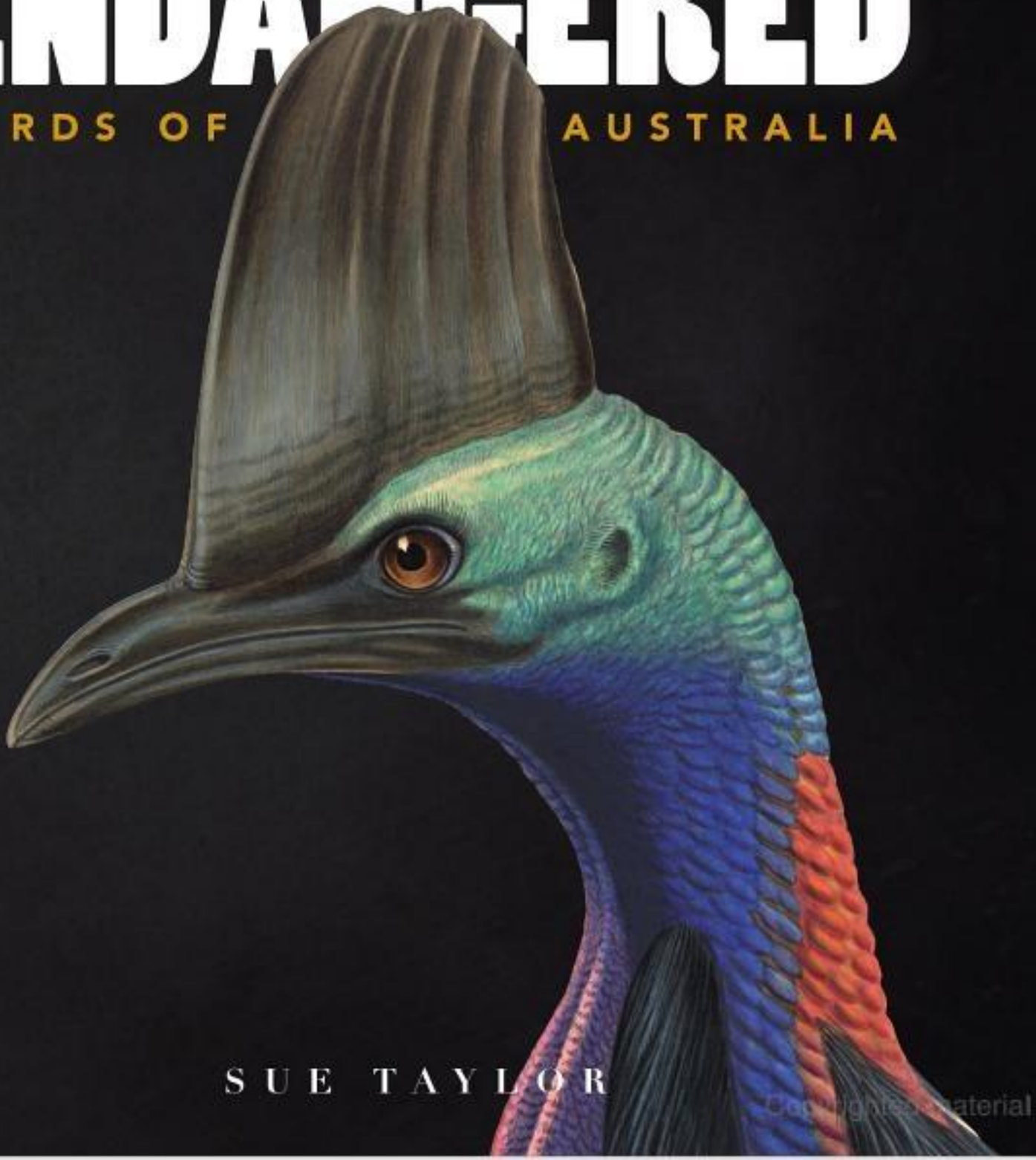
JOHN GOULD'S

EXTINCT & ENDANGERED

BIRDS OF AUSTRALIA



SUE TAYLOR

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Australian Cassowary
Casuarius australis

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CONTENTS

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Special thanks are due to three people: Les Christidis, Des Cowley and Wayne Longmore. Without the enthusiastic support of Dr Les Christidis, then head of the sciences department at Museum Victoria, this project might never have got off the ground. Des Cowley, Rare Printed Collections Manager, State Library of Victoria, was never too busy to help. He volunteered much useful information and recommended books and articles that otherwise I might never have found. How lucky to happen upon a librarian who knows so much about the history of Australian ornithology! N.W. Longmore, Collections Manager, Ornithology and Mammology at Museum Victoria, was very generous with his time, tirelessly answering my constant barrage of questions and referring me to relevant experts when necessary.

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My sincere thanks to everyone who helped. Needless to say, any mistakes are all my own work.

Sue Taylor

EDITOR'S NOTES

All quotes have been transcribed as they appear in the original source. Where necessary for clarity, explanatory notes appear in parentheses.

Species have a two-part scientific name, comprising the generic and the specific names; for example, the scientific name of Lewin's Rail is *Lewinia pectoralis*. When there is sufficient regional variation between birds of the same species, a subspecies may be recognised and an additional subspecific name is added to the bird's scientific name; for example, the Tasmanian Lewin's Rail is *Lewinia pectoralis brachipus.*

All images have been reproduced from John Gould's *The Birds of Australia: In Seven Volumes* (London: published by the author, 1848). The electronic version of *The Birds of Australia* can be viewed at http://nla.gov.au/nla.aus-f4773.

In this book, Gould's illustrations follow the same order as in *The Action Plan for Australian Birds 2010.* The accompanying captions are set out as below:

Current common and scientific name

Common and scientific name used by Gould in *The Birds of Australia*

Identification number for digital image

You can view the images online by entering the National Library of Australia's web address into your browser's address bar, followed by the identification code that appears at the end of the captions. (For instance, to view the image of the Southern Cassowary, type http://nla.gov.au/nla.aus-f4773-8-s155-v into the address bar.)

John Gould (1804–1881), the Bird Man, published *The Birds of Australia: In Seven Volumes* in 1848. Fifty-nine of the images from his publication appear in this book. Of these, Gould first described no fewer than 32. Altogether he named an impressive 186 of today's Australian bird species, as well as many others now classified as subspecies.

With his wife, Elizabeth, Gould visited Australia from September 1838 until April 1840. His main intention was to gather material for his great work, the seven-volume *The Birds of Australia,* published in parts between 1840 and 1848, and for a supplement completed in 1869.

Some 150 years later, the status of many of the birds that Gould encountered has changed. This book illustrates the 59 most endangered birds featured in Gould's eight volumes of Australian birds. The conservation status and population estimates are drawn from *The Action Plan for Australian Birds 2010* by Stephen Garnett, Judit Szabo and Guy Dutson. Threatened species lists are also maintained by each state and territory and federally, and differ in context, but *The Action Plan* is the latest and most comprehensive.

In a nutshell, *The Action Plan* categorises Australian birds according to how threatened they are. A bird (species or subspecies) is considered to be:

- **EXTINCT** if there is no reasonable doubt that the last individual has died
- **CRITICALLY ENDANGERED** when it is facing an extremely high risk of extinction in the wild (this includes Possibly Extinct)
- **ENDANGERED** when it is facing a very high risk of extinction in the wild
- **VULNERABLE** when it is facing a high risk of extinction in the wild.

Birds in the final threatened category, Near Threatened—that is, those close to qualifying as Vulnerable—were too numerous for inclusion in this book. *The Action Plan* assessed additional species considered to be of concern but determined not to qualify as threatened: these were classified as being of Least Concern.

The Action Plan also provides the global status of birds as reported in *The IUCN Red List of Threatened Species*.

A detailed explanation of the complex assessment criteria applied can be found in *The Action Plan*. Suffice it to say that the criteria adopted are those used for *The IUCN Red List* and that they have been refined since the 2000 *Action Plan*. In some cases, this has led to an upgrading or downgrading in classification that does not necessarily mean that there has been a change in status. For example, it might appear to be good news that the Red Goshawk has gone from Vulnerable in 2000 to Near Threatened in 2010, but if the current criteria had been applied in 2000, the goshawk would have been assessed as Near Threatened then too.

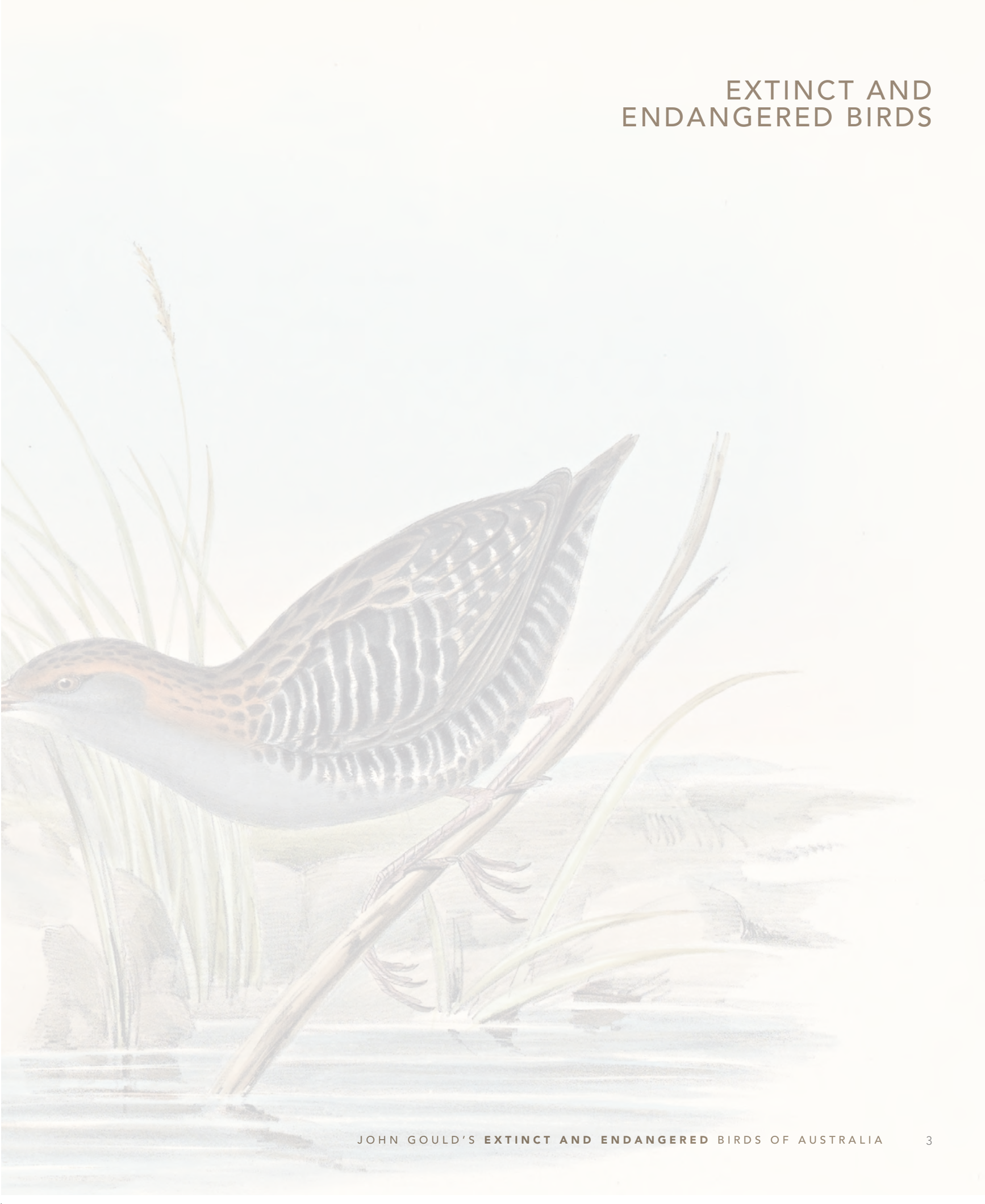
Among the Australian birds that Gould illustrated, there are five that are Extinct, ten that are Critically Endangered (two of which are Possibly Extinct), 25 that are Endangered and 19 that are Vulnerable. At the end of the book, there is a list of the birds in each classification.

Anyone who has studied Australian birds will be slightly in awe of Gould. He was an astute ornithologist whose work on Australian birds was just a small part of his prodigious output of books that covered the birds of Great Britain, Europe, Asia, New Guinea, the Himalayas, Indo-Australia, South America and America. He also produced monographs on toucans, hummingbirds, pittas, trogons and Australian mammals.

Gould was the driving force but his achievements were not his alone. His wife, Elizabeth (1804–1841), after whom he named the Gouldian Finch, the most gorgeous Australian finch, was of immeasurable help to him, learning the skill of lithography in order to illustrate his plates. So too were his many dedicated collectors, most notably the talented but ill-fated John Gilbert (1812–1845).

In Australia, Gould's name is used in the names of two petrels, a flycatcher, a bronze-cuckoo, two bats, a mouse, a tree rat, a sand goanna, a turtle frog, a fish, a snake and the world's largest freshwater crayfish. He is remembered for his meticulous attention to detail and his extraordinary, unequalled contribution to Australian ornithology.

EXTINCT AND ENDANGERED BIRDS



Southern Cassowary
(Australian subspecies)
Casuarius casuarius johnsonii

Australian Cassowary
Casuarius australis

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1.
SOUTHERN CASSOWARY

(Australian subspecies)

In 1758, Carl Linnaeus commenced naming the world's birds using his binomial classification system. Among the many birds he named that year was the cassowary, based on a specimen from Seram in Indonesia. It was more than 100 years before the Australian subspecies was named by Ferdinand Mueller in 1866.

Presumably based on the already known New Guinea subspecies, Gould illustrated the Australian bird before it had been formally described; he had never seen one and acknowledged that 'no specimen of this bird has been brought before the scientific world'. He quoted from *The Illustrated Sydney News* of 3 June 1854:

> *A specimen of this bird was procured by the late Mr Thomas Wall, naturalist to the expedition commanded by Mr Kennedy. It was shot near Cape York … Mr Wall, being most anxious for its preservation, had secured it in a canvas bag and carried it with him to the spot where, unfortunately for science, it was lost.*

Gould was careless in his transcription from the newspaper and was clearly focused on the bird, for the article actually reads: 'unfortunately for himself and for science, he was lost'. It was the collector, Wall, who was lost and along with him the specimen.

Gould continued quoting from the newspaper:

> *The flesh was eaten, and found to be delicious; a single leg afforded more substantial food than ten or twelve hungry men could dispose of at a single meal.*

The newspaper offered the opinion that cassowaries were 'probably plentiful' in that part of Cape York. Since then the birds have faced many difficulties and there has been a steady decline in population, particularly where habitat has been cleared or fragmented. By 1970 there was concern about the number of birds being killed by vehicles.

In 2000, it was estimated that there were 2,000 mature Southern Cassowaries in Australia and, in 2010, 2,500. However, there was no great confidence in these figures, as estimates were based on extrapolation from inadequate information.

In February 2011, Tropical Cyclone Yasi devastated the Australian Southern Cassowary's habitat, destroying many of the large fruiting trees on which the bird depends for food. Volunteers made food drops, taking care not to come in contact with the birds, so that they would remain wild and not associate food with people. It is not yet clear what long-term effect Yasi has had on the cassowary population. Notwithstanding this event, efforts to conserve and rehabilitate the bird's remaining habitat have been largely successful, and the Australian Southern Cassowary's classification has been downgraded to Vulnerable.

SOUTHERN CASSOWARY (AUSTRALIAN SUBSPECIES)

CASUARIUS CASUARIUS JOHNSONII

STATUS

The Australian subspecies of the Southern Cassowary has recently been downgraded from ENDANGERED to VULNERABLE. The species as a whole is VULNERABLE.

NAME

The vernacular 'cassowary' and scientific name *Casuarius* are sometimes said to be derived from the Malay name for the bird—*kasuari*—but may in fact be Papuan. *Kasu* means 'horn' and *wari* means 'head', in reference to the unusual casque on the bird's head. In 1866, Mueller provided the subspecific name *johnsonii* for the newly discovered Australian subspecies, in honour of its collector G. Randall Johnson.

TAXONOMY

There are at least eight subspecies of Southern Cassowary variously found in New Guinea, on Seram and Aru islands in Indonesia and in northern Queensland.

DESCRIPTION

At 1.5 to 1.8 metres tall, the Southern Cassowary is Australia's second-tallest native bird, the heaviest and the most dangerous. It is certainly spectacular, with bright red wattles, blue facial and neck skin and an imposing brown casque on its head. The casque is light, spongy and foam-like and is thought to act as a crash helmet when the bird races through dense rainforest at breakneck speed. Alternatively, it may function as an amplifier for the reception of deep, low-frequency sounds, such as the call of other cassowaries.

Cassowaries are flightless and their wings are tiny and non-functional. They have short strong legs and three toes, the inner toe having a long sharp claw. The bird's black, bristle-like feathers are most unusual. They have two shafts, like emu feathers. They lack barbules—the things that usually lock feathers together—and are quite waterproof.

The female Southern Cassowary is larger than the male and can weigh over 60 kilograms. She has a taller casque, bigger feet and more brightly coloured wattles and facial skin. There is no seasonal variation in plumage, but skin colour in both sexes can vary with levels of excitement and breeding condition.

The juvenile is striped until it is about three months old. The immature bird is brown, without a casque, and its wattle is pale pink. The brown feathers become darker, the casque grows and the facial skin brightens by maturity at three or four years of age, although young males can be sexually active while they are still in brown plumage.

HABITAT

Southern Cassowaries inhabit the dense rainforest of coastal north-eastern Queensland, where a large variety of plants supply ripe fruit year round. They are often seen near clearings or streams, and can be found in eucalypt forests or melaleuca swamps, as long as there are some rainforest shrubs present. Some individuals have learnt that orchards and banana plantations provide easy meals.

HABITS

Cassowaries are normally shy and wary, but can become tame if they are fed at picnic grounds. Most cassowaries will flee when confronted, but they may attack when cornered, or when accompanied by a juvenile. If an intruder comes too close, a cassowary will stretch itself up as high as it can, raise its feathers and utter a loud hiss. Females stamp their feet. They also give a guttural drumming when annoyed—a warning that they are about to attack.

When a cassowary fights, it holds its neck down below its body, raises its feathers and charges, kicking with both feet simultaneously. The long claw on the inner toe can be lethal. There are at least two records of Australian Southern Cassowaries killing people.

Cassowaries are sedentary and solitary for most of the year, pairing for a few weeks when breeding. Each bird maintains its own territory; territories can overlap and two or more birds may sometimes be seen feeding at the one tree. However, the female is dominant and the territories of two females never overlap.

Cassowaries run and swim well. They spend most of their time in the rainforest, emerging at daybreak and evening to feed. They often rest among pandanus palms, where it is impossible for a predator to approach silently.

The cassowary's dung is easily recognised: it is a colourful pile of seeds, about the size of a saucer.

Some plants cannot germinate without passing through a cassowary. One example is the Silver Quandong (*Elaeocarpus angustifolius).*

VOICE

Cassowaries make a range of calls from loud or soft rumbling booms to coughs and grunts, and hisses and mews.

DIET

Cassowaries eat the fruits of over 60 species of plants, including many from the laurel family, which are rich in fat and protein and available in spring and summer when the cassowary has young to feed.

The cassowary is often described as frugivorous, and it is true that most of its diet is fruit and berries. It eats bananas whole, unpeeled, throwing them backwards down its throat. Nonetheless, it will eat almost anything it finds on the ground, from fruit to fungus and even dead rats.

BREEDING

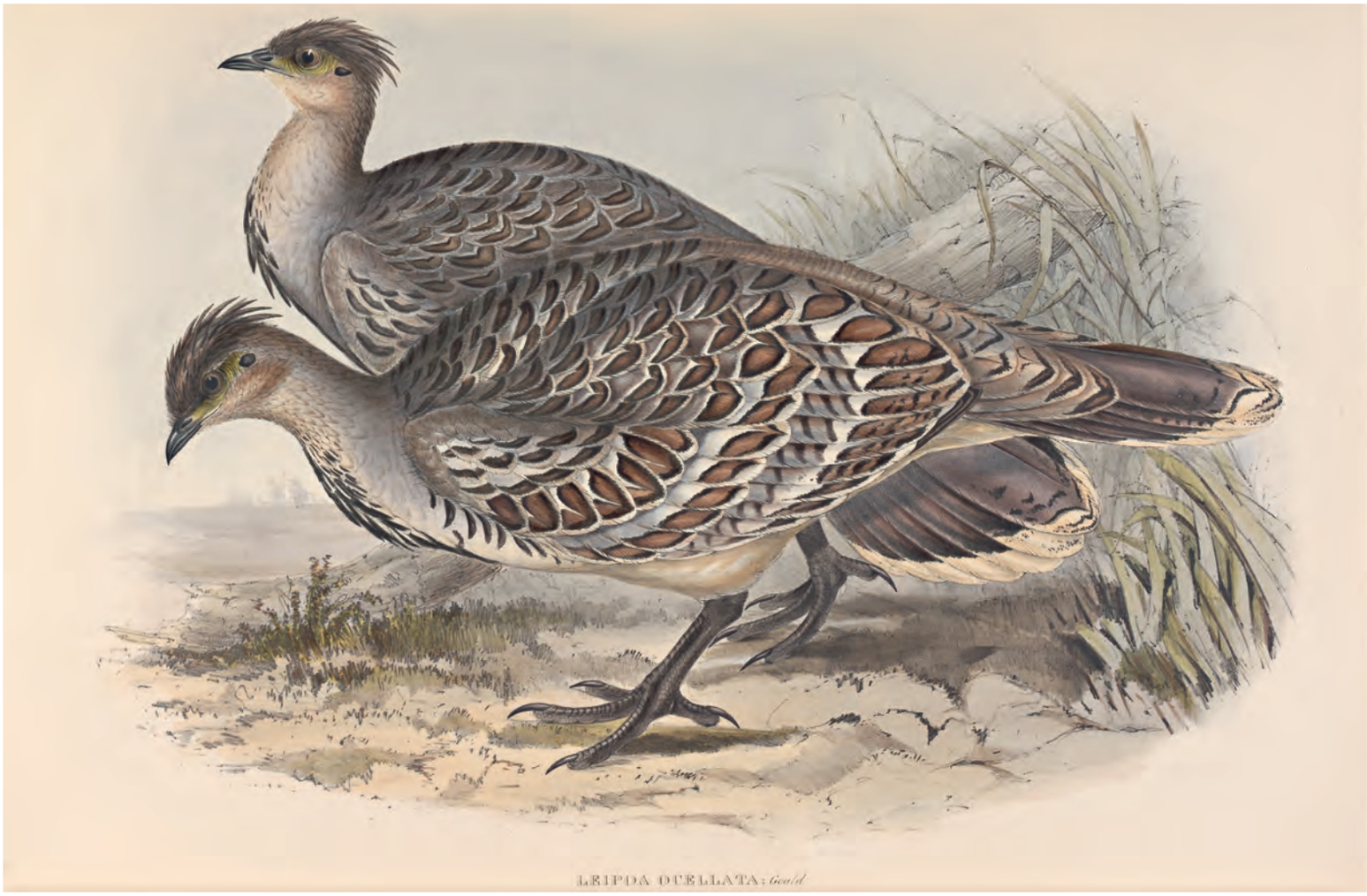
The female is usually aggressive towards the male, but in the breeding season (which can be any time from May to December) she becomes less so. Either partner can initiate courtship.

The male prepares the nest—a shallow scrape in the ground about a metre in diameter, lined with whatever vegetation is handy, and usually placed at the base of a large tree. As is often the case in birds when the female is larger and brighter, he also incubates and tends the young. The female lays from three to five (usually four) large, pale green eggs, then, leaving all the responsibility to the father, disappears to find another mate. She may mate with several males in a season.

The male incubates the eggs for about two months, then looks after the young for a further nine months. He is a devoted father, allowing his chicks to feed before he does when food is scarce. Nevertheless, usually only one or two of the clutch survive to adulthood. Having looked after his offspring diligently for nine months, he then chases them out of his territory.

THREATS

In Australia, Southern Cassowaries have had much to contend with. Habitat destruction (mainly for agriculture), road casualties, dog attacks, competition with feral pigs, illegal hunting and disease would be sufficient to endanger the species, but there are also tropical cyclones to endure, which destroy fruiting trees and create food shortages.



Malleefowl
Leipoa ocellata

Ocellated Leipoa
Leipoa ocellata

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2. MALLEEFOWL

In April 1839, Gould was in New South Wales discovering new birds, and John Gilbert was in Perth collecting specimens for him. Gilbert wrote to Gould stating his intention to travel 'to York, about 70 miles in the Interior' to procure 'a Pheasant like Bird, a skin of which I have seen'. This was the Malleefowl. In a later letter, Gilbert admits to being a bit wary of going to York because of 'several frightful murders' committed by 'the Natives'. It is poignant reading this today knowing that Gilbert was killed by Aboriginal people six years later in Queensland.

However, Gilbert's trip to York was successful, at least partially. He obtained a skin for Gould but was not able to see a living specimen of the secretive bird. On 3 September 1839, he again wrote to Gould—he had been informed that the Native Pheasants incubated their eggs in a great hillock of sand warmed by the sun during the day, and that 'the bird sits on her Eggs in the night'.

The fact that Gilbert would repeat such nonsense shows the difficulty that nineteenth-century ornithologists had coming to grips with the concept of Malleefowl mounds. Some early European settlers believed they were Aboriginal graves, or anthills. The idea that birds could incubate their eggs in a huge heap of compost and soil was beyond their understanding.

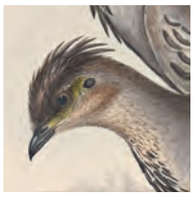
However, Gould was well enough informed to name the bird the Leipoa, meaning 'the bird that leaves its eggs'. He was intrigued by 'how beautifully the means employed by Nature for the reproduction of the species is adapted to the situations it is destined to inhabit'. It was a while before it was realised that the female cares neither for the eggs nor the chicks, and it was not until 1955 that Harold James Frith conducted experiments to determine how the birds regulated the temperature in the mounds. He concluded that the male takes the temperature by inserting his bill into the mound and adjusts the heat by removing or adding leaf litter and sand.

In 1840, as soon as Gould returned to England from his trip to Australia, he embarked on a frenzy of illustrating, publishing and describing the new species he had discovered. Among the birds he described and named that year was the Malleefowl, from the skin that Gilbert had sent him from Western Australia. Elizabeth Gould illustrated the species for *The Birds of Australia*, and Gould commented:

> *This remarkable bird is among the most important of the ornithological novelties which the exploration of Western and Southern Australia has unfolded to us.*

At that time, the Malleefowl occupied suitable habitat right across the southern half of the continent. As Europeans began clearing the land, the population and range of the Malleefowl began to shrink. As early as 1850, it had disappeared from the Brisbane Ranges and from Melton in Victoria. One hundred years later, it had vanished from the forests of the south-west region, and from the Northern Territory, northern South Australia and central Victoria. By 1975, the Malleefowl had all but gone from the arid inland.

By the turn of the twenty-first century, the Malleefowl occupied less than half the area it did when Gould named it. The population was estimated at 100,000 and the species was classified as Vulnerable. A decade later, in 2010, despite conservation efforts, Malleefowl numbers appear to have reduced further to 95,000.



MALLEEFOWL
LEIPOA OCELLATA

STATUS

The Malleefowl is VULNERABLE.

NAME

Gould named this bird, calling it the Ocellated Leipoa, *Leipoa ocellata. Leipoa* is from the Greek, *leipein* meaning 'to leave' and *oa* meaning 'an egg'—that is, the bird that leaves its eggs. *Ocellata* is Latin for 'furnished with eyes', referring to the markings on the bird's back that Gould evidently thought looked like eyes.

In Victoria, the Aboriginal people called it the *lowan;* in Western Australia, they called it the *gnow;* in the Warburton Ranges, it was called *nganamara.* Some of these names are still in local use.

TAXONOMY

The Malleefowl has no subspecies, although western birds are darker. It belongs to a group of birds called Megapodes (literally, 'big feet') that incubate their eggs in a mound (which is why they need big feet!). There are two other Australian megapodes: the Orange-footed Scrubfowl (*Megapodius reinwardt*) and the Australian Brush-turkey (*Alectura lathami)*.

DESCRIPTION

No illustration ever does justice to this regal bird. It is plump (weighing up to 2.5 kilograms) with a small head and huge feet. Its back is beautifully patterned in subtle browns and greys, it has a russet chin and a dramatic black streak down its breast. These colourings, apart from making it very beautiful, make it perfectly camouflaged in the dappled sunlight of the mallee. The sexes are alike, although the males are slightly larger. There is no seasonal variation. The newly emerged juvenile is dark brown and lightly patterned. By two years of age, the immature bird looks like an adult but does not breed until it is three or four.

HABITAT

The Malleefowl is found in semi-arid areas in Western Australia, South Australia, New South Wales and Victoria. Of Australia's three mound builders, the Malleefowl is the only one adapted to the semi-arid interior, where it lives, appropriately, in the mallee. Its two essential requirements (apart from food) are sand and leaf litter for its mounds. The Malleefowl is also sensitive to fire: it takes more than 60 years after a fire for land to regenerate sufficiently to be suitable Malleefowl habitat once again.

HABITS

The Malleefowl is generally solitary but a pair may be seen together at the mound. They strut along the ground, foraging as they go, scratching the earth like hens, and pecking at any tasty morsels they uncover.

Normally shy, Malleefowl can be very quiet and if confronted walk away slowly. Their preference is to remain on the ground, but if forced to fly, their wing beats are slow and ponderous, and they will not fly far, returning to the ground as soon as possible. At night they roost in low trees.

VOICE

The male has a territorial boom and the female sometimes crows in response. Both birds make various grunts and chuckles. The young have no alarm call but, like their parents, grunt when distressed.

DIET

The Malleefowl eats seeds, particularly acacia and cassia seeds. When these are not available, it eats invertebrates, and the buds of herbs can be an important part of the diet. The young eat more insects than the adults do, and fewer acacia seeds.

BREEDING

The Malleefowl incubates its eggs in a huge mound of sand and rotting vegetation. The eggs are kept warm by the heat from the rotting vegetation and sometimes by the sun.

The male constructs the mound by digging a large hole and filling it with leaves and twigs in autumn. Then he waits for rain to moisten the vegetation. As soon as it is wet, he covers it with sand. The mound acts as a huge compost heap, generating its own heat. The male checks the temperature every day, thrusting his beak in to gauge how hot it is. He maintains it as near as possible to 33° Celsius,

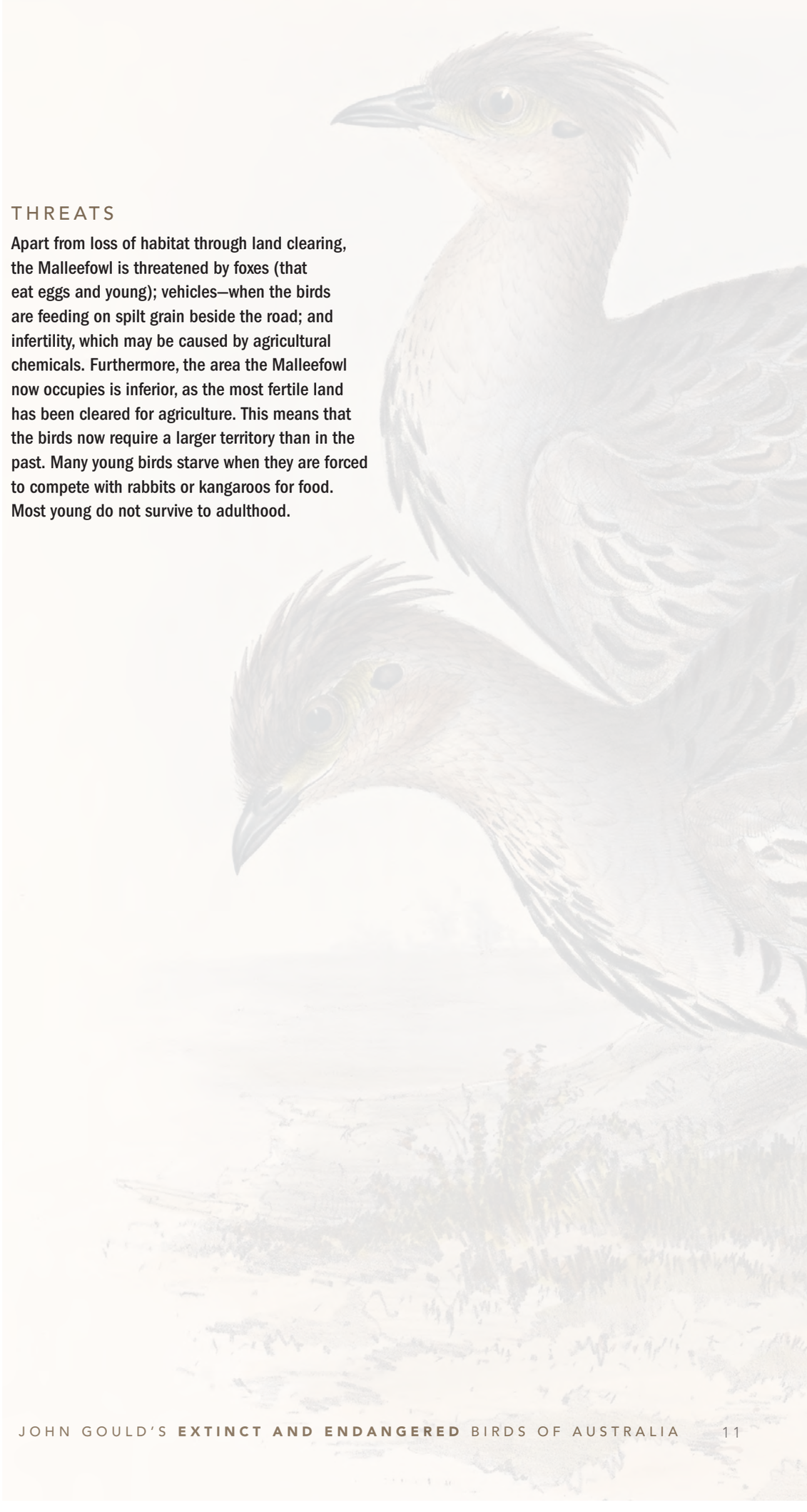
regulating the temperature by adding more sand to cool it down, or by opening the mound to let more sunshine in, or to let heat out. It is a sophisticated business and keeps him busy for months on end.

Between about September and April the female lays from five to 33 eggs—the average clutch size is 16 eggs, fewer in dry years. She generally lays roughly every three to seven days, in the early morning. She indicates that she is ready to lay and the male opens the mound for her and closes it when she has finished.

The egg is a delicate pink when laid and gradually turns a brownish colour over the next few days. It is huge and weighs up to 10 per cent of the bird's bodyweight. After laying an egg, the female is exhausted and rests under a bush for at least an hour to recover. Incubation takes about 49 days, depending on the temperature in the mound. The chicks struggle to the surface unaided and are able to fend for themselves immediately.

THREATS

Apart from loss of habitat through land clearing, the Malleefowl is threatened by foxes (that eat eggs and young); vehicles—when the birds are feeding on spilt grain beside the road; and infertility, which may be caused by agricultural chemicals. Furthermore, the area the Malleefowl now occupies is inferior, as the most fertile land has been cleared for agriculture. This means that the birds now require a larger territory than in the past. Many young birds starve when they are forced to compete with rabbits or kangaroos for food. Most young do not survive to adulthood.



Partridge Pigeon
(eastern subspecies)
Geophaps smithii smithii

Smith's Partridge Bronze-wing
Geophaps smithii

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3.
PARTRIDGE PIGEON

(eastern subspecies)

In 1825, Scottish naturalist Sir William Jardine teamed up with English ornithologist Prideaux John Selby to write *Illustrations of Ornithology*. Together they named many birds including, in 1830, the Partridge Pigeon, sent to them by the Australian colonial secretary, William Macleay. This specimen came from Arnhem Land, in the Northern Territory, though we do not know precisely where.

In 1840, Gilbert collected a specimen for Gould at Port Essington, where the pigeon was regularly hunted for the table. Gilbert noted that: 'Its favourite haunts are meadows covered with short grass near water, or the edges of newly burnt brush'.

Gilbert also informed Gould that:

> *its note is a coo, so rolled out that it greatly resembles the note of the Quail, and which, like that bird, it scarcely ever utters but when on the ground, where it frequently remains stationary, allowing itself to be almost trod upon before rising.*

Further, 'when it rises from the ground its flight is accompanied with a louder flapping or burring noise than I have observed in any other Pigeon'.

Gilbert also recorded that the Partridge Pigeon varied in abundance over the year but:

> *at the time of my arrival* [in June 1840] *and for a month after they were so abundant that it was a common and daily occurrence for persons to leave the settlement for an hour or two and return with several brace.*

When it was first described and named, this subspecies of the Partridge Pigeon—distinguished from the western subspecies by the 'deep crimson-red skin' around its eyes—ranged from Kununurra in Western Australia across to McArthur River in the Northern Territory, and was also found on the Tiwi Islands. Based on Gilbert's notes, Gould stated that the species 'appears to be abundant on the north coast of Australia'.

Particularly in the early years of the twentieth century, the distribution of the eastern Partridge Pigeon contracted severely from the south, the west and the east. There are records from Kununurra in 1902, but it has not been seen there since 1911. There are records from Borroloola in 1911 and 1913, from the Roper River in 1910 and 1916, and from the Chambers River in 1924. However, there have been no records at these sites since. In the west of its range, the pigeon was gone from Western Australia by 1914, and in the east it disappeared from McArthur River around the same time.

Today the eastern Partridge Pigeon occupies less than half the area it did in Gould's day and has also declined in abundance. Over the first decade of the twenty-first century, at several monitoring sites in Kakadu National Park, its numbers decreased by more than a third. Consequently, in 2010 the subspecies was added to the list of endangered birds, joining its western counterpart as Vulnerable.

PARTRIDGE PIGEON (EASTERN SUBSPECIES)

GEOPHAPS SMITHII SMITHII

STATUS

The eastern subspecies of the Partridge Pigeon is VULNERABLE, as is the species as a whole.

NAME

Jardine and Selby named this bird in 1830, in honour of Sir James Edward Smith who was a botanist, and the founding president of the Linnean Society of London. *Geophaps* is Greek for 'earth pigeon' (*geo* meaning 'earth' and *phaps* meaning 'pigeon'), in reference to its terrestrial nature.

Gould called the bird Smith's Partridge Bronze-wing. In Port Essington, it was simply called 'Partridge', as the bird was thought to resemble a partridge.

TAXONOMY

There are two subspecies of Partridge Pigeon—the eastern subspecies (*smithii*) in the Top End of the Northern Territory and the western subspecies (*blaauwi*) on the Kimberley coast north of Derby. As Gilbert collected the specimen that Gould illustrated at Port Essington, it belongs to the eastern subspecies, which has bare red skin around its eye. In the western subspecies this skin is yellow.

DESCRIPTION

The Partridge Pigeon is a tubby brown pigeon weighing up to 250 grams. It has a distinctive facial pattern—red or ochre yellow edged in white—and a prominent white V outlining its breast. The sexes are similar and there is no seasonal variation. The immature bird is duller in plumage and facial colouration.

HABITAT

Partridge Pigeons live in short-grassed, dry tropical open woodland dominated by either Darwin Stringybark (*Eucalyptus tetrodonta*) or Darwin Woollybutt (*E. miniata*). They are seldom far from water and are attracted to areas that have been recently burnt. They also like road verges and tracks where there is sparse vegetation and grass seeds are easily found.

HABITS

The Partridge Pigeon is gregarious and terrestrial: feeding, nesting and usually roosting on the ground—although it sometimes roosts on branches that are less than 2 metres above the ground. It enjoys a good dust bath, and prefers to walk rather than fly. When alarmed, it usually freezes, either upright or squatting on the ground. Either way, it is very hard to see. Alternatively, it runs away, zigzagging through the bush.

If forced to fly, the pigeon's flight is a combination of fast wing beats and glides, usually very close to the ground. As it takes off, its wings whirr very loudly. It may alight nearby in some trees, sitting upright and alert, watching the trespasser. If a flock scatters, it will regroup soon afterwards, its members locating each other by quiet murmuring contact calls.

The Partridge Pigeon is believed to be sedentary. From January to June, it is found in pairs or small family groups. For the rest of the year it gathers in coveys of 15 to 20 birds, but flocks of over 100 have been seen.

The pigeon's bowing display is used both in courtship and aggression. The bird spreads its tail, raises its wings, inflates its plumage and bows to the ground, cooing as it does so.

VOICE

The Partridge Pigeon makes various coos, soft and loud, abrupt and drawn-out. The advertising call is a single note that lasts for a second. The contact call is described as 'oo-poo-poop', and makes the caller sound further away than it actually is. The alarm call is a short, higher-pitched, questioning 'coo?'. The coo made in the bowing display is abrupt.

DIET

The Partridge Pigeon eats mainly seeds, especially seeds of grasses, but also those of herbs, legumes and eucalypts. It also eats insects, but very few, comprising 0.2 per cent of the diet in one study. Individuals forage in groups on the bare ground, especially in

areas that have been recently burnt. They drink once a day, usually around 9 am or 4 pm.

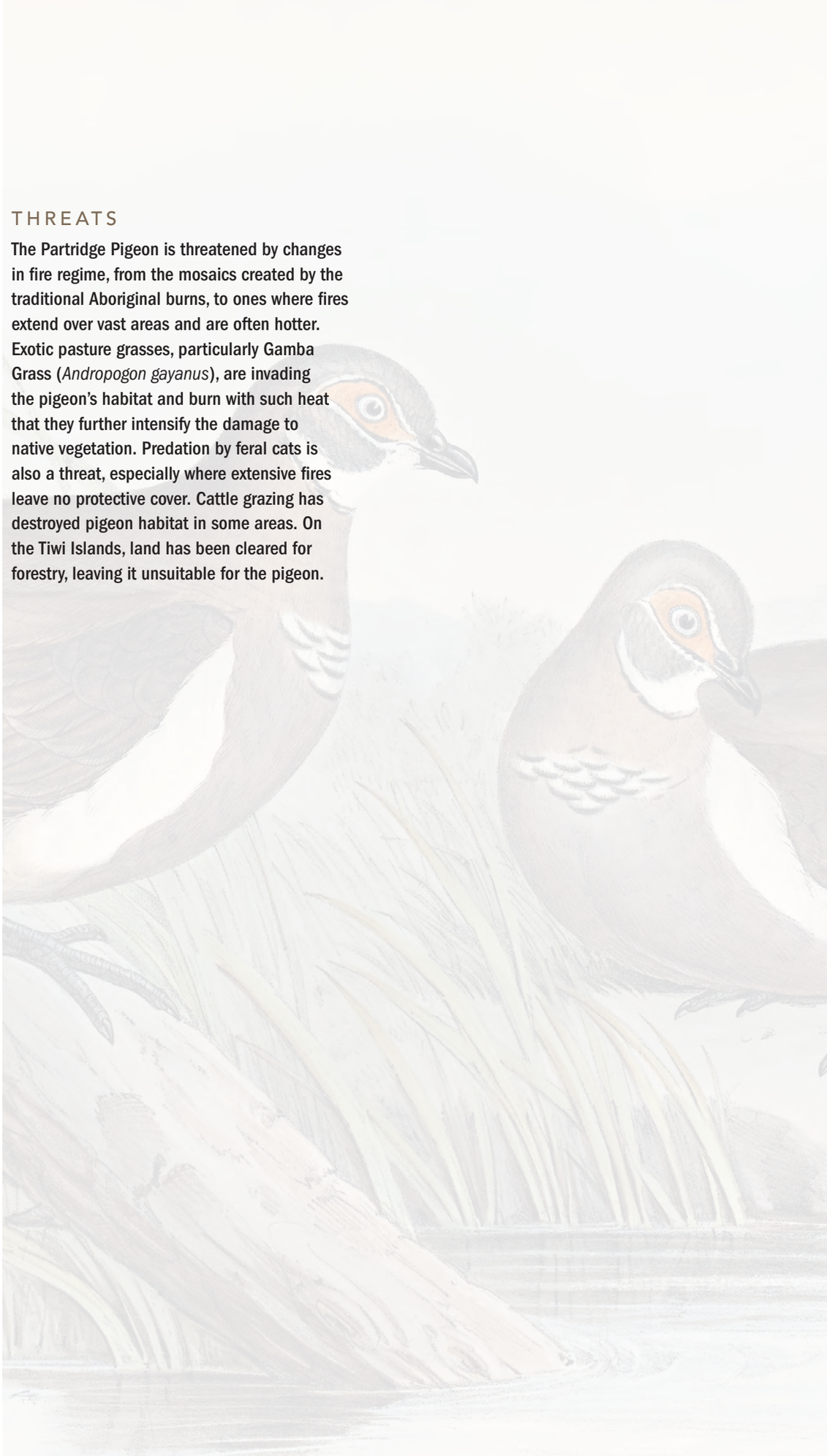
BREEDING

The Partridge Pigeon breeds in the dry season, between March and October, when grass seeds are abundant. However, if conditions are right, it may breed at any time. It does not build a nest, instead selecting a site under a clump of grass or at the base of a tree, where it makes a shallow scrape and tramples the surrounding grass. The nest is lined with grass or leaves and is often protected by overhanging stems from a grass tussock.

The pigeon lays two white eggs and both parents share incubation for 17 to 19 days. The chicks grow fast and can fly a short distance when only nine days old.

THREATS

The Partridge Pigeon is threatened by changes in fire regime, from the mosaics created by the traditional Aboriginal burns, to ones where fires extend over vast areas and are often hotter. Exotic pasture grasses, particularly Gamba Grass (*Andropogon gayanus*), are invading the pigeon's habitat and burn with such heat that they further intensify the damage to native vegetation. Predation by feral cats is also a threat, especially where extensive fires leave no protective cover. Cattle grazing has destroyed pigeon habitat in some areas. On the Tiwi Islands, land has been cleared for forestry, leaving it unsuitable for the pigeon.



Wilson's Storm-Petrel (subantarctic subspecies)
Oceanites oceanicus oceanicus

Wilson's Storm Petrel
Thalassidroma wilsonii

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4.
WILSON'S STORM-PETREL

(subantarctic subspecies)

Wilson's Storm-Petrel was named by German zoologist Heinrich Kuhl in 1820, the year before he died, from a specimen most likely collected at South Georgia, a remote island in the South Atlantic. The only Australian territory where Wilson's Storm-Petrel is known to breed is Heard Island. This forlorn and uninviting island lies 4,000 kilometres south-west of Australia in the Southern Ocean. It was discovered on 25 November 1853 by Captain John Heard on the merchant vessel *Oriental*. Heard's wife, who was with him, described it as 'a frigid looking place'. She did not mention any seabirds there.

Gould was struck by the abundance of Wilson's Storm-Petrel in Australian and New Zealand waters. He saw it 'in great numbers within sight of the shores of Tasmania' and, always keen to collect new birds, he 'shot and preserved several specimens' during his passage 'from Sydney to Hobart Town in 1839'. He observed that it 'is exceedingly active when flying' and:

> *makes considerable use of its feet, in patting the surface of the water, with its wings extended upwards and its head inclined downwards, to gather any food that may present itself.*

Elizabeth Gould has captured that attitude well in her illustration, no doubt having observed the birds from the ship.

The first scientific expedition to Heard Island was in 1874. Douglas Mawson stopped by in November 1929, and from 1947 until 1954 the Australian National Antarctic Research Expedition manned a station there. Ornithologists then began to study the seabirds that bred there and noted that Wilson's Storm-Petrel was among them, scattered over the island. Heard Island is a haven for birds because there are no cats or rats. But the weather is so dreadful that many expeditions are cancelled and many planned landings are thwarted.

Another possible Australian breeding site is Bishop Islet, 37 kilometres to the south of Macquarie Island, where a pair with a chick was spotted in 1993. Wilson's Storm-Petrels are seen occasionally about Macquarie Island in summer and autumn and, while there are no records of breeding on the island, it is possible that the species nested there in the past, before cats and rats arrived.

Although Wilson's Storm-Petrel is one of the most abundant of seabirds, the population that breeds in subantarctic Australian territory is listed as Vulnerable because it is known to breed at only one location and there is a risk that predators will be introduced to Heard Island. Strict quarantine provisions are necessary to maintain protection.

WILSON'S STORM-PETREL (SUBANTARCTIC SUBSPECIES)
OCEANITES OCEANICUS OCEANICUS

STATUS

The Australian breeding population of Wilson's Storm-Petrels is VULNERABLE. The population visiting Australian waters is of Least Concern.

NAME

Wilson's Storm-Petrel was named *Procellaria oceanica* by Kuhl in 1820. *Procellaria* is from the Latin for 'storm' (*procella*) and Greek for seabird (*laros*), and means 'creatures of the storm'; *oceanica* is Latin for 'of the ocean'. In *The Birds of Australia*, Gould called the species *Thalassidroma wilsonii*. *Thalassidroma* is from *thalassa* and *dromos*, the Greek for 'sea' and 'running', referring to the way they seem to run on the water with their feet as they fly. He later changed the name to *Oceanites oceanica* ('oceanbirds of the ocean') and gave it the common name of Yellow-webbed Storm-Petrel. The common name in use today honours Alexander Wilson, a Scotsman who migrated to America where he became one of the pioneers of American ornithology.

TAXONOMY

Today there are two recognised subspecies of Wilson's Storm-Petrel. *Oceanites oceanicus oceanicus* breeds in the subantarctic islands, whereas *O. o. exasperatus* breeds on the Antarctic mainland and on islands in the Scotia Sea. Another (unconfirmed) subspecies was described by Gregory Mathews in 1932 from three mid-nineteenth century specimens from New Zealand, but has not been seen since.

DESCRIPTION

Wilson's Storm-Petrel is a common, small, dark storm-petrel often seen pattering across the surface of the sea. It has an obvious white band forming a U across its tail—a handy aid to identification. In flight, its feet protrude slightly beyond its tail. Gould called it yellow-webbed; however, as its feet are black and only the webs are yellow, this can be difficult to observe at sea. There are no obvious differences between the sexes.

HABITAT

Wilson's Storm-Petrels are circumpolar marine seabirds. After breeding in the subantarctic and Antarctic, they migrate north, travelling well past the equator in all three oceans, as far as 77° North.

There is an Australian breeding colony of Wilson's Storm-Petrel on Heard Island and perhaps also on the Bishop Islets, 37 kilometres south of Macquarie Island.

HABITS

Wilson's Storm-Petrels are gregarious and often occur in large flocks. They follow ships and are attracted to fishing boats. Generally, they prefer the shallower waters of the continental shelf, rather than truly deep pelagic seas.

VOICE

As with most seabirds, Wilson's Storm-Petrels are generally silent at sea, although calls are heard occasionally. Nor do they call when flying over their breeding colonies, but they make a harsh call at night from their burrows, and are noisiest just before egg laying in mid-December.

DIET

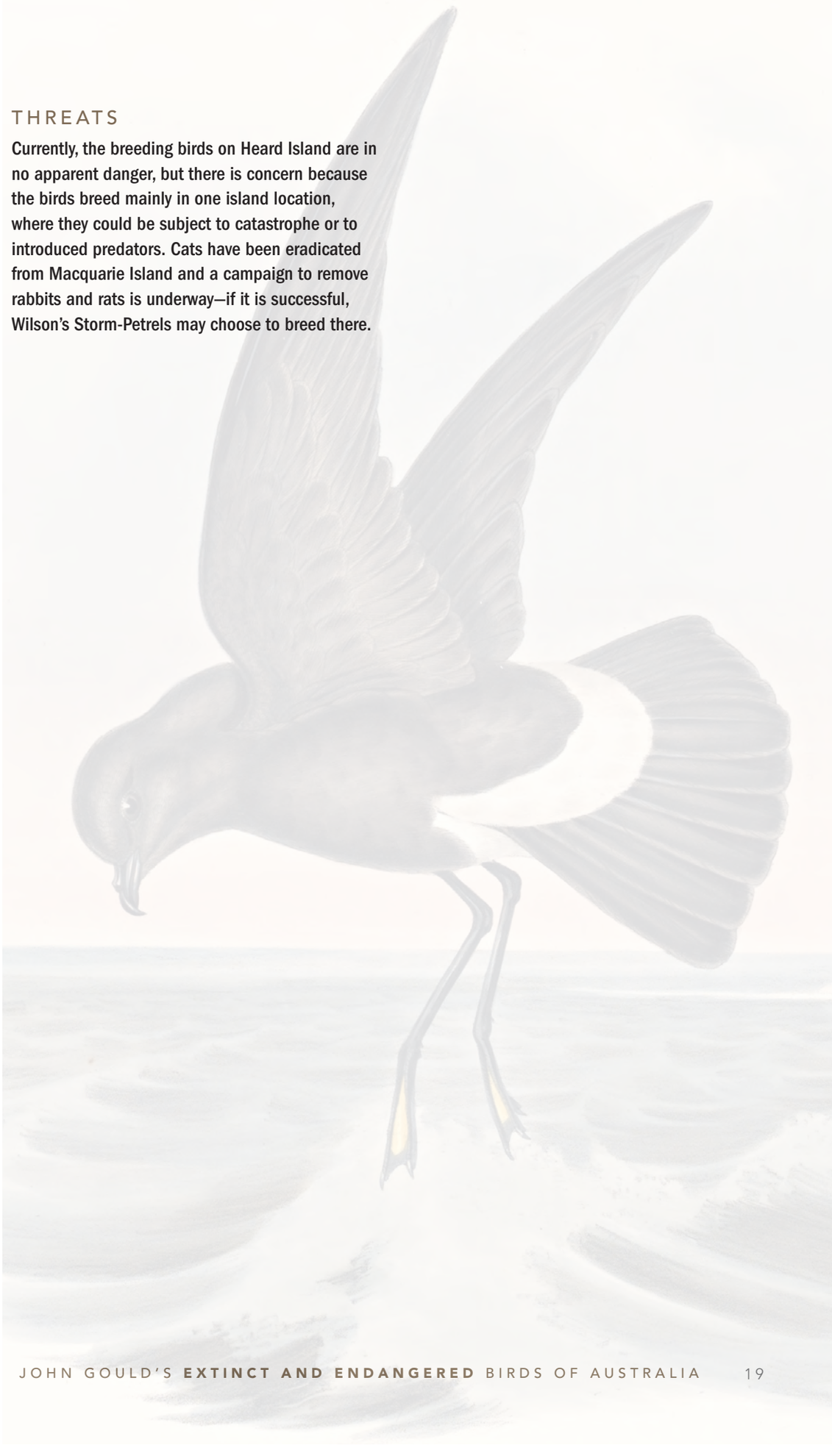
Wilson's Storm-Petrels eat crustaceans and fish, and also cephalopods, gastropods and floating carrion.

BREEDING

Nests are either in a burrow or in a crevice between rocks on ice-free parts of islands. The breeding season is very variable, often affected by weather, but eggs are generally laid in mid-January. Both members of a pair incubate and care for the young. Incubation takes around 43 days, and the chicks fledge after about 52 days. When the chicks hatch, they are brooded for a couple of days, then abandoned and visited only to be fed.

THREATS

Currently, the breeding birds on Heard Island are in no apparent danger, but there is concern because the birds breed mainly in one island location, where they could be subject to catastrophe or to introduced predators. Cats have been eradicated from Macquarie Island and a campaign to remove rabbits and rats is underway—if it is successful, Wilson's Storm-Petrels may choose to breed there.



Grey-backed Storm-Petrel
Garrodia nereis

Grey-backed Storm-Petrel
Thalassidroma nereis

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5.
GREY-BACKED STORM-PETREL

In 1865, concluding his account of the Grey-backed Storm-Petrel, Gould appealed to 'naturalists accompanying expeditions to the South Pacific and South Indian Oceans … to collect examples of this species, as but few of our museums possess it'. Gould himself had collected four specimens between Hobart and Sydney in 1839, thanks to 'the kindness of the captains … in allowing (him) the use of a boat whenever the weather permitted … without retarding the progress of the ship'. He observed that in behaviour it resembled the other storm-petrels, but the 'total absence of any white mark on the rump' alerted him to the possibility that it was a new species, which it proved to be, bringing the avid collector 'great pleasure'. He encountered the bird again 'in considerable numbers near the eastern entrance of Bass's Straits' and between Australia and New Zealand, but admitted that 'further than this I have little to communicate respecting it'.

The Grey-backed Storm-Petrel is still poorly known, although sightings of it are not rare. In Australian waters its traditional breeding grounds are probably Macquarie Island, and islands off Tasmania. On Macquarie Island, in the early 1980s, the breeding population of Grey-backed Storm-Petrels was estimated at 100 pairs. By 1998, the colony had gone.

Perhaps 250 mature individuals still make up the local, threatened population. Outside Australian territory, the Grey-backed Storm-Petrel ranges widely throughout the subantarctic oceans. Although none of its colonies is very large, the global population is estimated to be well in excess of 10,000 pairs and stable.

The 2010 *Action Plan* blames the continuing absence of breeding Grey-backed Storm-Petrels from Macquarie Island on rabbits, which have caused severe soil erosion because of overgrazing, destabilising the soil around seabird burrows and exposing the nests to greater predation. Cats were eradicated from Macquarie Island in 2000, which allowed rabbits and perhaps rats to breed in greater numbers. Rabbits in turn provide food for Brown Skuas (*Stercorarius antarcticus)*, which also eat seabird eggs and chicks, and now have a burgeoning population. There is presently a rabbit and rat eradication program underway on Maquarie Island.

The good news is that Grey-backed Storm-Petrels are still sighted around Macquarie Island. It is possible that some still nest there on offshore rock stacks. And, when rabbits and rats are eradicated, the birds may well return to nest on the island.

GREY-BACKED STORM-PETREL
GARRODIA NEREIS

STATUS

The Australian breeding population of the Grey-backed Storm-Petrel is ENDANGERED. The non-breeding, visiting population is of Least Concern.

NAME

Gould named this bird *Procellaria nereis* in 1840. *Procellaria* is from the Latin for 'storm' (*procella*) and means 'creatures of the storm'. *Nereis* is from the Greek Nereid, a sea nymph. In *The Birds of Australia*, he changed the generic name to *Thalassidroma*, which is Greek for 'running on the sea'.

Today, the Grey-backed Storm-Petrel is known as *Garrodia nereis. Garrodia* commemorates anatomist and ornithologist Alfred Henry Garrod, one of Gould's colleagues at the Zoological Society of London.

TAXONOMY

The Grey-backed Storm-Petrel has no subspecies.

DESCRIPTION

Grey-backed Storm-Petrels are the smallest storm-petrels of the Southern Ocean. They have grey upperparts, a black hood, white underbodies and white underwings outlined broadly with black. In flight, their black feet protrude visibly beyond the tail. The sexes look alike, but females are slightly larger.

HABITAT

Grey-backed Storm-Petrels inhabit subantarctic oceans and in the breeding season occur mainly over the edge of the continental shelf. After breeding, they disperse and become pelagic. The only confirmed Australian breeding colony was on Macquarie Island, although it is possible that small colonies may nest on rock stacks off Macquarie and on islands off Tasmania's southern coast. They breed in tussock grassland among rocks and low vegetation.

HABITS

Grey-backed Storm-Petrels can be seen singly or in flocks. They rarely rest on the water, but dance across the surface, their little feet pattering the water like ballerinas. Their flight is bat-like.

VOICE

Grey-backed Storm-Petrels are silent at sea. They only call from the ground from August to November, when they are forming pairs. The call is described as a harsh, wheezy croak.

DIET

Grey-backed Storm-Petrels eat small crustaceans, fish and squid, mostly plucked from the surface of the water but occasionally captured by shallow plunge diving. They can forage by day and at night.

BREEDING

There is much to learn about the Grey-backed Storm-Petrel's breeding behaviour. We know that they use a long burrow sometimes lined with grass. They lay a single white egg, which both parents incubate. Pairs breed in loose colonies. Eggs are laid in November or December and the young fledge and leave the colony in April.

THREATS

Introduced predators (cats and the Black Rat, *Rattus rattus*) appear to have been the main threats to Australia's breeding colony on Macquarie Island. However, recent extermination of cats has unleashed a cascade of effects that probably still make the island unsuitable for nesting.

Wandering Albatross
Diomedea exulans

Wandering Albatros
Diomedea exulans

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6. WANDERING ALBATROSS

Captain Frederick Hasselborough, a sealer, made the first recorded landfall on Macquarie Island on 11 July 1810. It has been downhill for the wildlife on this isolated little island ever since. The sealers first decimated the population of fur seals, then elephant seals, then penguins and any other convenient seabird, including the Wandering Albatross. They introduced cats, rats, rabbits, mice and Weka (*Gallirallus australis*). Wekas are large New Zealand rails, introduced to provide food for shipwrecked sailors, as were the rabbits.

While sealers were killing albatrosses on Macquarie Island, Gould was admiring them from the deck of the barque *Parsee* on his trip to Australia. He first saw a Wandering Albatross on 24 July 1838 at latitude 30° 38' S, longitude 20° 43' W. From that day until he arrived in Hobart on 19 September, Gould saw the species every day, sometimes several birds at once. He found it a 'noble bird' that is:

> *by far the largest and most powerful species of its tribe, and from its great strength and ferocious disposition, is held in terror by every other bird by which it is surrounded.*

Gould was moved to comment that seabirds such as this ensured that, contrary to popular opinion, long sea voyages were far from tedious.

With plenty of opportunity for observation, Gould remained impressed:

> *The powers of flight of the Wandering Albatros are much greater than those of any other bird that has come under my observation. Although during calm or moderate weather it sometimes rests on the surface of the water, it is almost constantly on the wing, and is equally at ease while passing over the glassy surface during the stillest calm, or sweeping with arrow-like swiftness before the most furious gale; and the way in which it just tops the raging billows and sweeps between the gulfy waves has a hundred times called forth my wonder and admiration. Although a vessel running before the wind frequently sails more than two hundred miles in the twenty-four hours, and that for days together, still the Albatros has not the slightest difficulty in keeping up with the ship, but also performs circles of many miles in extent, returning again to hunt up the wake of the vessel for any substances thrown overboard.*

As Gould observed:

> *the open sea is in fact its natural home, and this it never leaves except for the purpose of breeding, when it usually resorts to rocky islands the most difficult of access.*

One such island in Australian territory is Macquarie. In 1911, Douglas Mawson stopped there en route to the Antarctic and soon afterwards began a conservation campaign to save the wildlife of 'one of the wonder spots of the world'.

Today, all seabirds are protected on Macquarie Island, and Wekas and cats have been eradicated. Authorities are now turning their attention to rabbits and rodents. With any luck, breeding success for Wandering Albatrosses may improve. There were 29 pairs in the late 1960s and, in 2010, there were just nine.

WANDERING ALBATROSS
DIOMEDEA EXULANS

STATUS

The Australian breeding population of the Wandering Albatross is CRITICALLY ENDANGERED. The population visiting Australian waters is VULNERABLE.

NAME

Carl Linnaeus named the Wandering Albatross *Diomedea exulans* in 1758. Diomedes was a Trojan war hero whose companions were so inconsolable when he died that they were transformed into birds; *exulans* is Latin for 'wandering', a very appropriate name for a bird that travels vast distances, easily covering 200 kilometres in a day.

The name 'albatross' is thought to be an alteration of *alcatras*, the Spanish name for the frigatebird, and *alcatraz*, Portuguese for pelican. The change to 'albatross' may have been influenced by the Latin *albus* ('white'), albatrosses being mostly white. 'Wandering' obviously refers to the bird's habit of roaming the oceans.

TAXONOMY

The taxonomy of albatrosses is highly controversial. Some ornithologists regard the Amsterdam Albatross (*D. e. amsterdamensis*), the Antipodean Albatross (*D. e. antipodensis*) and the Tristan Albatross (*D. e. dabbenena*) as subspecies of the Wandering Albatross. Other authorities consider each of the four birds to be species in their own right.

DESCRIPTION

The Wandering Albatross is a magnificent bird. One of the aptly named great albatrosses, it has a wingspan of up to 3.5 metres and it is one of the largest of seabirds. The pale bill is very big. The plumage varies enormously, but the adult always has a clear white back, white upper surface to the wings near the body and white underwings. The juvenile bird is dark brown with a white, clown-like face, becoming mottled with more white as it matures. The female is slightly smaller than the male and retains a little more brown plumage in adulthood.

HABITAT

The Wandering Albatross is mainly pelagic and inhabits most of the Southern Ocean, travelling between latitudes 30° and 60° South. It is seen in Australian waters most frequently in winter. The females and young birds usually feed further south than the adult males. In Australian territory the Wandering Albatross breeds only on Macquarie Island, home to the smallest breeding population in the world.

HABITS

Wandering Albatrosses are generally solitary, although they can congregate at food sources. They often follow ships, and always dominate any other albatrosses present. A foraging trip can exceed 15,000 kilometres. One bird was recorded travelling 6,000 kilometres in 12 days.

VOICE

At sea, the bird is usually silent, but at its breeding colonies it makes a variety of harsh calls.

DIET

Wandering Albatrosses feed by day and at night, eating mainly cuttlefish, some fish and, infrequently, crustaceans. Mostly they scavenge, but they will take live prey. Like other seabirds, they obtain sufficient moisture from their food and have no need to drink water. They feed mainly from the surface and only rarely dive after food.

BREEDING

In Australian waters, Wandering Albatrosses breed on various subantarctic islands, including Macquarie. There is just one record from Heard Island. Courtship rituals include bowing, dancing and bill clapping. Pairs build a stout, cone-shaped nest of mud, grass, moss and other material cleared from the immediately surrounding area. The breeding cycle takes 55 weeks, so they breed at most only every other year. Sometimes three years elapse between a pair's breeding attempts. When Wandering Albatross chicks fledge, after nine months in and around the nest, the next season's adult birds have arrived to begin their breeding cycle.

Birds arrive at the breeding colony between November and January. The single large white egg is laid within a month. The parents take turns to incubate, for a couple of weeks at a time, for a total of 63 days. The partner not on duty goes foraging, travelling an average of 7,000 kilometres, and returning well fed and several kilograms heavier.

When the chick is four to five weeks old, it is left on its own while both parents go out to sea to feed, travelling perhaps thousands of kilometres before returning to regurgitate an enormous amount of fish to feed the youngster. The chick leaves the breeding colony between November and February.

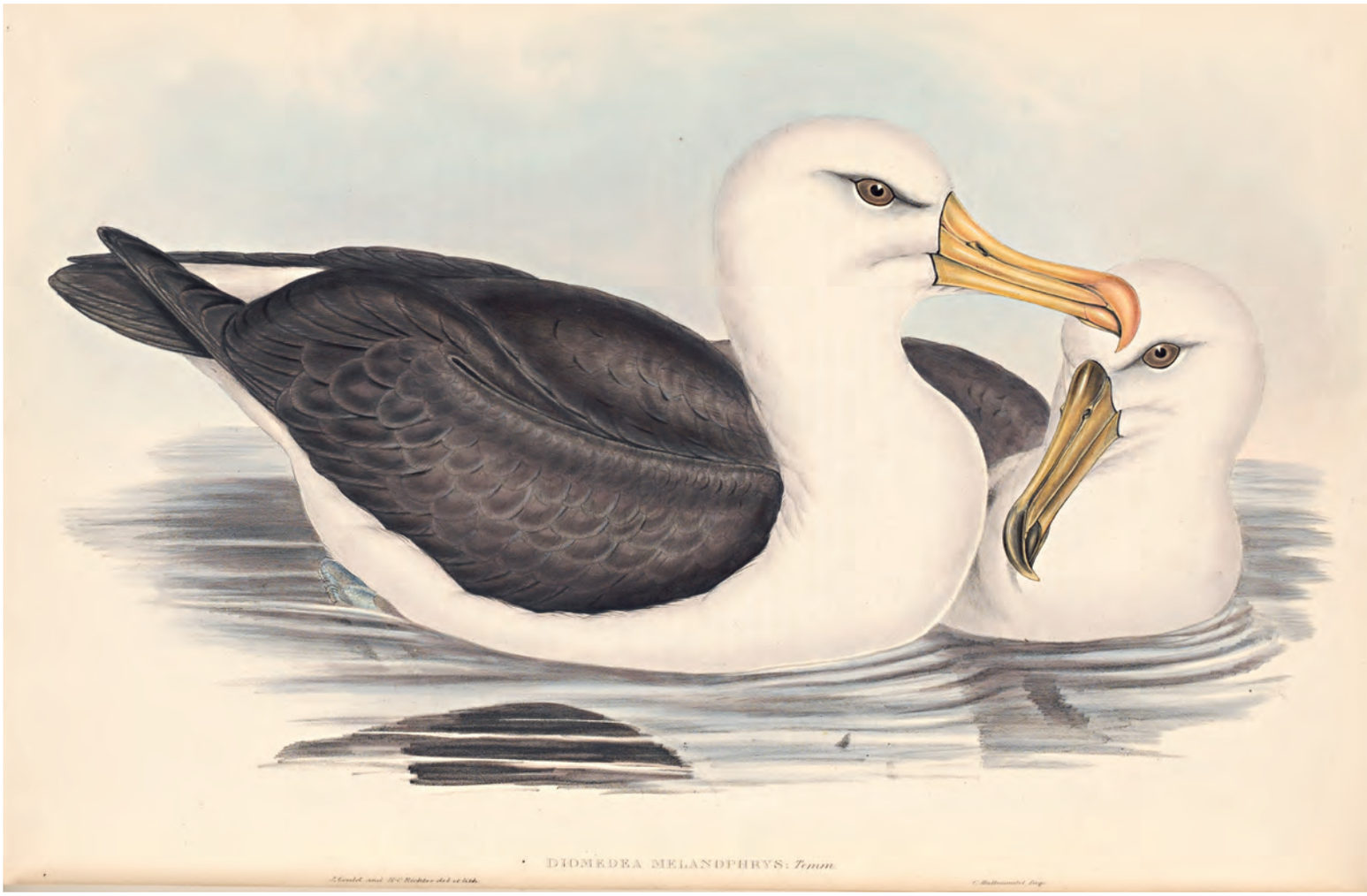
Wandering Albatrosses commence breeding when eight or nine years old and can live for 50 years.

THREATS

Because Wandering Albatrosses do not breed every year, and never raise more than one chick at a time, any decline in population takes a very long time to reverse. A generation for Wandering Albatrosses is 25 years.

Partly due to sealers' activities in the nineteenth century, the Wandering Albatrosses on Macquarie Island make up the smallest breeding population in the world. With rabbits damaging the island, the albatross colony faces a very real threat of extinction. In 2010 the total population was 18 pairs, so a maximum of nine pairs breed each year. Chicks may perish from marine debris (plastics) and fishing hooks accidentally fed to them by their parents.

At sea, irresponsible longline and trawling fishing practices are a major threat. With a little effort, the number of seabirds killed as fishing bycatch can be reduced by up to 90 per cent, yet millions of seabirds are drowned every year by unlicensed and even some licensed fishermen who do not regard accidental killing of seabirds as of sufficient concern for them to bother about.



Black-browed Albatross
Thalassarche melanophris

Black-eyebrowed Albatros
Diomedea melanophrys

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7. BLACK-BROWED ALBATROSS

In 1828, Gould was appointed Curator and Preserver at the Zoological Society of London's museum and, in that same year, Coenraad Jacob Temminck named the Black-browed Albatross. Temminck was a Dutch zoologist and aristocrat who was an authority on European birds. The Black-browed Albatross specimen that he used to write the first description of the species came from the Cape of Good Hope.

Ten years later, Gould encountered the Black-browed Albatross on his trip to Australia, and noted that it was just as common in the Pacific as in the Atlantic Ocean. Although this is the world's most abundant albatross, Australian and New Zealand subantarctic islands are home to the smallest breeding populations. From a global population of over a million mature birds, some 2,000 Black-browed Albatrosses are estimated to nest in Australian waters.

The first breeding record on Macquarie Island was in 1949 to 1950. Unfortunately, we do not know the size of the colony. From 1977 to 1985 the colony on Macquarie Island numbered some 600 to 700 pairs. By 2000, this had plummeted to 40 pairs. There are insufficient historical records to understand the present status of the Macquarie Island population. It may always have been small, because of the limited food supply. Or it could be the remnant of a much larger population, annihilated by sealers in the nineteenth century. But the fact that it was at least 15 times bigger just 30 years ago is not a comforting thought.

Up to 700 pairs nest on Heard Island, 85 on McDonald Island and a further 140 on Bishop and Clerk Islets, south of Macquarie Island. These populations appear to be stable.

Gould observed the Black-browed Albatross in 1839. He tells us that it:

> *may be regarded as the most common species of Albatros inhabiting the southern ocean … It was nowhere more numerous than off the southern coast of Van Diemen's Land, where a large company followed our vessel for many days and continued to hover around us until we entered Storm Bay, but on our approaching the land, they suddenly disappeared, betaking themselves again to the open ocean.*

He was impressed by its fearlessness:

> *Of all the species with which I am acquainted, this is the most fearless of man, and it often approaches many yards nearer the vessel than any other: I have even observed it approach so near that the tips of its pinions were not more than two arms' length from the taffrail.*

This assisted Gould who:

> *caught numerous examples, marked and gave them their liberty, in order to ascertain whether the individuals which were flying around the ship at nightfall, were the same that were similarly engaged at daylight in the morning after a night's run of 120 miles, and which in nearly every instance proved to be the case.*

Globally, the Black-browed Albatross population has decreased by a quarter in the last 15 years. It is estimated that longline fishing kills 300,000 seabirds every year. As the most abundant albatross, the Black-browed Albatross comprises a large proportion of this number.

BLACK-BROWED ALBATROSS
THALASSARCHE MELANOPHRIS

STATUS

The Australian breeding population of Black-browed Albatrosses is ENDANGERED, as is the population visiting Australian waters.

NAME

Temminck described this species in 1828, naming it *Diomedea melanophrys. Diomedea* comes from Trojan war hero Diomede; *melanophrys* comes from the Greek for 'black' (*melanos*) and 'brow' (*phrys*). Gould called it the 'Black-eyebrowed Albatros'.

The bird belongs to the group of Southern Hemisphere albatrosses known as mollymawks (genus *Thalassarche*). 'Mollymawk' comes from the Dutch *mallemok,* which translates as 'foolish gull'. *Thalassarche* comes from the Greek for 'sea' (*thalassa*). For over a century and a half, the mollymawks were grouped with the greater albatrosses *Diomedea*, but recent molecular research has shown that they are different. Hence the Black-browed Albatross is now *Thalassarche melanophris.*

TAXONOMY

The taxonomy of albatrosses is highly controversial. Some taxonomists regard the Campbell Albatross (*T. m. impavida*) as a subspecies of the Black-browed Albatross, the remaining (majority) of the population belonging to *T. m. melanophris*. However, most authorities disagree and separate the Campbell Albatross, leaving the Black-browed Albatross without any subspecies.

DESCRIPTION

Mollymawks are middle-sized albatrosses with white bodies, dark backs and brightly marked bills. The Black-browed Albatross is a compact albatross with a heavy black brow that gives it a scowling look. It has an orange bill and the underwing pattern is broadly outlined in black. The female is slightly smaller than the male.

Gould's illustration shows an adult and a young bird, the latter having a brown bill. The colour of the iris of the adult identifies it as a Black-browed Albatross, rather than a Campbell Albatross, which has a pale iris. Young of both species have a brown iris.

HABITAT

The Black-browed Albatross is the most familiar mollymawk as it is the most widespread and abundant of the albatrosses, occurring around the poles, throughout the southern oceans from the Antarctic to the equator. It has even been reported in European waters. Nevertheless, it prefers seas with water temperatures below 18° Celsius.

The Black-browed Albatross nests in colonies at four sites in the Australian subantarctic: Heard, Bishop and Clerk, McDonald and Macquarie islands. It is seen more frequently in winter than summer (when it is breeding) and more often off Tasmania than off southern Western Australia. Non-breeding birds can be seen at any time of the year.

HABITS

The Black-browed Albatross is a pelagic species, spending most of its life over the open ocean. It is gregarious, sometimes occurring in flocks of thousands, especially at the continental shelf and slopes. It follows ships and fishing boats. In the non-breeding season (May to October), the population shifts northwards.

VOICE

The Black-browed Albatross is silent at sea unless it is squabbling over food, when it utters harsh squawks and grunts. It is very noisy at breeding colonies, mainly before the eggs are laid. In display it grunts and brays.

DIET

The Black-browed Albatross eats krill, fish, squid, jellyfish and offal, and feeds mainly at night. It scavenges food, mainly from the surface. However, recent studies suggest that diving for prey is more common than previously thought, some birds diving as deep as 4.5 metres.

BREEDING

Breeding success relates to krill availability. The birds attempt to breed every year (not every second year as some other albatrosses do), but if the attempt fails, they do not lay a second egg that season.

The nest is a column of packed earth and grass about 45 centimetres high, placed on a narrow ledge overlooking the sea. Nests are placed a metre or two apart. Birds are monogamous and return to the same colony and the same nesting site each year.

Males arrive at the chosen nesting site some time in September, a week or two earlier than females. The single white egg is laid three weeks after the female arrives and is incubated for 68 days. The chick is brooded for three weeks and fledges at 116 days, either in April or May. During this time, its parents feed it diligently, almost every day.

Birds begin breeding when they are from six to 13 years old. At Macquarie Island, where mortality is high, they tend to be younger—seven or eight years old.

THREATS

The global population of Black-browed Albatrosses is estimated at 1.2 million mature birds. But big numbers can give a false sense of security. In fact, the world population is declining rapidly and the Black-browed Albatross is listed internationally as Endangered.

Australian and New Zealand subantarctic islands are home to the world's smallest breeding population of Black-browed Albatrosses. Here they breed at only four locations and habitat loss is reducing the area suitable for breeding. Therefore, the Australian breeding population is also considered to be Endangered.

Like most albatrosses, the Black-browed Albatross is threatened by longline fishing. Actions recommended by the *Threat Abatement Plan for the Incidental Catch (or Bycatch) of Seabirds during Oceanic Longline Fishing Operations* **have reduced bycatch significantly in Australian waters. Sadly, albatrosses do not recognise territorial boundaries. Trawl fishing has proved to be as big a threat as longline fishing and authorities are now turning their attention to this.**

Shy Albatross
Thalassarche cauta

Cautious Albatros
Diomedea cauta

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8.
SHY ALBATROSS

Gould first saw the Shy Albatross off the south coast of Tasmania, observing that: 'It is a large and powerful bird … rapid and vigorous on the wing, and takes immense sweeps over the surface of the ocean'. He had trouble collecting specimens of the new species that he later named the Shy Albatross, complaining that:

> *unlike other Albatroses, I found this a most difficult bird to procure, for, as its name implies, it would seldom approach a ship or boat sufficiently near for a successful shot.*

It was only when Gould's ship took shelter in Recherche Bay, at the tip of south-east Tasmania, that he was able to shoot several of the albatrosses that were attracted by the floating refuse from a major whaling station in the bay. He had 'no doubt' that these birds were:

> *breeding on Mewstone and other isolated rocks in the neighbourhood, as the plumage of some of the specimens I procured indicated that they had lately been engaged in the task of incubation.*

Gould also learned something of their diet for, apart from blubber, their stomachs contained 'the remains of large fish, and barnacles'.

Gould was correct about the birds breeding on Mewstone. In 1773, nearly 70 years earlier, when Tobias Furneaux, captain of HMS *Adventure*, named the island, he had commented that it was 'swarming with birds'. The first population estimate on Mewstone was made in 1977, when there were some 2,000 nests; in 1995 there were 7,000 and by 2011 this had increased to 10,000. Quite possibly this represents a recovery towards former, much larger numbers.

In 1798, George Bass landed on Albatross Island, off the north-west tip of Tasmania, to get seals and birds for fresh meat. It has been estimated that there were 20,000 pairs of Shy Albatrosses nesting there at that time. Subsequently, the colony was exploited for the feather trade to such an extent that, by 1909, fewer than 300 nests remained. Since then the colony has begun to re-establish itself. In 1960 there were 600 to 700 nests, by 1983 this had increased to 2,000, reaching 5,000 by 1995. The number remains about the same today. So, after over a hundred years, the Albatross Island colony has regained just a quarter of its original size.

The third and smallest Australian breeding colony, on Pedra Branca, has not fared so well. There, pushed out by a burgeoning Australasian Gannett colony, the population has decreased from 268 pairs in 1996, to 250 in 2000 and 150 in 2011.

SHY ALBATROSS
THALASSARCHE CAUTA

STATUS

The Australian breeding population of Shy Albatrosses is VULNERABLE, as is the species as a whole.

NAME

Gould described this bird in 1841, naming it *Diomedea cauta. Diomedea* comes from Diomede, a Trojan war hero; *cauta* is from the Latin for 'cautious' or 'shy'. Gould called it 'shy' in frustration because it was so wary it was very difficult to shoot.

As with the Black-browed Albatross, the generic name of the Shy Albatross has recently been changed to *Thalassarche,* which comes from the Greek for 'sea' (*thalassa*).

TAXONOMY

The taxonomy of albatrosses is highly controversial. A few authorities regard the Shy Albatross as conspecific with the White-capped Albatross (*T. c. steadi*), Chatham Island Albatross (*T. c. eremita)* and Salvin's Albatross (*T. c. salvini*). However, *The Action Plan* treats these four albatrosses as separate species.

The Shy Albatross belongs to the group of middle-sized albatrosses known as mollymawks (genus *Thalassarche)*. Mollymawks have dark backs and brightly marked bills.

DESCRIPTION

With a wingspan of up to 2.5 metres, the Shy Albatross is the largest of the mollymawks. Its back, upperwing and tail are dark grey; the rest of the body is white, but it has a thin dark eyebrow and a grey wash over its face that make it look white capped. In flight, the Shy Albatross is whiter underwing than the other mollymawks and its identity is confirmed by a small black mark under its armpit. The male is larger than the female.

HABITAT

The Shy Albatross is a marine bird of subantarctic and subtropical waters of the Southern Ocean. It nests on ledges and slopes of the rocky islets and sea-stacks of three Tasmanian islands—Mewstone and Pedra Branca, south-west of Tasmania, and, appropriately, Albatross Island, in Bass Strait—making it the only albatross to breed in Australia (as opposed to subantarctic islands under Australian jurisdiction).

The Shy Albatross is found more often over the continental shelf than in pelagic waters, sometimes entering bays and harbours and usually travelling no further north than latitude 25° South. In Australia, it is most common off the south-east coast from July to October, and is not seen so frequently between January and April. It is rare west of the Eyre Peninsula and not so common north of Sydney, although it has been found beach washed as far north as Fraser Island. There are even records from the Northern Hemisphere. Pre-breeding birds from Pedra Branca and Mewstone disperse as far as South Africa.

HABITS

Usually a solitary bird, the Shy Albatross will gather in flocks at a rich food source. During calm weather it rests on the water, sometimes forming large rafts of many birds. Its flight is slow and graceful.

The Shy Albatross sometimes tails dolphins, feeding on their discarded cuttlefish heads, and follows ships at a distance.

VOICE

Like other albatrosses, the Shy Albatross is silent at sea (except when squabbling over food) and noisy at breeding colonies. It makes cackling noises in display and indulges in bill clapping at the nest.

DIET

Shy Albatrosses feed singly or in flocks, almost exclusively on mackerel and squid, but they also take redbait, crustaceans and carrion.

Although they take most of their food from just below the surface of the water, Shy Albatrosses are more likely to dive underwater than other albatross species, reaching a depth of up to 7.5 metres.

BREEDING

With an eight-month breeding cycle, the Shy Albatross can breed every year, from September to April. A single white egg, with a few reddish flecks at one end, is laid in September or October (dates vary between colonies). Both parents incubate the egg for about ten weeks, then brood the fluffy white chick for a further three weeks. Chicks fledge in April, when they are about four and a half months old. Young birds return to the colony to breed when they are five or six years old.

The Shy Albatross does not travel so far from the breeding colony to forage as do some other albatross species. For the Shy Albatross, the maximum known distance travelled is 265 kilometres, whereas the Wandering Albatross may travel over 15,000 kilometres.

THREATS

Population monitoring programs are in place for all three Tasmanian breeding colonies and it is estimated that there are about 25,000 mature Shy Albatrosses. The species is considered Vulnerable because it nests at only three locations.

On Albatross Island, the birds are subject to a lethal avian pox, a virus transmitted by ticks and fleas. This kills the chicks in the nest and results in very low breeding success. However, it is thought unlikely that the virus has a substantial impact on overall population status and trends.

The small population (less than 300 pairs) on Pedra Branca is gradually being excluded from the already limited nesting spaces by the expanding Australasian Gannet (*Morus serrator*) colony; however, this has not significantly affected the global population of the species.

Because these birds do not travel the distances that the great albatrosses do, they do not have as much interaction with deep-sea fishermen. Hence, fishing bycatch is not known to be decreasing the population of Shy Albatrosses. Human overexploitation of squid and fish from Bass Strait is a potential future threat.

Grey-headed Albatross
Thalassarche chrysostoma

Culminated Albatros
Diomedea culminata

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9. GREY-HEADED ALBATROSS

Joseph Banks was to have been the naturalist on Cook's second voyage to the Pacific in 1772. When Banks withdrew at the last moment, Johann Reinhold Forster, a German Lutheran pastor and naturalist, replaced him. It was Forster who named the Grey-headed Albatross, *Diomedea chrsysostoma*, in 1785, two decades before Gould was born. His specimen came from South Georgia Island, which today still accommodates the largest breeding colony, 60 per cent of the entire population.

The only Australian breeding colony of Grey-headed Albatrosses is on Macquarie Island. The island has a sad history of wildlife exploitation. Nineteenth-century sealers not only took fur and elephant seals, but also harvested millions of penguins for oil. They introduced Wekas, a New Zealand rail, and rabbits to provide food for shipwrecked sailors, and cats came with them. Presumably, the introduction of rats and mice was incidental. All these exotic pests had a devastating effect on nesting seabirds, including the Grey-headed Albatross.

At the same time as sealers were operating on Macquarie Island, Gould voyaged from England to Australia. He encountered the Grey-headed Albatross, which he decided:

> *appears to be more plentiful in the Australian seas than elsewhere; numbers came under my notice during a voyage from Launceston to Adelaide, particularly off Capes Jervis and Northumberland; I frequently observed it between Sydney and the northern extremity of New Zealand, and it also occurred in the same latitude of the Indian Ocean as abundantly as any of its congeners.*

Unaware that Forster had already described the species, in 1843 Gould named it *Diomedea culminata*, the Culminated Albatros, presumably because of its yellow culmen (the stripe on the top of its bill). By ornithological convention, the earlier scientific name takes preference.

In 1948, the Australian National Antarctic Research Expeditions established a base on Macquarie Island and scientists began studying the seabirds. This is how we know that, in 1980, there were 58 breeding pairs of Grey-headed Albatrosses on the island. Wekas were eradicated from the island by 1989. The last of the cats was removed in 1999, and the following year there were 75 breeding pairs of Grey-headed Albatross, a significant increase from two decades previously. The population of Grey-headed Albatrosses on Macquarie Island is now believed to be stable, with about 94 pairs breeding every year.

Authorities are now directing significant efforts and resources to eradicating rabbits and rodents from Macquarie Island. This will assist the breeding success of the Grey-headed Albatross. However, this is not the biggest threat facing the bird. It is estimated that Japanese longline fishing kills around 1,370 Grey-headed Albatrosses each year. Until recently, 400 to 500 of these deaths were occurring annually in Australian waters. This number has been reduced significantly thanks to government regulation. However, the birds do not recognise Australian territorial waters and they are still vulnerable throughout the southern fishery zones. What an irony for the Australian Government to spend millions of dollars to eradicate pests on Macquarie Island so that seabirds can breed there safely, only for the birds to be drowned at sea by longline fishermen.

GREY-HEADED ALBATROSS
THALASSARCHE CHRYSOSTOMA

STATUS

The Australian breeding population of Grey-headed Albatrosses is CRITICALLY ENDANGERED. The global population is VULNERABLE.

NAME

Forster described this bird in 1785, naming it *Diomedea chrysostoma. Diomedea* is taken from Diomedes, King of Argos and an exceptionally brave warrior at Troy, and *chrysostoma* is Greek for 'gold mouth', referring to the yellow markings on the bill.

The Grey-headed Albatross is a mollymawk, a group of medium-sized albatrosses now genetically separated from the great albatrosses (*Diomedea*) as *Thalassarche*, which comes from the Greek for 'sea' (*thalassa*).

TAXONOMY

The Grey-headed Albatross has no subspecies.

DESCRIPTION

The Grey-headed Albatross is a powerful, medium-sized albatross with a wingspan of up to 2.4 metres. It has the grey head of the Shy Albatross and the yellow-striped bill of the Yellow-nosed Albatross, although the Grey-headed Albatross' bill has a golden yellow stripe along the base as well as on the top of the bill. The Grey-headed Albatross' underwing pattern is similar to that of the Black-browed Albatross.

HABITAT

The Grey-headed Albatross is a bird of the open ocean and a regular winter visitor to Australian waters, always preferring colder currents. Not surprisingly, therefore, most Australian sightings are made in Tasmania. It is also occasionally seen in Victoria, less often in southern Western Australia and in South Australia, and only very rarely in New South Wales. It is seen more often in the southern Atlantic. The only breeding colony in Australian territory is on Macquarie Island, among tussocks on steep cliffs and slopes overlooking the ocean.

HABITS

The Grey-headed Albatross is usually solitary, but groups can follow ships and whales. In the past it was believed that the Grey-headed Albatross was less likely to follow ships than other species of albatross; this has been proved to be a myth.

Little is known about the birds' precise migratory movements, although in winter most leave the Antarctic and shift northwards.

In calm conditions, Grey-headed Albatrosses often rest on the surface of the sea, but they may come inshore when the conditions are rough.

VOICE

Like other albatrosses, the Grey-headed is silent at sea. At its breeding colonies, it makes a variety of creaks and croaks, described as being like the sound of a creaking door.

DIET

The Grey-headed Albatross feeds by day and at night, far from the continental shelf, mainly by surface feeding, although it has been recorded diving after prey to a depth of 6 metres. It eats squid, fish, crustaceans and lampreys, and feeds either alone or with other albatrosses and petrels. It sometimes feeds in association with whales.

BREEDING

Like all albatrosses, Grey-headed Albatrosses are monogamous. As the breeding cycle lasts for nine months, they breed every second year, from September when birds arrive at their nesting colonies, until the following May when they return to sea. However, if breeding is unsuccessful, birds may try again the following year. Individuals are loyal to their own breeding colony, never taking the opportunity to move to a better location.

Younger, less experienced birds return to their breeding colonies later than older birds. Arrival dates vary from colony to colony. On Macquarie Island, birds arrive after 12 September. Nests are built about 1 or 2 metres apart. They are cone shaped and made of earth and vegetation. One egg (white-ringed with red-brown spots at one end) is laid in October. Incubation is by both parents in shifts of up to 15 days, for a total of 72 days. The fluffy pale grey chick hatches sometime between mid-December and mid-January. It is brooded for three to four weeks, then abandoned when both parents go out to sea to feed, travelling perhaps thousands of kilometres, then returning to feed the chick. It fledges after 141 to 152 days, and all birds have left the breeding colony by late May.

Grey-headed Albatrosses return to breed on Macquarie Island when they are seven to ten years old.

THREATS

The global population of Grey-headed Albatrosses is classified as Vulnerable because it is decreasing. Australia has only one small breeding colony, on Macquarie Island, with less than 100 pairs breeding each year (giving a total population of perhaps 250 mature individuals). In 1992 the Australian breeding population of Grey-headed Albatrosses was classified as Vulnerable; this was upgraded to Endangered in 2000 and, in 2010, to Critically Endangered.

On Macquarie Island the increase in rabbit numbers since feral cats were eradicated in 2000 has led to overgrazing of native vegetation and the extensive destruction of habitat and soil erosion at nesting sites. This threat may continue unless the pest eradication program presently underway is successful.

At sea, large numbers of Grey-headed Albatrosses were killed at tuna fisheries south of Africa in the early 1990s and around Australia from 1989 to 1995 (up to 400 per year), and birds were also being killed in New Zealand waters until the late 1990s. Much of this loss has been controlled within Australian territorial waters but the species occurs in all southern fishery zones and its non-Australian colonies are continuing to decline, some precipitously.

Indian Yellow-nosed Albatross
Thalassarche carteri

Yellow-billed Albatros
Diomedea chlororhynchos

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10. INDIAN YELLOW-NOSED ALBATROSS

In 1912 ornithologist Gregory Mathews described and named the Indian Yellow-nosed Albatross *Diomedea carteri*, in honour of his friend Thomas Carter, a British ornithologist and pastoralist who migrated to Western Australia in 1887. Carter collected the type specimen at Point Cloates in north-west Australia in 1900.

Gould encountered the Indian Yellow-nosed Albatross in 1838 in the southern Atlantic Ocean. He wrote:

> *This species came under my observation for the first time on 24th July, 1838, in Lat. 30° 38' S. and Long. 20° 43' W.; from which period until we reached New South Wales scarcely a day passed without the ship being visited by it; upon some occasions it appeared in considerable numbers, of which many were apparently birds of one year old, or at most two years of age; these may be easily distinguished from the adults, especially while flying, by the darker colouring of their wings, back, and tail, and by the culmen of the bill being less distinctly marked with yellow.*

Not long after the Goulds' return from Australia and the birth of their eighth child (two of their children had not survived), Gould's wife and illustrator, Elizabeth, died. Zoological illustrator Henry Constantine Richter finished the plates for *The Birds of Australia*. In 1844, under direction from Gould, he painted a pair of Indian Yellow-nosed Albatrosses but mistakenly coloured the iris yellow; it should be dark brown.

Indian Yellow-nosed Albatrosses do not breed anywhere under Australian jurisdiction, but visit Australian waters regularly. Of the estimated world population of 180,000 birds, approximately 85,000 migrate to Australian waters. The population has been decreasing steadily for the last 45 years and its conservation status in Australia was upgraded from Vulnerable in 2000 to Endangered in 2010.

INDIAN YELLOW-NOSED ALBATROSS

THALASSARCHE CARTERI

STATUS

Indian Yellow-nosed Albatrosses visiting Australian waters are ENDANGERED, as is the global population.

NAME

Mathews named the Yellow-nosed Albatross *Diomedea carteri* in honour of Thomas Carter, the British ornithologist who collected the type specimen. *Diomedea* comes from Diomedes, a Trojan war hero. Gould called it *Diomedea chlororhynchos* in reference to the yellow stripe on the top of its bill. *Diomedea* has now been split into the great albatrosses—*Diomedea*—and the mollymawks—*Thalassarche,* from *thalassa*, the Greek for 'sea'.

TAXONOMY

The taxonomy of albatrosses is highly controversial. The Indian Yellow-nosed Albatross is sometimes classified as a subspecies, *T. chlororhynchos bassi,* with the Atlantic Yellow-nosed Albatross (*T. c. chlororhynchos*). The latter is rare in Australian waters and breeds on Tristan da Cunha and Gough Island in the Atlantic Ocean.

DESCRIPTION

The Yellow-nosed Albatross is a mollymawk, that is, a medium-sized albatross with black wings, a white body and a colourful bill. It is the smallest of the albatrosses: quite slender in appearance, with a wingspan of 1.8 to 2 metres. It has a glossy black bill with a bright yellow line along the ridge, ending at an orange tip. The immature bird has a completely black bill.

HABITAT

This is the most common albatross seen off the south-west coast of Western Australia and it is also common off the west coast of South Africa and off Argentina. It prefers shallower waters over the continental shelf rather than pelagic seas. It also prefers warmer waters. It does not breed in Australian territory.

HABITS

Indian Yellow-nosed Albatrosses are regular migrants that are found in Australian waters throughout the year, but more often in autumn and winter and most frequently off Western Australia, between March and May. They are also seen off the southern coast of New South Wales from May to June.

Yellow-nosed Albatrosses are either solitary or in mixed flocks. They have graceful aerobatic flight, and rest on the water when there is no wind to assist them to soar. They follow fishing boats.

VOICE

Like other albatrosses, the Yellow-nosed is silent at sea unless it is squabbling over food. At breeding colonies it is always noisy, and, when the adults quieten down, the young take over. During mating displays it utters a high-pitched laugh. It also makes croaks and wails.

DIET

Yellow-nosed Albatrosses eat mainly fish, but also some squid and crustaceans. They usually take food from the surface at night, but sometimes dive under water.

BREEDING

The Indian Yellow-nosed Albatross nests on islands in the southern Indian Ocean, either as just one pair or in colonies of up to 23,000 pairs. It associates with other albatrosses on the Kerguelen Islands and with Rockhopper Penguins (*Eudyptes chrysocome*) on Amsterdam Island.

The breeding cycle lasts about eight months from mid-August when birds arrive at the colony, until the following April, when the chicks have fledged and the parents can again leave for the open ocean. Precise dates vary between colonies. Birds may be as old as 12 years when they commence breeding.

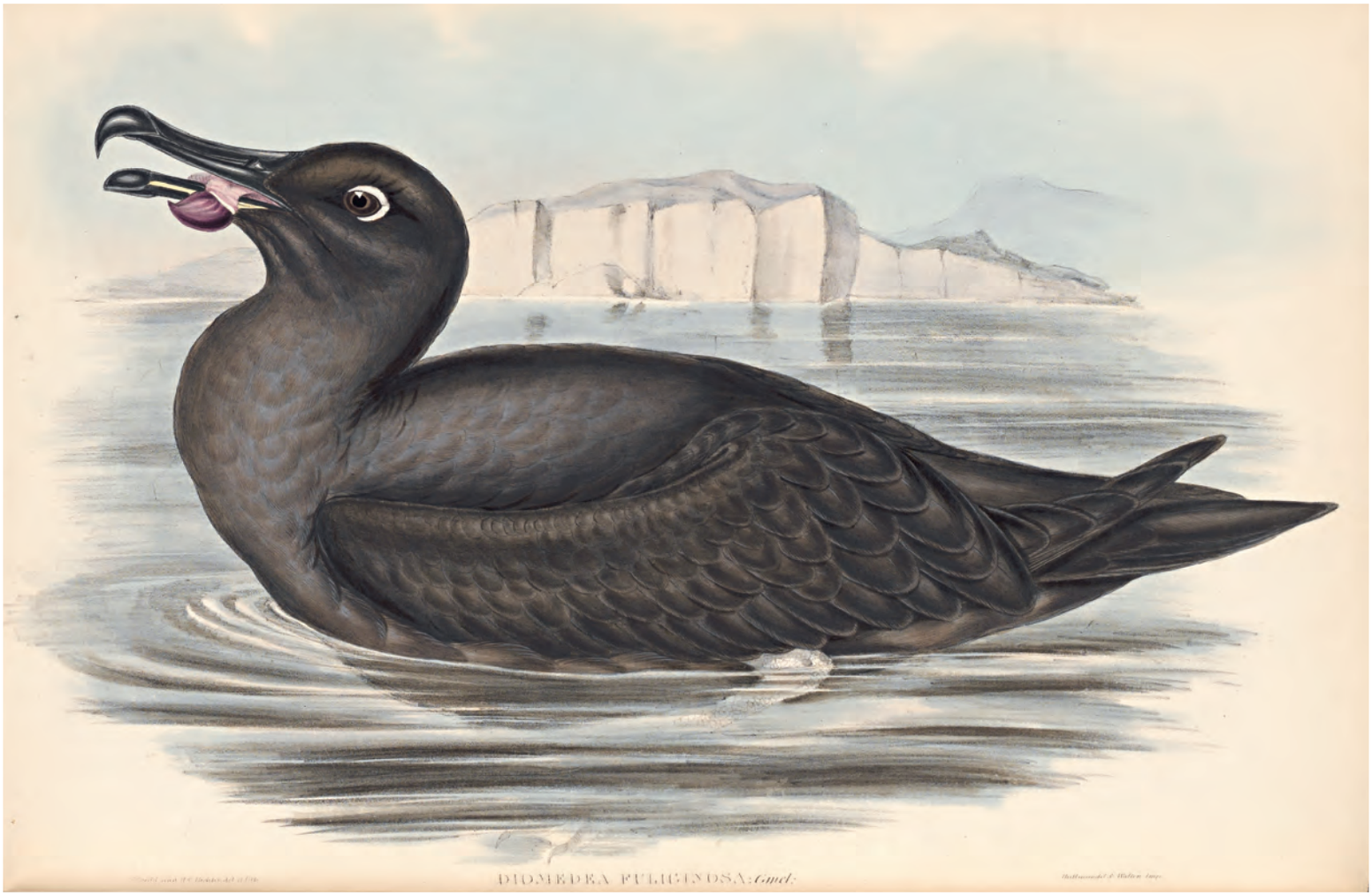
The nesting site is either on a plateau or a vegetated or rocky cliff, which can be so steep that landslides are a constant threat. The pair works together to create the huge cone-shaped nest: the male gathers the mud and vegetation and the female positions the material. One oval, white, lightly freckled egg is laid and, if disaster overtakes it, it is not replaced.

Both parents incubate the egg for a total of 71 days. The chick, covered in grey-blue down, is brooded for about three weeks, after which time both parents go out to sea to forage, returning at intervals to feed the chick, which fledges after 130 days.

THREATS

The population of Indian Yellow-nosed Albatrosses has been decreasing steadily for the last 45 years, caused mainly by conflict with fishing activities. The total population is somewhere between 160,000 to 180,000 birds, which includes about 36,500 breeding pairs.

The breeding colony on Amsterdam Island has decreased by 30 per cent since the early 1980s. The main reason for this decline is thought to be commercial fishing activities, particularly longline fishing. At nest sites, introduced disease, Black Rats and feral cats are also a threat.



Sooty Albatross
Phoebetria fusca

Sooty Albatros
Diomedea fuliginosa

nla.aus-f4773-7-s95

11. SOOTY ALBATROSS

Carl Theodor Hilsenberg was a German naturalist who collected plants in Madagascar and Mauritius. No doubt that is how he came across a Sooty Albatross in the Mozambique Channel, between the island nation of Madagascar and south-east Africa. He described the new species in 1822, only two years before his tragic death aged just 22. But what was the albatross doing there? This is well north of the bird's usual range. Perhaps it was blown off course by a storm.

When Gould first encountered the Sooty Albatross in the southern Atlantic Ocean on his way to Australia in July 1838 he could tell by its form that it was a little different from most albatrosses:

> *The cuneated form of the tail, which is peculiar to this species, together with its slight and small legs and more delicate structure, clearly indicate that it is the most aerial species of the genus.*

This was corroborated by his observations that:

> *In its actions and mode of flight this bird differs very considerably from all the other species of Albatros, its aerial evolutions being far more easy, its flight much higher and its stoops more rapid; it is, moreover, the only species that passes directly over the ship, which it frequently does in blowing weather, often poising itself for several seconds over the masthead, as if inquisitively viewing the scene below; at this moment it offers so inviting a mark for the gunner, that it often forfeits its life.*

Gould reported that the Sooty Albatross was 'one of the commonest species of the genus'. No one would call it common today. From the 1990s, every colony that has been studied has had a steep fall in the number of pairs nesting. The largest breeding groups are on Tristan da Cunha and Gough Island where the populations have decreased by 58 per cent in 15 years. The population on Marion Island decreased by 25 per cent in eight years.

The Sooty Albatross is more fond of carrion than most albatrosses, which makes it particularly vulnerable to entrapment in longline fishing equipment. There are methods of reducing these mortality rates, which are enforced in Australian waters but not internationally.

SOOTY ALBATROSS
PHOEBETRIA FUSCA

STATUS

The population of Sooty Albatrosses visiting Australian waters is ENDANGERED.

NAME

Hilsenberg described this bird in 1822, naming it the Sooty Albatross, *Diomedea fusca. Diomedea* comes from Diomedes, a Trojan war hero; *fusca* is from the Latin word *fuscus*, meaning 'brown'.

It was English naturalist John Latham who gave the species its common name, Sooty Albatross. This is reflected in the scientific name that Gould gave it in *The Birds of Australia—Diomedea fuliginosa* (*fuliginosa* meaning 'sooty' in Latin). In *Handbook to the Birds of Australia,* the generic name became *Phoebetria*, which is derived from the Greek god Phoebus (Apollo) or goddess Phoebe (Diana), and means 'the Bright One; inspired'.

TAXONOMY

The Sooty Albatross has no subspecies.

DESCRIPTION

The Sooty Albatross is a small dark albatross with a wedge-shaped tail. While the colour is described as sooty brown, at sea it looks charcoal. Its slender black bill has a thin yellow stripe down the side of the lower mandible.

The Sooty Albatross is very similar in appearance to the Light-mantled Sooty Albatross (*P. palpebrata*), which prefers colder waters. The two species breed side by side on three islands, but their courtship displays are sufficiently different to ensure that no hybridisation occurs.

HABITAT

The Sooty Albatross is a bird of temperate waters, virtually unknown in the Pacific Ocean. It breeds on the steep slopes of coastal and inland cliffs on 15 subtropical and subantarctic islands, none within Australian jurisdiction. These islands include Prince Edward, Marion, Kerguelen, Crozet, Amsterdam, Saint Paul, Gough and Tristan da Cunha.

HABITS

The Sooty Albatross has an effortless, graceful, highly manoeuvrable flight. It flies between 10 and 15 metres above the water, and is usually solitary at sea, but is sometimes in mixed flocks. It follows ships, associates with whales and dolphins, and is very inquisitive.

In winter, adults move north from subantarctic to subtropical seas, whereas immature birds tend to remain in subtropical seas all year round. In Australia, the Sooty Albatross is most common in autumn and winter, in western Bass Strait and south of Tasmania.

VOICE

Like other albatrosses, the Sooty is silent at sea. During the breeding season, the bird calls only during the day. At the nest site, the male points his beak to the sky and makes a loud territorial squawk. On the nest, calls are softer.

DIET

The Sooty Albatross is rarely observed feeding, perhaps because it feeds at night. It eats mainly squid, but also eats fish, krill and crustaceans. It eats more carrion than other albatrosses, mostly dead seabirds and seals. Occasionally, it follows fishing boats to scavenge offal. It seizes food from the surface of the sea, and doesn't dive below the surface as other albatrosses do.

BREEDING

The Sooty Albatross is monogamous. The pair reunites at the nest site for the breeding season, but is not together for the rest of the time. They nest biennially as the breeding cycle takes ten months. However, if the breeding attempt fails, they may try again the following year.

This is the least colonial of the albatrosses. It mostly nests as solitary pairs and occasionally in groups of up to 60 nests, probably because of the scarce availability of nesting sites, rather than from a desire for social interaction.

The male arrives at the nest site a fortnight before his mate. Arrival dates vary between colonies, commencing any time from mid-July until September.

Nests are placed on steep cliffs amid grass tussocks. The male selects the site and both parents share nest building, incubation and care of the young.

One egg is laid. It is white with reddish-brown splotches. The parents share incubation for a total of 70 days, in shifts of up to a fortnight. The female takes the first shift and shifts get shorter as hatching approaches.

The chick, covered with light grey down, is brooded for three weeks, then abandoned, being visited only to be fed. As with all albatross chicks, the chick may vomit a foul-smelling oily substance over any potential predator that approaches too closely. Chicks fledge at 160 days. If they reach breeding age, they return to nest at their natal island at about eight years old.

THREATS

It is estimated that the world population of Sooty Albatrosses is 100,000, of which 42,000 visit Australian waters. About 15,700 pairs now breed on 15 islands and for several decades their numbers have been falling at all islands surveyed. In 1990 the Sooty Albatross was classified as Near Threatened, then in 2000 as Vulnerable and in 2010 as Endangered—a sadly consistent decline.

On land, introduced Black Rats and feral cats contribute to mortality rates on some islands. However, the principal cause of the population decline appears to be deaths associated with pelagic fisheries, particularly longline vessels.

Blue Petrel
Halobaena caerulea

Blue Petrel
Procellaria coerulea

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12.
BLUE PETREL

German naturalist Johann Friedrich Gmelin named the Blue Petrel in 1789. As he did with the Grey Petrel, he based the description on an illustration, a watercolour made in the Southern Ocean by Georg Forster, draughtsman on Cook's 1776 voyage.

Perhaps Gmelin saw what Gould noticed in the late 1830s: that the Blue Petrel could be 'distinguished from every other of the smaller Petrels by the conspicuous white tips of the centre tail-feathers'. However, Gould added, the petrel:

> *is generally seen in company with the fairy-like Prion turtur* [now the Fairy Prion, *Pachyptila turtur*], *from which when on the wing it can scarcely be distinguished, unless it passes sufficiently near for the observer to note the more square form, and the white tips of the tail-feathers.*

Gould also observed that the powerful little flier was circumpolar. He encountered it 'in every part of the ocean I traversed between the 40th and 55th degrees of south latitude, both in the Atlantic and Pacific'. We now know it ranges even wider, from the Antarctic icepack to 30° South or even further north.

In late 1838, Gould found the petrel 'very plentiful' off the coast of Tasmania and saw it again as he voyaged from Hobart to Adelaide and to Sydney. Today, most Australian records are made in the open sea in winter and spring. In those seasons there have been occasional 'wrecks' during severe storms, when many, even thousands, of Blue Petrels fall victim to the weather and are beach washed.

BLUE PETREL
HALOBAENA CAERULEA

STATUS

The Australian breeding population of Blue Petrels is CRITICALLY ENDANGERED. The population that visits Australian waters is of Least Concern.

NAME

Gmelin named the Blue Petrel *Halobaena caerulea* in 1789, based on a specimen from the Southern Ocean. *Halobaena* is Greek for 'sea-walker'; *caerulea* is Latin for 'dark blue'.

In *The Birds of Australia*, Gould called the bird *Procellaria coerulea, procellaria* meaning creatures of the storm (from the Latin *procella* for storm and the Greek *laros* for seabird).

TAXONOMY

The Blue Petrel has no subspecies.

DESCRIPTION

At 28 centimetres, the Blue Petrel is roughly the size of a Magpie-lark (*Grallina cyanoleuca)*. However, it has a much wider wingspan, of up to 66 centimetres. It is a small grey-blue prion-like seabird with a dark M pattern on its upper wings and a clearly visible white tip to its tail. It is white underneath, wears a black cap and has a slim black bill. The immature bird is browner with a greyer forehead.

HABITAT

Blue Petrels are pelagic seabirds, only coming to land to nest and only heading inshore in bad weather. This petrel can be seen throughout subantarctic and Antarctic oceans. The sole Australian breeding population nests on rock stacks off Macquarie Island, but Blue Petrels may once have nested on the tussocked slopes of Macquarie Island itself.

HABITS

Blue Petrels have a distinctive flight: buoyant, gliding close to the contours of waves and, in rough weather, weaving, banking and arching over the waves, flashing white underparts then blue upperparts.

Blue Petrels are gregarious. They are seen in flocks of up to 100 and are usually in mixed flocks with prions. Sometimes they follow ships, whales and dolphins.

The petrel is a regular winter to spring visitor to southern Australian waters from the Antarctic, a few birds venturing further north. At least some birds from the Macquarie Island population stay around the island all year.

VOICE

Blue Petrels are silent at sea but very noisy at their breeding colonies. Adults coo like pigeons and young chirp in their burrows.

DIET

Blue Petrels eat mainly krill, but also other crustaceans, fish, cephalopods and sometimes insects. They mainly feed from the surface of the sea, but can dive for food if necessary.

BREEDING

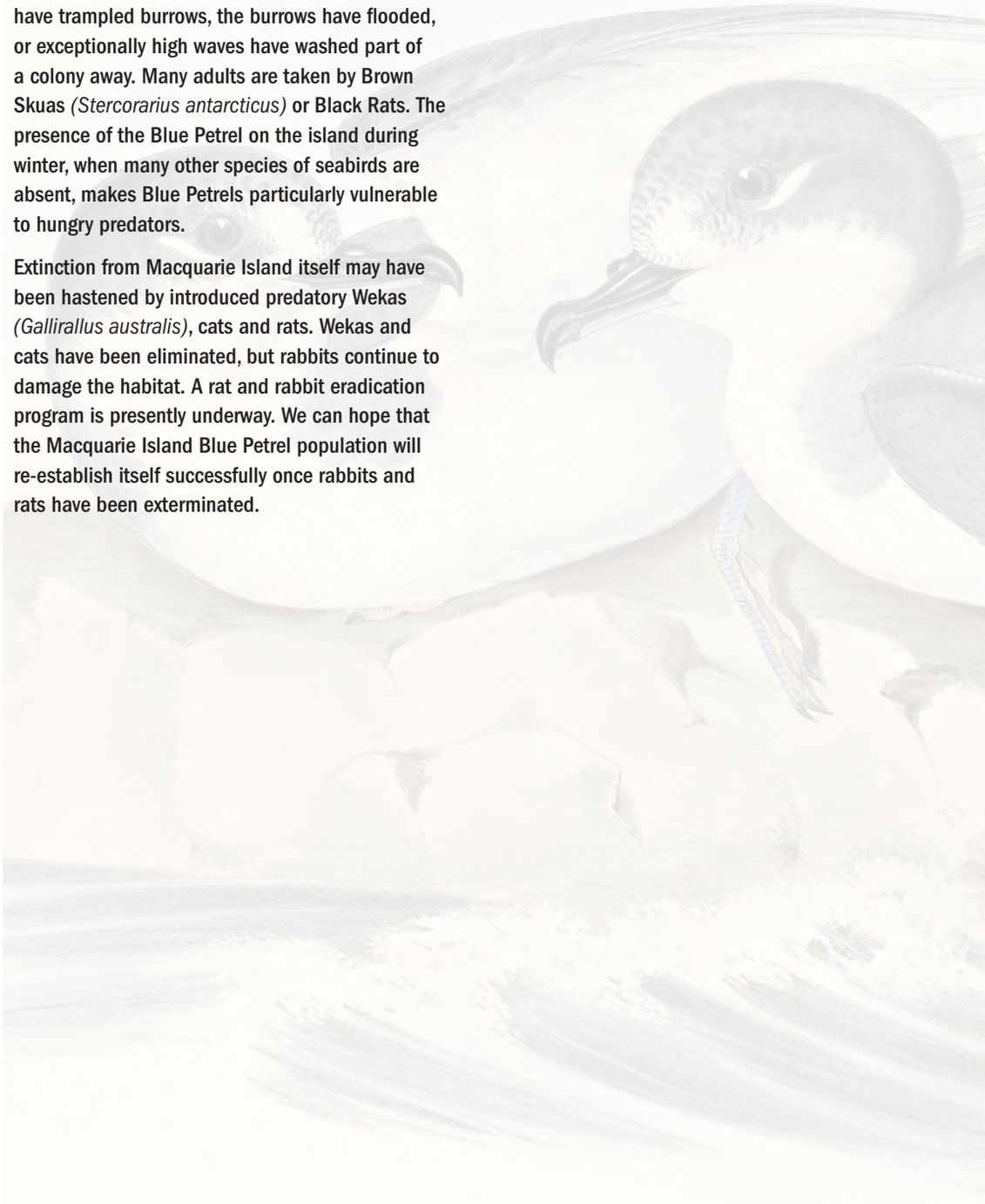
There is no information about the Blue Petrels that breed on rock stacks off Macquarie Island.

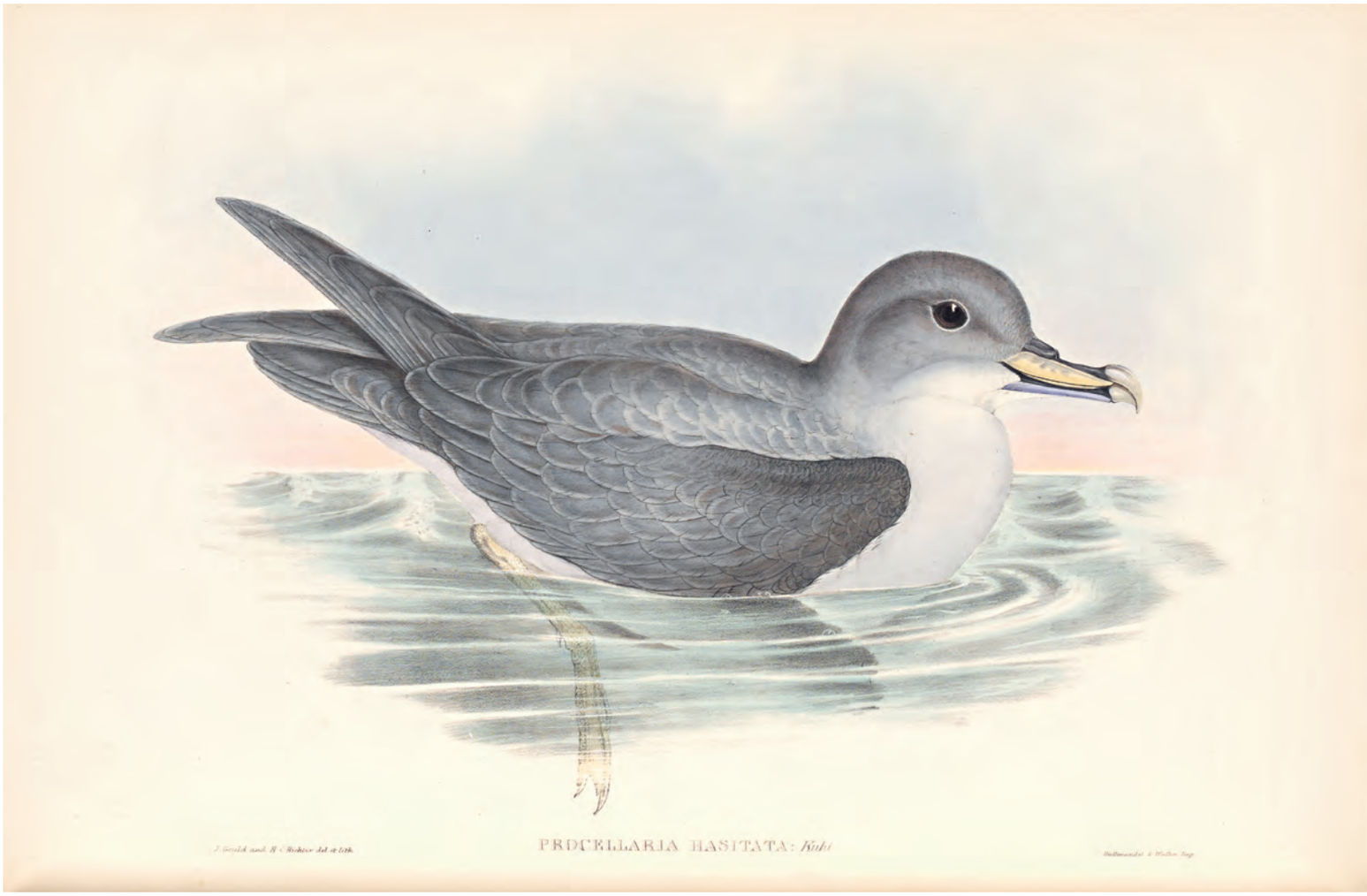
At other colonies, in October birds lay one single egg in a burrow or rock crevice, and both birds incubate it for 46 days, the female taking the first shift. Both parents care for the young, which fledges in late February or early March. Most adults desert the colony a few weeks later; however, some birds remain at some colonies throughout the year. Dates vary between different islands but are well synchronised within colonies. First breeding occurs at about five years of age.

THREATS

The Blue Petrel population on the Macquarie Island rock stacks is estimated at 500 to 600 pairs, that is, an estimated 1,000 mature pairs out of a global population of some 80,000. The population has persisted despite poor nesting success. All nests found in the vicinity of the island have failed because of nest destruction or predation. Imperial Shags *(Leucocarbo atriceps)* have trampled burrows, the burrows have flooded, or exceptionally high waves have washed part of a colony away. Many adults are taken by Brown Skuas *(Stercorarius antarcticus)* or Black Rats. The presence of the Blue Petrel on the island during winter, when many other species of seabirds are absent, makes Blue Petrels particularly vulnerable to hungry predators.

Extinction from Macquarie Island itself may have been hastened by introduced predatory Wekas *(Gallirallus australis)*, cats and rats. Wekas and cats have been eliminated, but rabbits continue to damage the habitat. A rat and rabbit eradication program is presently underway. We can hope that the Macquarie Island Blue Petrel population will re-establish itself successfully once rabbits and rats have been exterminated.





Grey Petrel
Procellaria cinerea

Great Grey Petrel
Procellaria hasitata

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13.
GREY PETREL

German naturalist and academic Johann Friedrich Gmelin described and named the Grey Petrel in 1789, based on a drawing made by Georg Forster, who accompanied his father, naturalist Johann Forster, on Cook's second voyage.

Gould saw Grey Petrels on his trip to Australia in 1839. Although he saw mostly single birds, he 'succeeded in killing several'. His comments in 1865 reveal how he probably managed to obtain them:

> *Its powers of flight are very great, and in its passage over the ocean it often mounts higher in the air than most other members of the group, and descends with the utmost eagerness to seize any fat substance thrown overboard. Its actions and flight differ slightly from those of the other Petrels, and more closely resemble those of the Albatroses.*

It was also, he had been told:

> *by far the best diver of all the sea-going Petrels. It seems even fond of it, and moreover remains under water for several minutes, when it comes up again, shaking the water off its feathers like a dog.*

Gould was remarkably accurate in his observation that the Grey Petrel 'enjoys so wide a range of habitat that it may be said to be universally diffused between the 30th and 55th degrees of south latitude'.

In 1984, when *The Atlas of Australian Birds* was published, the Grey Petrel was considered to be an 'Uncommon and Vagrant Species', rarely seen near the Australian coast. *The Atlas* also records that the 'former colony on Macquarie Island is now believed exterminated, probably by cats'.

In the mid-1980s an ambitious cat eradication program began on Macquarie Island. In 1993, two dead Grey Petrels were found in burrows. Seven years later, immediately following the successful removal of cats from the island, Grey Petrels recolonised; in 2000, eight eggs and four young were discovered. By 2003, there were as many as 80 pairs in 26 colonies. However, this rapidly declined to 74 pairs in 2007 and 32 in 2010. Without cats, the rabbit (and rat) population expanded, which, in turn, helped the Brown Skua population to build up. For the Grey Petrels this unintended ecological cascade meant greater exposure of nests to predation by skuas (and possibly rats) because of overgrazing by rabbits.

A pest eradication program is presently underway on Macquarie Island, targeting rabbits and rodents. When these pests are eradicated, the artificially increased populations of skuas should decrease naturally. It is to be hoped that the Grey Petrel colony will then rebuild.

GREY PETREL
PROCELLARIA CINEREA

STATUS

The Australian breeding population of Grey Petrels is ENDANGERED. The population visiting Australian territorial waters is Near Threatened.

NAME

Gmelin named this bird *Procellaria cinerea* in 1789. *Procellaria* joins the Latin word for 'storm' (*procella*) with the Greek word for 'seabird' (*laros*)—a reference to their association with stormy weather. *Cinereus* is Latin for 'ashen', which refers to the bird's upper surface.

In *The Birds of Australia*, Gould called the species the Great Grey Petrel, *Procellaria hasitata*, *hasitata* meaning 'hesitating'.

TAXONOMY

The Grey Petrel has no subspecies.

DESCRIPTION

The Grey Petrel is a medium-sized seabird (about the size of a currawong) with a wingspan of 1.3 metres. It is grey above and white below. The underwings are very dark, as is the undertail. The bill is greenish-yellow below and black above and the tail is wedge shaped. Immature birds are similar in appearance to adults.

The Grey Petrel has a robust body and slender wings and looks (and flies) like a shearwater. Its flight has been described as duck-like, and its feet are just visible protruding beyond the tail. The flight is distinctive—alternating strong flaps with long glides.

HABITAT

The Grey Petrel is an oceanic bird with a circumpolar range. It occurs in subantarctic waters throughout the year but it is rarely seen from shore. It comes to land only to breed and, when not breeding, is even less likely to come close to shore than other pelagic birds. Hence it is rarely found washed up on the beach.

Macquarie Island accommodates the only Australian breeding colony, and it is very small. It is situated in tussock grassland on steep, seaward-facing or near-coastal slopes that have deep soil with little surface rock. Non-breeding birds are scarce in Australian waters.

HABITS

Usually solitary at sea, the Grey Petrel associates with whales, and follows ships. It has a high, wheeling flight and dives headfirst after prey.

It ranges over subantarctic and subtropical waters, mostly 32° to 58° South, but further north off the west coast of South America. Females forage further north than males. Possibly migratory, the petrel is a rare visitor to waters south of Australia, mostly beyond the continental shelf.

VOICE

Grey Petrels are silent at sea, but at breeding colonies they are very noisy, mainly at night, particularly just after sunset and just before sunrise. Calls are described as a bleat, a moan and a rattle. The adult alarm call is a short quack, the chicks utter a thin piping call.

DIET

Grey Petrels eat squid, fish and crustaceans. They feed singly or in small flocks and take food mainly from the surface. They also dive from about 10 metres into the water, plunging in with wings close to the body, then using their wings to swim underwater after squid and fish. They can stay underwater for up to two minutes and when they come up for air they shake themselves dry.

BREEDING

There have been no detailed studies of the breeding habits of the Grey Petrel. They breed in burrows in colonies on cool temperate and subantarctic islands.

Unlike most petrels and shearwaters, Grey Petrels breed in winter. This allows them to use the burrows of other birds that breed in summer. On Campbell Island they use the burrows of Sooty Shearwaters (*Ardenna grisea)* and, on the Kerguelen Islands, they occupy the disused burrows of White-chinned Petrels (*Procellaria aequinoctialis)*. The precise arrival time at the colony varies from island to island, and also apparently from year to year, perhaps depending on food availability.

The petrels select burrows up to 3 metres long, which are usually not straight, and are often placed under grass tussocks or under the roots of fernbushes. The nesting chamber can be up to 80 centimetres in diameter. The nest itself is just a token cone made from nearby vegetation, rising only slightly above floor level.

On Tristan da Cunha, one dull white egg is laid in March or April. On Campbell Island, eggs have been found as late as July. Incubation is probably by both sexes; the length of the incubation period is unknown. On Tristan da Cunha, the chick usually hatches in May. The fledging period is reported to be 80 to 90 days at Tristan da Cunha and 100 days on the Crozet Islands, meaning the chicks fledge in August or September.

THREATS

In Australia the only nesting colony is on Macquarie Island where there has been a long history of ecological disasters caused by the introduction of pests. Until 1993, the Grey Petrel colony was believed extinct, as there had been no breeding records for 80 years. However, following the eradication of cats, the island was recolonised, with the first confirmed breeding in 2000. Numbers have fluctuated since then. Currently, the quality and extent of nesting habitat is contracting because of grazing by rabbits and consequent increased predation by skuas and rats. Because there is evidence of genetic exchange with breeding populations outside Australia, the tiny, fragile Australian breeding population was listed as Endangered rather than Critically Endangered.

At sea, a major threat to the Grey Petrel is from commercial longline fisheries. Between 1998 and 2004, the petrel was the fourth most common observed species killed in New Zealand fisheries. Most of the birds killed were adult females. In recent years, Australian fisheries have improved their seabird bycatch mitigation methods, but substantial seabird mortality continues in legal and illegal fisheries in the south Indian Ocean and off South America.

Little Shearwater
(Tasman Sea subspecies)
Puffinus assimilis assimilis

Allied Petrel
Puffinus assimilis

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14. LITTLE SHEARWATER

(Tasman Sea subspecies)

In 1865, Gould wrote of the bird he named the Allied Petrel:

> *all of the specimens of this species that I have seen were procured on Norfolk Island, where it is said to breed; consequently the seas washing the eastern shores of Australia may be considered its native habitat.*

He had little more to report:

> *On my homeward voyage from Australia I saw numerous examples flying off the north-eastern end of New Zealand. And this I regret to say is all the information I have to communicate respecting it.*

Norfolk Island was a penal colony from 1788 until 1814, and again from 1825 until 1856. Specimens of Little Shearwaters were sent to England from the penal colony, and so Gould was able to name the bird in 1838, just before he set sail for Australia.

Today the Allied Petrel is regarded as a subspecies of the Little Shearwater. We still have only a patchy understanding of its ecology. It no longer breeds on Norfolk Island but persists on the nearby, uninhabited Nepean and Philip islands.

The first reference to Little Shearwaters on Lord Howe Island comes from the original visit of HMS *Herald*, which was surveying for the Royal Navy, to the island from April to June 1853. Unfortunately, the ship's naturalist, John MacGillivray, was not present on this trip. Nevertheless, the assistant surgeon found time to interrogate the locals and to report on the island's birdlife. He mentions nine species, including two muttonbirds: a dark one that breeds in summer and a white one that breeds in winter—the white bird must have been the Little Shearwater.

The *Herald* returned to Lord Howe in September 1853 and this time MacGillivray was on board. He reported three species of muttonbird:

> *which burrow all over the island—in the woods and on the banks by the shore and whose periodical arrival and departure in prodigious flocks are known to the inhabitants to within a few days.*

These must have been Wedge-tailed, Flesh-footed and Little Shearwaters.

Black Rats arrived on Lord Howe in 1918 and on Norfolk during the Second World War. Cats were already on both islands from the 1840s. On Lord Howe, the Little Shearwater hung on until 1923, but was extinct from that year. On Norfolk Island the last breeding record was in the 1970s, but nesting had been a rarity since about 1909. Luckily, the Little Shearwater still nested on small neighbouring islands—free from rats and cats—in both the Norfolk and Lord Howe Island groups. So, when cats were eliminated from Lord Howe in the 1980s, Little Shearwaters were able to recolonise the island.

LITTLE SHEARWATER (TASMAN SEA SUBSPECIES)

PUFFINUS ASSIMILIS ASSIMILIS

STATUS

The Little Shearwater population that inhabits the Tasman Sea is VULNERABLE. The species as a whole is of Least Concern.

NAME

In 1838, Gould named this bird the Allied Petrel, *Puffinus assimilis. Puffinus* is a Latinised word for 'puffin' (used, confusingly, not for puffins but for shearwaters); *assimilis* means 'similar'—as Gould thought the bird very similar to the Northern Hemisphere shearwater.

The name 'shearwater' comes from the birds' habit of skimming close to the water.

TAXONOMY

Taxonomists differ as to whether there are four or ten subspecies of the Little Shearwater. *P. a. tunneyi* occurs in south-west Western Australia and there are perhaps a further six subspecies outside Australian waters.

DESCRIPTION

Appropriately, the Little Shearwater is the smallest Australian shearwater, about the same length as a Magpie-lark (27 centimetres), but more compact. It is black above and white below with a fine dark outline on the underwings commencing just below the bend of the wing, and it has blue feet. The sexes are alike and immature birds resemble adults.

HABITAT

The Tasman Sea Little Shearwater breeds on islands in the Lord Howe and Norfolk Island groups, among mats of succulents or loose rocks. At sea it can be found throughout the warmish waters of the Tasman Sea and sometimes in the Coral Sea, especially when immature.

HABITS

Unlike most shearwaters, the Little Shearwater flies with quick wing beats interspersed with banking glides, skimming close to the water. It quite often rests on the water and can swim to depths of 10 metres, rowing with half-open wings.

The Little Shearwater does not travel far from its breeding colonies to feed and in general its populations are considered to be fairly sedentary. When breeding, from autumn to spring, it can be seen rafting in large numbers on the water at dusk close to its breeding grounds, before coming ashore at night. It will follow ships.

VOICE

Like most seabirds, Little Shearwaters are silent at sea and noisy at their breeding colonies at night. They have loud, harsh (mournful or wheezing) calls.

DIET

The Little Shearwater feeds by seizing food from the surface or making shallow dives in pursuit of prey. It eats cephalopods, krill and small fish.

BREEDING

The burrow of the Little Shearwater is about a metre long and noticeably narrower than that of other shearwaters. The nest at the end of the burrow is lined with grass.

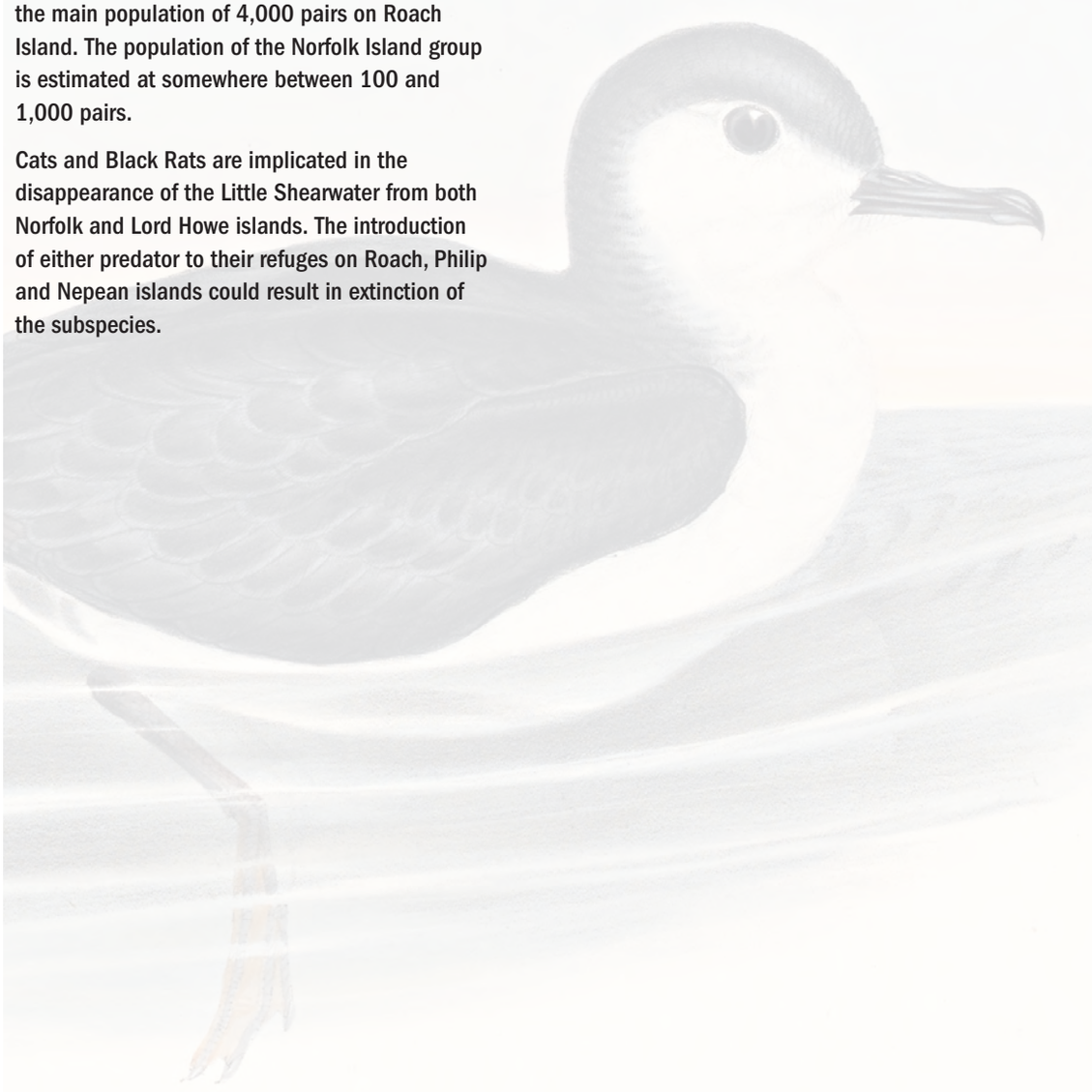
In July the shearwater lays a single white egg which is incubated for 55 days. Both parents feed the chick in the burrow during the day and at least one parent remains in the burrow with the chick overnight. An hour before dawn, the parents return to the sea to forage. Chicks fledge after 72 days, leaving the nest in November or December. They first breed at about five years of age.

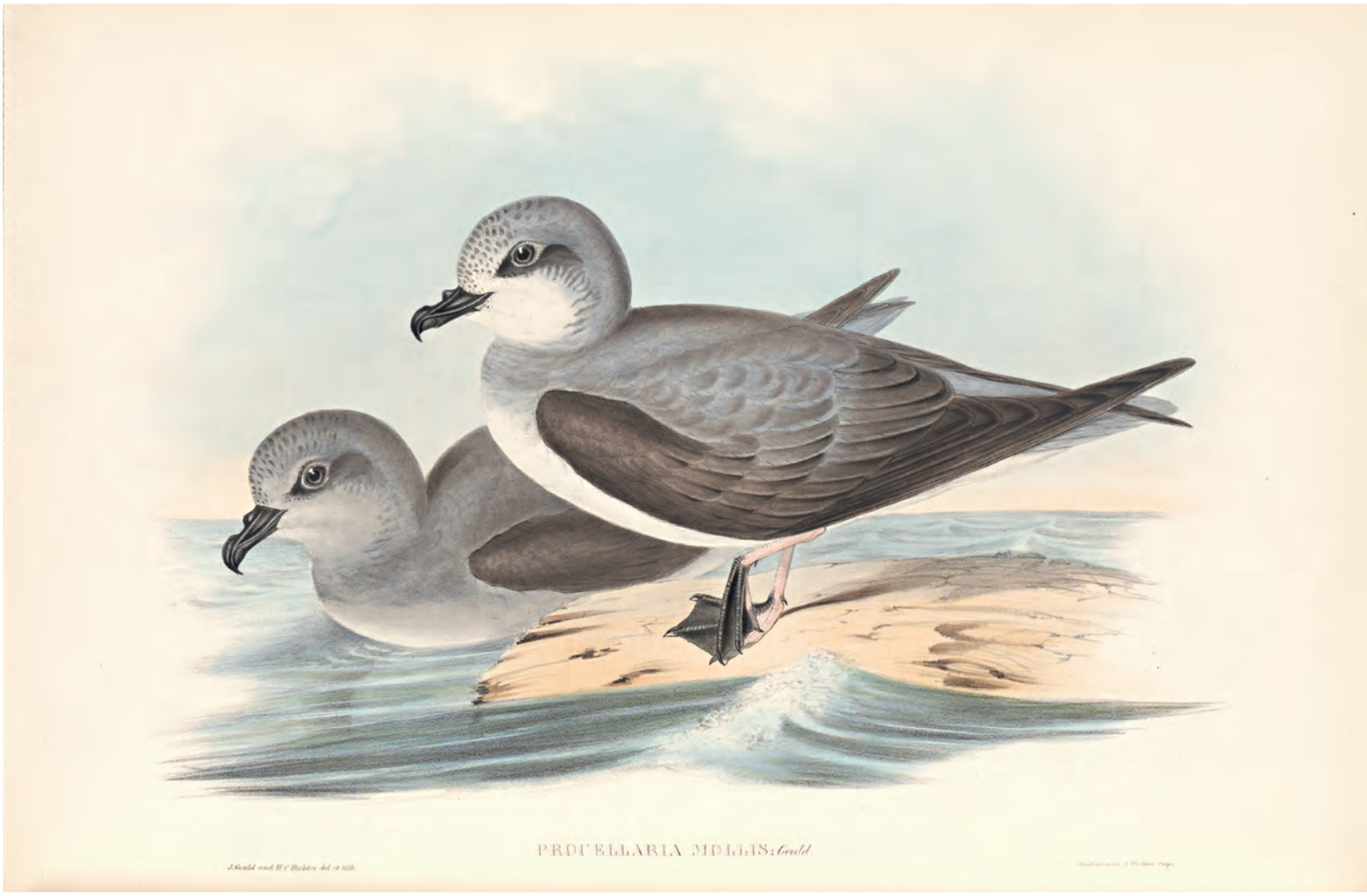
THREATS

The Little Shearwater disappeared from Lord Howe Island after 1913 and was confined to nearby tiny Roach Island until the 1980s, when it recolonised the main island. It is not a coincidence that this followed the removal of cats. On Norfolk Island it was present at Anson Point in the 1970s but is now confined to neighbouring Philip and Nepean islands.

In recent years, the population on Lord Howe Island has been estimated at up to 50 pairs, with the main population of 4,000 pairs on Roach Island. The population of the Norfolk Island group is estimated at somewhere between 100 and 1,000 pairs.

Cats and Black Rats are implicated in the disappearance of the Little Shearwater from both Norfolk and Lord Howe islands. The introduction of either predator to their refuges on Roach, Philip and Nepean islands could result in extinction of the subspecies.





Soft-plumaged Petrel
Pterodroma mollis

Soft-plumaged Petrel
Procellaria mollis

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15. SOFT-PLUMAGED PETREL

The first Soft-plumaged Petrel known to science was collected by Gould—with a hook and line—in the South Atlantic during his voyage to Australia in 1838. It was, Gould wrote, a species that was special to him, 'which will ever live in my memory, from its being the first large Petrel I saw after crossing the line'. Apparently, he did not actually sight the bird near Australia, rather he surmised that it would visit:

> *This species flies in the greatest abundance between the 20th and 50th degrees of south latitude; but I observed it to be more numerous in the Atlantic than in the Pacific; and probably, like the other wandering members of this genus, it makes a circuit of the globe: although I have not seen it within sight of the shores of Australia, it doubtless occasionally visits them, for I observed it to be plentiful off the eastern end of the islands of St Paul and Amsterdam.*

Over a century later, in 1969, ornithologists were excited to discover Soft-plumaged Petrels breeding in the Antipodes Islands south of New Zealand. As far as conventional wisdom was concerned, they were on the wrong side of the globe. As Gould had pointed out, this petrel is found more often in the Atlantic than the Pacific Ocean. Prior to 1969, all known breeding colonies were in the Atlantic, South Atlantic or Indian oceans. Had the petrel decided to set up home in the Southern Ocean? Or had it always been there, in a tiny remote colony that had been overlooked?

No one had considered that Soft-plumaged Petrels might breed on Macquarie Island until a pair was observed courting in 1989 and three dead birds were found. Then, in the summer of 2006 to 2007, there were great celebrations when one chick was observed.

At the same time as the first pair was seen courting on Macquarie Island, there were reports of Soft-plumaged Petrels performing aerial courtship displays along the north-eastern slopes of rugged Maatsuyker Island off the south coast of Tasmania. Courting birds could mean only one thing. Soft-plumaged Petrels had been observed emerging from tussocks on the island, and were present in small numbers all year round. Surely they must be breeding there.

Maatsuyker Island is part of the South-West National Park in the Tasmanian Wilderness World Heritage Area. At just under 190 hectares, the island is a nesting site for some 800,000 pairs of Short-tailed Shearwaters (*Ardenna tenuirostris*), 10,000 pairs of Common Diving-Petrels (*Pelecanoides urinatrix*), 5,000 pairs of Fairy Prions (*Pachyptila turtur*) and 700 pairs of Little Penguins (*Eudyptula minor*). How possible would it be to locate a handful of Soft-plumaged Petrels among millions of other seabirds? Just to add to the difficulty, Soft-plumaged Petrels are nocturnal, remaining in their burrows during the day.

Three ornithologists visited Maatsuyker Island from 7 to 12 September 2001, in the hope of finding Soft-plumaged Petrels before the place was overwhelmed by the Short-tailed Shearwaters that return every year around 20 September. They found four Soft-plumaged Petrels and marked their burrows. On 12 December, they returned and found one bird incubating an egg—the first confirmed breeding record for Australia—and, after an extensive search, five more nests. In April 2002, there were chicks in four of the burrows. The following year, five nests were occupied and chicks fledged from three of them. Let's hope this miniscule colony can survive and thrive.

SOFT-PLUMAGED PETREL
PTERODROMA MOLLIS

STATUS

The Australian breeding population of the Soft-plumaged Petrel is CRITICALLY ENDANGERED. The non-breeding population visiting Australian waters is of Least Concern.

NAME

Gould named the Soft-plumaged Petrel in 1844 from a specimen collected in the South Atlantic Ocean. He named it *Procellaria mollis. Procellaria* comes from *procella*, the Latin word for 'storm' and *laros*, the Greek word for 'seabird'. *Mollis* is Latin for 'soft', which Gould thought was appropriate because he described the under plumage as 'much more dense and soft than that of most members of the group'. Recent ornithologists do not share Gould's view about this.

Today we know the species as *Pterodroma mollis. Pterodroma* joins the Greek words for 'feather' or 'winged creature' (*pteron*) and 'running' (*dromos*)—hence, 'the winged runner', in reference to petrels' habit of 'running' over the water as they take off.

TAXONOMY

Ornithologists have different views about the number of subspecies there are of Soft-plumaged Petrel. Two subspecies are generally accepted: *P. m. mollis* (Gough and Antipodes islands) and *P. m. dubia* (Amsterdam, Crozet, Kerguelen, Prince Edward and Marion islands). However, it is unclear whether the Australian breeding population belongs to either, or to a proposed third form: *P. m. deceptornis* (found on Amsterdam Island).

DESCRIPTION

The Soft-plumaged Petrel is a medium-sized seabird with a white underbody, a grey breast-band, dark-grey upperparts and dark-grey underwings. There are light and dark forms, although the wholly grey form is rare, and unknown in Australian waters.

HABITAT

Soft-plumaged Petrels are highly pelagic, inhabiting warmer Antarctic, subantarctic and subtropical waters from New Zealand west to the east coast of South America.

There are two Australian breeding sites: Maatsuyker Island off the south coast of Tasmania and Macquarie Island. Both breeding colonies are tiny.

HABITS

Soft-plumaged Petrels have very aerobatic flight, interspersing rapid flight with long glides. They fly in small parties in great zigzagging arcs, mostly quite close to the water.

The petrel is a common winter migrant to Australian waters, mostly off the continental shelf, and more frequently off the Western Australian coast than the eastern seaboard. It is possible that the Australian breeding population is resident all year.

Storms often kill Soft-plumaged Petrels and a great many are washed up on Australian beaches in winter and spring.

VOICE

Soft-plumaged Petrels are usually silent at sea, but call when flying over breeding colonies. The call is described as a musical moan. Interestingly, they are never heard calling from their burrows.

DIET

Soft-plumaged Petrels eat cephalopods, fish and crustaceans. They occasionally alight to feed, but most prey is taken on the wing, snatched from the surface of the water.

BREEDING

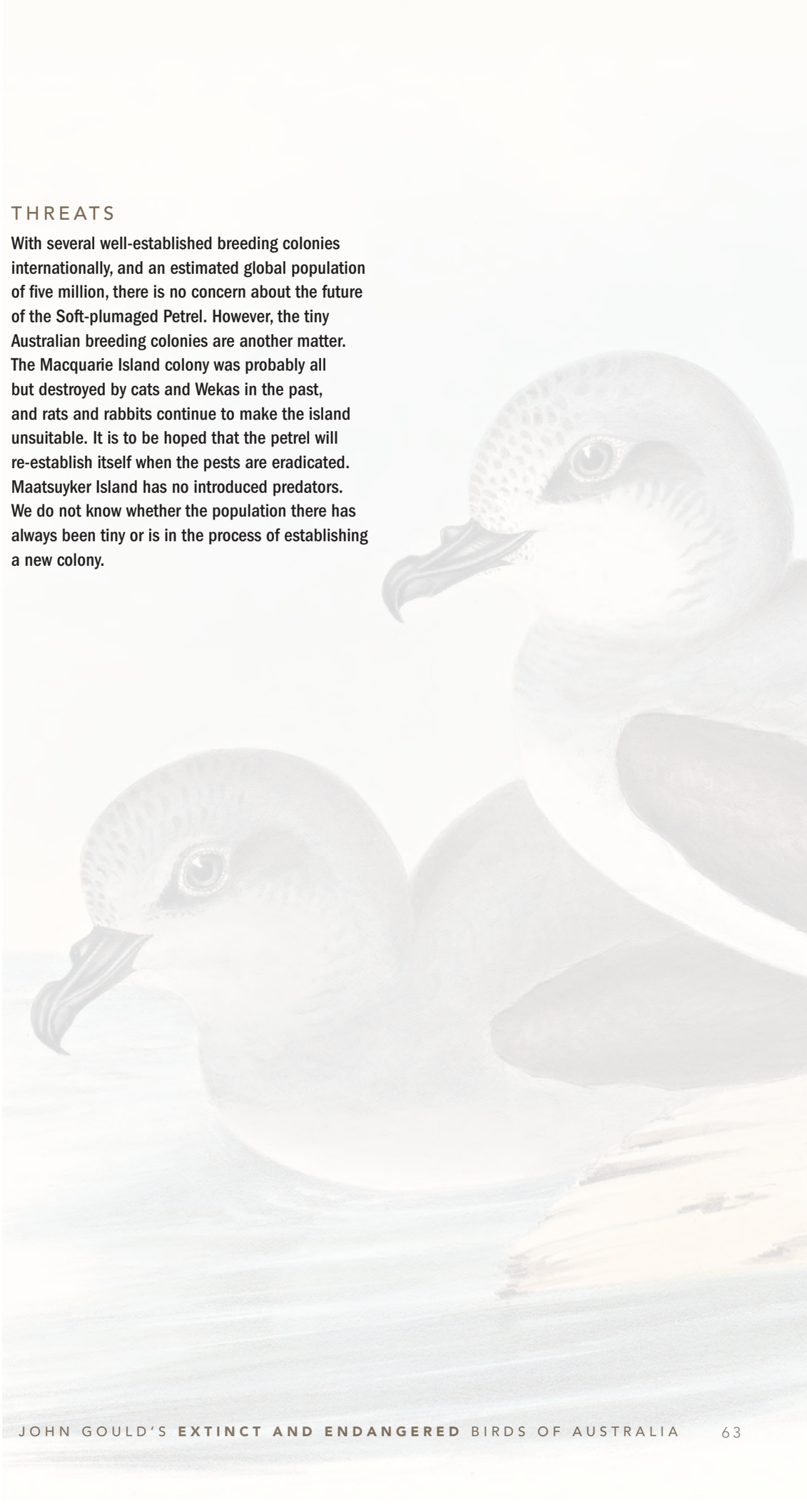
The Soft-plumaged Petrel breeds in colonies, in burrows among rocks and tussocks on oceanic islands. It had been suspected for a while that the petrel bred at Maatsuyker Island, as birds had been seen performing aerial courtship displays along the cliffs. However, breeding was not confirmed until 2001, so there is still much to learn about this tiny colony of perhaps just seven pairs. Egg laying occurs in mid-December and the chicks fledge from late April.

On the only other Australian breeding site, Macquarie Island, just one chick has been observed, in 2006 to 2007. However, there has been a sad history of carcasses found on the island dating from 1989.

At the large colonies outside Australia (on Crozet, Gough, Marion, Prince Edward and Tristan da Cunha islands), in November or December the petrel lays one egg which is incubated for 50 days. Both parents share nest building, incubation and care of the young. The chicks fledge at 91 days.

THREATS

With several well-established breeding colonies internationally, and an estimated global population of five million, there is no concern about the future of the Soft-plumaged Petrel. However, the tiny Australian breeding colonies are another matter. The Macquarie Island colony was probably all but destroyed by cats and Wekas in the past, and rats and rabbits continue to make the island unsuitable. It is to be hoped that the petrel will re-establish itself when the pests are eradicated. Maatsuyker Island has no introduced predators. We do not know whether the population there has always been tiny or is in the process of establishing a new colony.



White-headed Petrel
Pterodroma lessonii

White-headed Petrel
Procellaria lessonii

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16. WHITE-HEADED PETREL

Prosper Garnot was a French naturalist who circumnavigated the globe in 1822–1825 on *La Coquille*. With fellow naturalist René Primevère Lesson he collected specimens and together they wrote the zoological segment of the voyage's official report, *Voyage autour du mond executé par order du roi sur la corvette La Coquille*. One of the specimens collected off the Cape of Good Hope was a new species, the White-headed Petrel. Back in Paris in 1826, Garnot named the petrel in honour of Lesson.

At that very time, life was becoming more challenging for the Australian White-headed Petrel colony on Macquarie Island. The island was discovered in 1810, and sealers immediately began exploiting the wildlife. They ate the seabirds and introduced Wekas and rabbits for food. They also introduced cats and, accidentally, rats. In their various ways, all of these introductions damaged the environment and its inhabitants.

A couple of decades later, Gould tried to collect this elusive bird many times:

> *While engaged in watching the movements of the several species of the great family of Procellaridae, which at one time often and often surrounded the ships that conveyed me round the world, a bright speck would appear on the distant horizon, and, gradually approaching nearer and nearer, at length assumed the form of the White-headed Petrel, whose wing-powers far exceed those of any of its congeners; at one moment it would be rising high in the air, at the next sweeping comet-like though the flocks flying around; never, however, approaching the ship sufficiently near for a successful shot, and it was equally wary in avoiding the boat with which I was frequently favoured for the purpose of securing examples of other species.*

After spending some time in Tasmania, Gould sailed for Sydney and about halfway through the voyage he was finally successful. Apparently, he had enjoyed the challenge:

> *one beautiful morning, the 20th of February 1839, during my passage from Hobart Town to Sydney, when the sea was perfectly calm and of a glassy smoothness, this wanderer of the ocean came in sight and approached within three hundred yards of the vessel; anxious to attract him still closer, so as to bring him within range, I thought of the following stratagem:—a corked bottle, attached to a long line, was thrown overboard and allowed to drift to the distance of forty or fifty yards, and kept there until the bird favoured us with another visit, while flying round in immense circles; at length his keen eye caught sight of the neck of the bottle (to which a bobbing motion was communicated by sudden jerks of the string), and he at once proceeded to examine more closely what it was that had arrested his attention; during this momentary pause the trigger was pulled, the boat lowered, and the bird was soon in my possession.*

Who knows how many White-headed Petrels nested on Macquarie Island in the nineteenth century? The first study of this population was in 1959 to 1961. At that time, the petrel was still abundant, but numbers were said to be declining because of rabbits and cats.

The 1984 *Atlas of Australian Birds* noted that the decline continued but added, optimistically, that myxomatosis had been introduced in 1978 and rabbit numbers were under control. It was thought that the birds were no longer seriously threatened. It was estimated that the population was 16,000 birds and that 3,000 were killed each year by predators.

It soon became apparent that myxomatosis was not the magic solution everyone had expected. Nevertheless, the 2000 *Action Plan* remained optimistic, stating that 'elimination of Wekas and control of cats and rabbits has apparently halted the decline'. However, the population was still considered to be Vulnerable.

Everyone hoped that the extermination of cats would bring relief. It took some time, but cats were finally eradicated in 2000. Immediately, however, rabbit numbers soared. The rabbits' grazing caused serious erosion. The petrel chicks no longer had vegetation for protection and were easy prey for skuas. With rabbits in plague proportions, skua populations increased abnormally because they had plenty of easy food.

Efforts are now underway to eradicate rabbits from Macquarie Island. If they are successful, White-headed Petrels may once again dominate the seabird population.

WHITE-HEADED PETREL
PTERODROMA LESSONII

STATUS

The Australian breeding population of White-headed Petrels is ENDANGERED. The population visiting Australian waters is of Least Concern.

NAME

The White-headed Petrel was named *Pterodroma lessonii* by Garnot in 1826 in honour of French zoologist René Primevère Lesson. *Pterodroma* combines the Greek *pteron,* meaning 'wing', with *dromos,* meaning 'running'—hence, the 'winged runner'.

Gould named the bird *Procellaria lessonii* in *The Birds of Australia*. *Procellaria* means creatures of the storm, derived from the Latin *procella* for storm and the Greek *laros* for seabird. As the earlier name, *Pterodroma* takes precedence.

TAXONOMY

The White-headed Petrel has no subspecies.

DESCRIPTION

The White-headed Petrel is a large robust seabird, with a wingspan of about a metre. It has a white body and head with a black patch under the eye and a dark back and wings. It has long wings and, when fanned, a long, wedge-shaped tail.

HABITAT

The White-headed Petrel is circumpolar in distribution; it is found throughout the Southern oceans, north to about 30° South. In Australian territory, it breeds on Macquarie Island, digging a burrow among grass tussocks or in herbfields. In the neighbouring New Zealand region, it breeds on Auckland and Antipodes islands and, further afield, on the Crozet and Kerguelen islands in the Indian Ocean.

HABITS

White-headed Petrels are solitary and rarely follow ships. They have powerful, slow flight with stiff shallow wing beats and they fly low alone or in small groups. In high winds their flight is rapid and wheeling.

This petrel is an uncommon visitor to Australian offshore waters but there are a few all year about the continental shelf.

VOICE

Usually silent at sea, White-headed Petrels are very noisy at their breeding colonies. They make harsh calls from the air as they arrive after dark and as they leave before dawn.

DIET

White-headed Petrels feed at night on cephalopods (for example, squid) and crustaceans. They snatch prey from the sea surface but details of their food and foraging methods are scant.

BREEDING

Each year, in the third week of August, White-headed Petrels return to their burrows on Macquarie Island. They prepare their nests, establish territories and engage in courtship flights. Egg laying commences in late November and both parents incubate the single white egg for around 60 days. When the chick hatches, they tend it constantly for three days, then head out to sea, returning to feed it each night. The chick fledges after 14 to 15 weeks. The petrels leave the island in May.

THREATS

Since the nineteenth century, on Macquarie Island the White-headed Petrel has suffered a reduction in numbers, of unknown extent, probably caused by predation by introduced Wekas and Black Rats, the legacy of sealers. Despite this, in 1960 the White-headed Petrel was the most abundant burrowing petrel breeding on the island. It was thought to have declined greatly by the time of two surveys, in the late 1970s and in 2006, which gave an estimate of 8,000 and 9,000 pairs, respectively. However, the population may have declined substantially since, because heavy grazing by rabbits after cats were eradicated has exposed nests to greater predation by Brown Skuas and caused erosion around burrows.

Gould's Petrel
(Australian subspecies)
Pterodroma leucoptera leucoptera

Cook's Petrel
Procellaria cookii

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17. GOULD'S PETREL

(Australian subspecies)

John Gould received the first specimens of the petrel that bears his name from a breeding colony on Cabbage Tree Island,1.5 kilometres off the New South Wales coast near Port Stephens, where, Gould was informed, 'this species breeds in abundance'. He named it the White-winged Petrel but subsequent ornithologists have decided otherwise.

Gould wrote admiringly of the new petrel:

> *It is one of the most elegantly formed species of the genus … rendered conspicuously different from the rest of its congeners by its white abdomen and under wing-coverts, which show very conspicuously when the bird is on the wing, particularly when seen from beneath, as it frequently may be when the breeze is fresh or a gale rising; it seldom, however, even then mounts higher than the vane of the vessel.*

Departing Australia in 1840, Gould frequently saw the petrel during his passage from Sydney to Cape Horn, 'but it was most numerous between the coast of Australia and the northern part of New Zealand'. Indeed, he saw such an abundance of petrels in Australian seas that he felt somewhat overwhelmed—commenting that studies of their 'habits and economy' and 'places of abode' would occupy ornithologists for years to come. So, he apologised, 'my readers must therefore be contented with little more than an illustration (of Gould's Petrel)'.

In 1906, rabbits were introduced to Cabbage Tree Island as part of a research program into a pox virus. They settled in and began devouring the vegetation. They ate any new palm trees attempting to sprout and removed the entire understorey. What they did not eat was the mature Bird-lime Trees (*Pisonia umbellifera*), which drop sticky fruit in summer, just when the petrel chicks are hatching. Fruit that formerly would have landed in a tangle of vines and undergrowth, now fell to the ground. This sticky fruit can glue a petrel's wing to its body, so that the bird either starves to death or becomes easy prey for scavengers.

Meanwhile, coastal New South Wales was becoming increasingly urbanised, attracting a larger population of Pied Currawongs (*Strepera graculina*). The currawongs nested on Cabbage Tree Island and found the petrel chicks a handy snack.

In 1954, Cabbage Tree Island was proclaimed the John Gould Nature Reserve in order to protect the petrels and it has been closed to the public ever since. In 1970, around 2,000 Gould's Petrels were estimated to visit the island, including around 400 breeding pairs. However, in 1989, only 250 breeding pairs remained and numbers plummeted again the next year. Ornithologists realised it was time to intervene. Rabbits were eradicated, currawongs were shot and Bird-lime Trees were removed.

There was an immediate improvement in breeding success rates from a distressing 20 per cent to a more acceptable 55 per cent. By 1995, the number of breeding pairs had increased to 426. In March 1999, as insurance, 100 nestlings were transferred to Boondelbah Island, also off Port Stephens. Another 100 chicks were relocated the following year. The experiment worked: a colony was established and by 2011 more than 35 pairs were breeding on Boondelbah.

Even better news was to come—in 2009, small colonies of Gould's Petrels were discovered on nearby Broughton and Little Broughton islands.

At 2,500 mature birds, the total population remains small, so Gould's Petrel retains its Vulnerable classification. But with four breeding colonies and an increasing population, things are looking up for Australia's rarest endemic seabird.

GOULD'S PETREL (AUSTRALIAN SUBSPECIES)
PTERODROMA LEUCOPTERA LEUCOPTERA

STATUS

The Australian breeding population of Gould's Petrel is VULNERABLE, as is the species as a whole.

NAME

Gould described this bird in 1844, naming it Cook's Petrel, *Procellaria cookii,* after James Cook. *Procellaria* is from the Latin word *procella* for 'storm' and *laros*, the Greek word for 'seabird', that is, 'creatures of the storm'. In his 1865 *Handbook*, he changed the name to the White-winged Petrel, *Aestrelata leucoptera*. *Aestrelata* joins the Latin words for 'agitated' (*aestus*) and 'winged' (*alata*); *leucoptera* joins the Greek words for 'white' (*leucos*) and 'wing' (*pteron*), evidently referring to the underwing pattern.

Today it is known as Gould's Petrel (*Pterodroma leucoptera). Pterodroma* joins the Greek words for 'feather' or 'winged creature' (*pteron*) and 'running' (*dromos*)—hence 'the winged runner'.

TAXONOMY

There are two subspecies of Gould's Petrel. The nominate subspecies *Pterodroma leucoptera leucoptera* breeds on Cabbage Tree, Broughton and Little Broughton islands off Port Stephens, New South Wales, and a colony has been established artificially on nearby Boondelbah Island; *P. l. caledonica* breeds in New Caledonia (but forages in Australian waters).

DESCRIPTION

Gould's Petrel is a small, slight petrel, 30 centimetres in length, with a wingspan of 70 centimetres. Its plumage is white, boldly marked with sooty black and grey. It has a dark hood that extends down the side of the head. Its white underwings are outlined in black, with a black line from the bend of the wing towards the body.

HABITAT

Gould's Petrels breed on several small islands off Port Stephens. The largest colony breeds under palm forest in the John Gould Nature Reserve on Cabbage Tree Island.

Breeding birds and their offspring leave the islands in March and disperse throughout the Tasman Sea and eastern Pacific Ocean. Most Australian sightings at sea are off Tasmania in spring and off New South Wales in summer.

HABITS

Gould's Petrel is either solitary or occurs in small flocks. It flies with rapid wing beats interspersed with glides. It is pelagic and sighted only occasionally offshore. It does not follow ships.

VOICE

Gould's Petrels are silent at sea, but make a high-pitched staccato call when flying over their breeding colony. On the ground, they squeal and growl.

DIET

Gould's Petrels forage far out at sea, eating small cephalopods and fish. Little more is known about their diet.

BREEDING

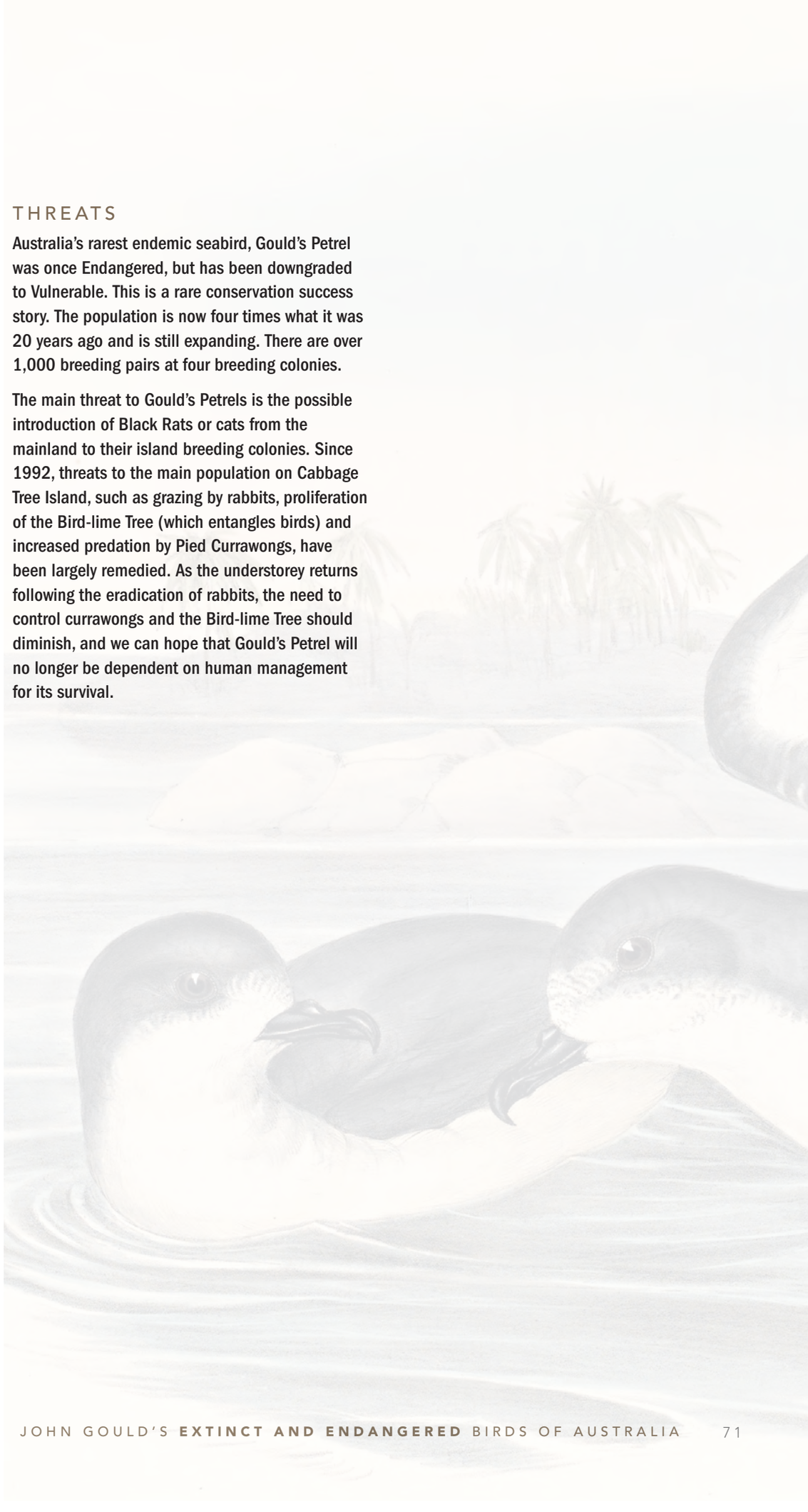
Gould's Petrel breeds in colonies, in natural cavities in rock scree under cabbage tree palms. The birds return to the islands in October, to the same nest spot each year. Once they have claimed their nesting site, they return to sea for two or three weeks. The single egg is laid in November and both parents incubate it until it hatches around 10 January. The chicks are covered with dark blue-grey down. They fledge in March after about 11 weeks.

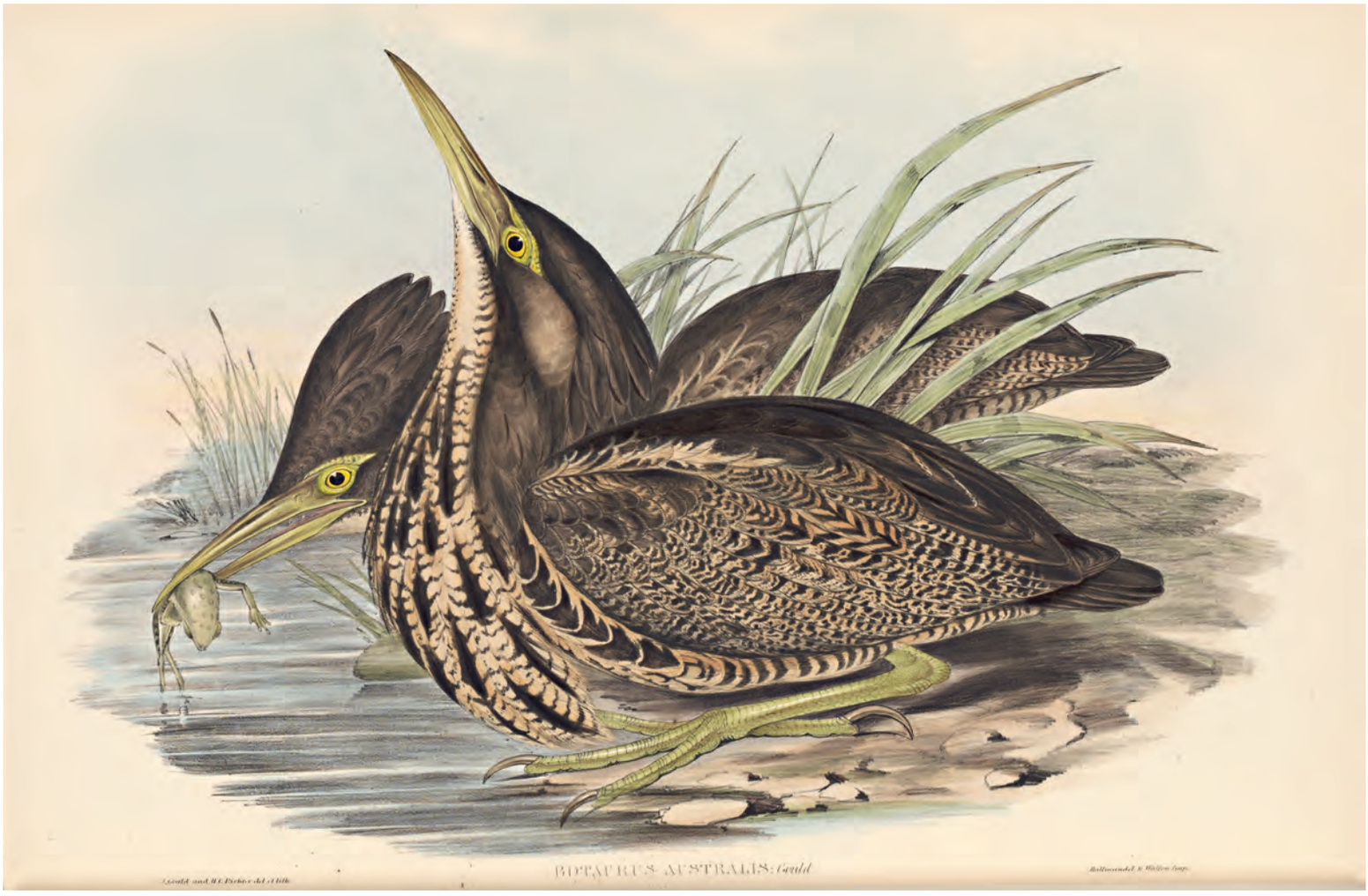
When the parents bring food to their chicks at night, they crash-land in the rainforest and regurgitate squid for their offspring. They then climb a nearby palm, using their strong bill to assist them, taking off from the top of the tree.

THREATS

Australia's rarest endemic seabird, Gould's Petrel was once Endangered, but has been downgraded to Vulnerable. This is a rare conservation success story. The population is now four times what it was 20 years ago and is still expanding. There are over 1,000 breeding pairs at four breeding colonies.

The main threat to Gould's Petrels is the possible introduction of Black Rats or cats from the mainland to their island breeding colonies. Since 1992, threats to the main population on Cabbage Tree Island, such as grazing by rabbits, proliferation of the Bird-lime Tree (which entangles birds) and increased predation by Pied Currawongs, have been largely remedied. As the understorey returns following the eradication of rabbits, the need to control currawongs and the Bird-lime Tree should diminish, and we can hope that Gould's Petrel will no longer be dependent on human management for its survival.





Australasian Bittern
Botaurus poiciloptilus

Australian Bittern
Botaurus australis

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18. AUSTRALASIAN BITTERN

In January 1839, Gould was exploring the Bass Strait islands in a small boat when one of his helpers accidentally shot himself as he was getting out of the boat. He died instantly. Gould was so upset that he abandoned the trip.

The same fate befell Johann Georg Wagler at a tragically young age. He, too, accidentally shot and killed himself while he was out collecting. Wagler was a German herpetologist. As with all the nineteenth-century naturalists, he was not restricted to one field of expertise—he was versatile enough to write about birds also. He named the Australasian Bittern *Ardea poiciloptila* in 1827 based on a specimen sent to Germany from New South Wales.

Gould acquired specimens of Australasian Bitterns from New South Wales, South Australia, Western Australia and Tasmania. He wrote that the bittern:

> *although nowhere very abundant, is so generally diffused over the surface of the country wherever marshes and the sedge banks of rivers occur, that there are few localities of this description in which its presence may not be detected.*

He suggested that it was 'perhaps more numerous' in Tasmania, and reported that Captain Sturt found it to be abundant on the Macquarie Marshes in New South Wales.

As Gould noticed of the Australasian Bittern, 'in its action, habits, manners and mode of flight it closely resembles the *Botaurus stellaris* of Europe', and, like that bird, it 'feeds on fish, frogs, newts, aquatic animals of all kinds, and insects, and has a capacious and membranous stomach'.

In good conditions, bittern populations explode. In 1956, for example, a great year for the Australasian Bittern, colonies were found on the Illawarra and in the Murray–Darling Basin, where nine nests were located close together. Nonetheless, these boom times for the bittern are few and, despite difficulties in monitoring, it is certain that the population has decreased greatly since Gould's time.

Australasian Bitterns have two separate populations in Australia: one in the south-west and one in the south-east. In the south-east, numbers have been declining in recent decades, most noticeably in the species' former stronghold in the Murray–Darling Basin. In Tasmania, sightings are less frequent than they were 30 years ago. Gould's South Australian specimen was shot on the Torrens River, where Australasian Bitterns have not been seen since 1919.

The south-west population, too, is on the wane. It has contracted coastwards and is now concentrated on the Lake Muir wetlands and is believed to number fewer than 100 pairs. Since 1992 there have been few records from the Swan Coastal Plain and targeted surveys in 2007 and 2008 found that half the wetlands that supported the species in 1980 retained no suitable habitat. The story is similar in other parts of the bittern's range.

The latest estimate for the total Australian population is just 1,000 mature individuals. Should he be able to return today, Gould would have great difficulty obtaining specimens.

AUSTRALASIAN BITTERN
BOTAURUS POICILOPTILUS

STATUS

The Australasian Bittern is ENDANGERED.

NAME

Wagler named this bird *Ardea poiciloptila* in 1827. *Ardea* is Latin for 'heron', *poiciloptilus* comes from the Greek: *poicilos* means 'mottled' and *ptilon* means 'feathers'. However, it was soon recognised that it belonged to the genus *Botaurus*, which has single representatives in North America, Central and South America, Eurasia and Australasia. *Botaurus* is a combination of *bos*, an ox, and *taurus*, a bull—a reference to the bird's booming call that was said to sound like the distant roar of an angry bull.

In *The Birds of Australia*, Gould named the bird the Australian Bittern, *Botaurus australis, australis* being Latin for 'southern'.

TAXONOMY

The Australasian Bittern has no subspecies.

DESCRIPTION

Robust in build and with a wingspan well over a metre, the Australasian Bittern is the country's largest bittern. Like all Australian bitterns, it is basically brown, but it is streaked with yellow, buff and black, with a cream throat and olive-green legs, making it beautifully camouflaged among the reeds.

At 1.4 kilograms, males are much heavier (and larger) than females, which weigh in at about 900 grams.

HABITAT

The Australasian Bittern lives and breeds on the periphery of freshwater or brackish swamps, in dense reedbeds dominated by sedges, rushes or reeds. It requires shallow water, about a third of a metre deep. It is sometimes found in rice or cane fields. It occurs in suitable habitat in south-west and south-east Australia and New Zealand.

HABITS

The Australasian Bittern is usually solitary. A secretive bird, it is more often heard than seen. When disturbed, it does one of three things: it either melts away into the undergrowth, freezes with its beak pointing skywards, or, just occasionally, it flies away heavily, with feet trailing behind. Apart from its wary nature and excellent camouflage, it is difficult to see because it is partly nocturnal.

Apparently, the bittern disperses widely according to the availability of suitable wetlands. So it moves to coastal wetlands during drought and to emerging ephemeral wetlands after rain.

VOICE

The call of the Australasian Bittern is heard at night, more frequently during the breeding season in spring and summer. The call is a series of up to four deep resonant booms which carry for a kilometre and sound more like a foghorn than the roar of a bull. The bird is always difficult to locate because it is not clear where the call comes from or even how far away it is. It is not known whether both sexes call. It seems likely that it is only the male that makes the booming call.

DIET

The bittern feeds on fish, eels, frogs, freshwater crayfish and aquatic insects and, occasionally, on small mammals and reptiles. It forages by striding stealthily through the reedbeds with neck outstretched.

BREEDING

The Australasian Bittern usually nests in solitary pairs. Occasional reports of loose colonies can be explained by one male having several females nesting in his territory. This probably happens in wet years when floods promote breeding.

The usual breeding season is between September and January, but local conditions may promote breeding earlier or later. The female appears to do all the nest building, incubation and care of the young, as is normally the case in species with polygamous males. She lays from four to six pale green eggs in a shallow nest of trampled reeds above water, always hidden in dense vegetation. Incubation lasts about 23 to 26 days. After three weeks in the nest, the chicks wander to feeding platforms of trampled reeds nearby. It is not known at what age they first fly.

THREATS

The Australasian Bittern is rare everywhere. The major threat to this bird is habitat destruction: water diversion for irrigation, drainage of swamps, salinisation, reduced water inflow, artificial flooding and peat harvesting. Overgrazing and trampling by livestock can also render reedbeds unsuitable.

In 2000, it was thought that there were 2,500 Australasian Bitterns in Australia, and fewer than this in New Zealand. In 2010, the Australian figure was put at 1,000 and decreasing, and the New Zealand population was thought to be somewhere between 600 and 700. Consequently, the species was upgraded from Vulnerable to Endangered.

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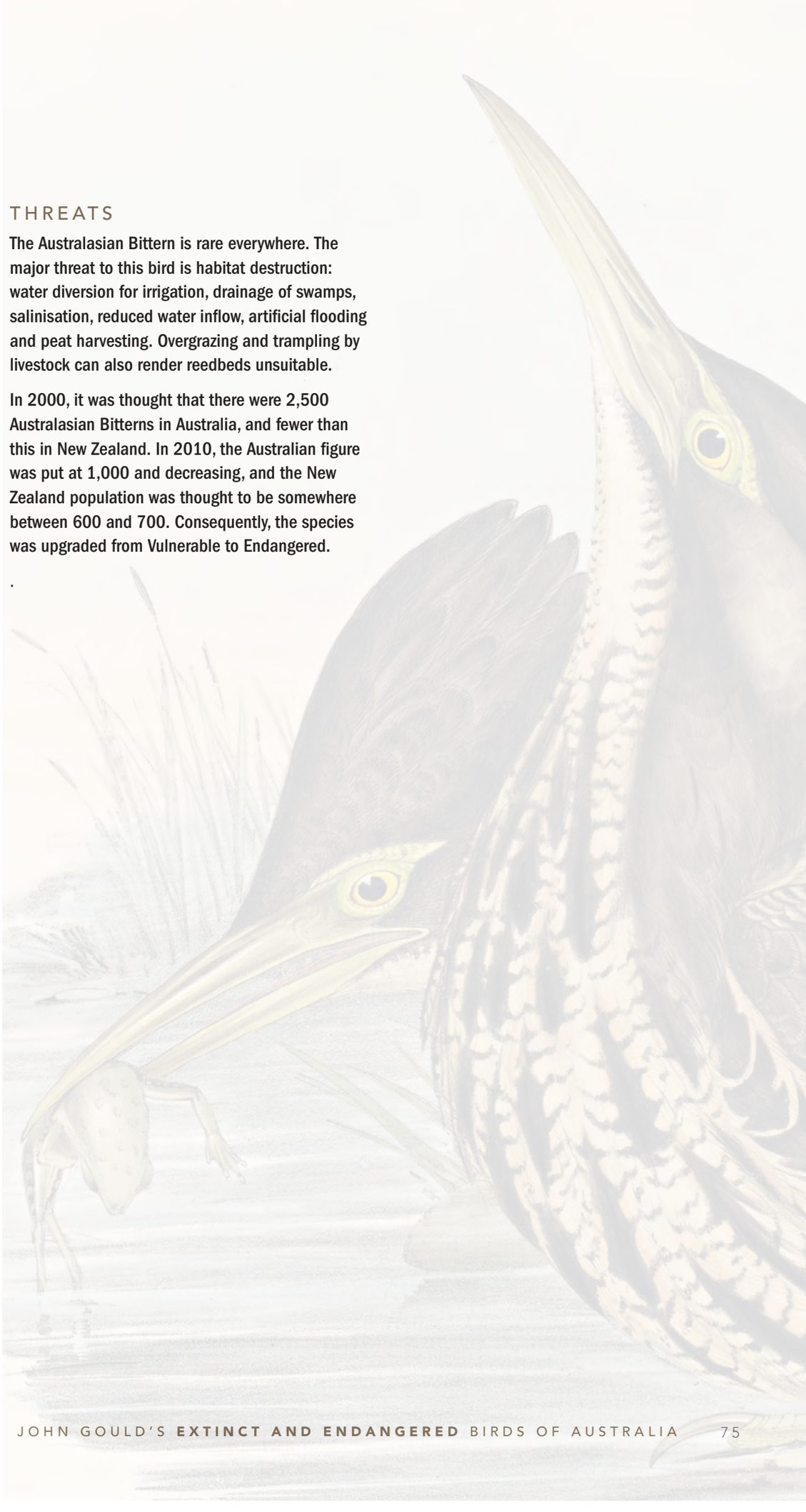

Grey Falcon
Falco hypoleucos

Grey Falcon
Falco hypoleucos

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19. GREY FALCON

Gould named the 'rare and beautiful' Grey Falcon *Falco hypoleucos* in 1841 from a specimen that was shot 95 kilometres from Perth, Western Australia, and presented to Gould's collector, John Gilbert. Subsequently, Gilbert managed to shoot his own bird, near Moore River. He was entranced: 'I never gazed with more delight on any specimen I ever shot than on this bird as it lay on the grass'.

A few years later, in May 1845, a member of Captain Sturt's inland expedition shot a pair, and Sturt too was captivated:

> *nothing could exceed the delicate beauty of these birds when first procured. Their large, full eyes, the vivid yellow of the cere and legs, together with their slate-coloured plumage, every feather lightly marked on the end, was quite dazzling.*

But, sadly, 'all soon faded from the living brightness they had at first'.

Sturt believed that the falcon 'must be a scarce bird, for no others were seen'. Gould could only agree. He had four specimens in the 1840s and in the following 20 years only another four examples had come to his notice. Hence, he regarded it as 'one of the rarities of the avifauna of Australia'.

The range of the falcon has contracted inland since Gould's time. In Western Australia, for example, it is now absent south of 26°, where Gould's type specimen was collected. However, the falcon's range is still vast and there are no obvious threats over much of it. It is to be hoped that this will protect this thinly distributed, poorly known and most beautiful of falcons.

GREY FALCON
FALCO HYPOLEUCOS

STATUS

The Grey Falcon is VULNERABLE.

NAME

Gould described this bird in 1841, naming it the Grey Falcon, *Falco hypoleucos*. *Falco* is the Latin word for 'falcon'; *hypo* is Greek for 'under' and *leucos* means 'white'. *Hypoleucos* is variously interpreted as meaning 'white underparts' or 'less than white'.

TAXONOMY

The Grey Falcon has no subspecies.

DESCRIPTION

This is a square-shouldered raptor, with conspicuous orange legs, a shortish tail and long pointed wings, with darker wing tips obvious in flight. It is blue-grey above and white below. It resembles a Peregrine Falcon (*F. peregrinus)*, but is smaller and paler, and its wings are broader and its flight differs. The female is noticeably larger and more robust than the male. Her wingspan can reach a metre.

Adults have a bright yellow cere (the fleshy area in which the nostrils are situated) and eye-ring. In the juveniles these are grey, turning yellow during the first 12 months.

HABITAT

Grey Falcons inhabit the interior of the continent and their usual range only reaches the coast in the north of Western Australia. They can be seen in acacia scrub, open grassland and along timbered watercourses in arid and semi-arid zones with an average annual rainfall less than 500 millimetres. They disperse towards the coast and to areas of higher rainfall during droughts. They breed mainly in arid areas with an average annual rainfall less than 250 millimetres.

Little is known about the movements of Grey Falcons. Some studies indicate that some birds move north in winter, and in Queensland some birds travel eastward.

HABITS

Grey Falcons are just as likely to be active at night as during the day. They are seen singly, in pairs or in small family groups. They are very still when perching, often high in the top of a dead tree, where they are usually not noticed.

Grey Falcons fly very high, soaring and spiralling in the sky. When hunting, their flight is swift and direct, often just above canopy level and along inland watercourses—spectacular to watch. They can stoop extremely fast, sometimes vertically from a great height. They can also fly in a slow leisurely fashion, with deep, rowing wing beats.

VOICE

Grey Falcons are generally silent, but are more vocal in the breeding season, when they whine, cackle and cluck. The cackling call is the most common. It is described as a rapid repeated 'kek-kek-kek', higher pitched in the male. When the male brings food to the female sitting on the nest, he calls to her and she replies.

DIET

Grey Falcons usually take their prey on or near the ground, and often eat it there. They hunt at speed on the wing or from a perch. Although they haunt inland watercourses, they also hunt far out into treeless areas.

Grey Falcons have a long middle toe, very useful in snaring birds. Their preferred prey is parrots and pigeons, but they also take small mammals, reptiles and insects. They are known to feast on grasshoppers during plagues and have been recorded eating carrion. Small prey may be eaten on the wing, but birds are usually taken to a perch or to the ground to be plucked.

Grey Falcons sometimes hunt near water, seeking animals as they come in to drink, and they have also been known to hunt cooperatively.

BREEDING

Grey Falcons are monogamous. They do not build their own nests, instead appropriating a large stick nest of another species, either a raptor or a corvid, usually in the tallest tree along a creek but occasionally on power poles. The same nest may be used again year after year. They nest between July and October and lay two to four eggs, usually three. The eggs are oval, pink-buff splotched with brown.

The female does most of the incubating, while the male does most of the hunting. When he brings her food, she eats it away from the nest and he takes over the incubation while she is absent.

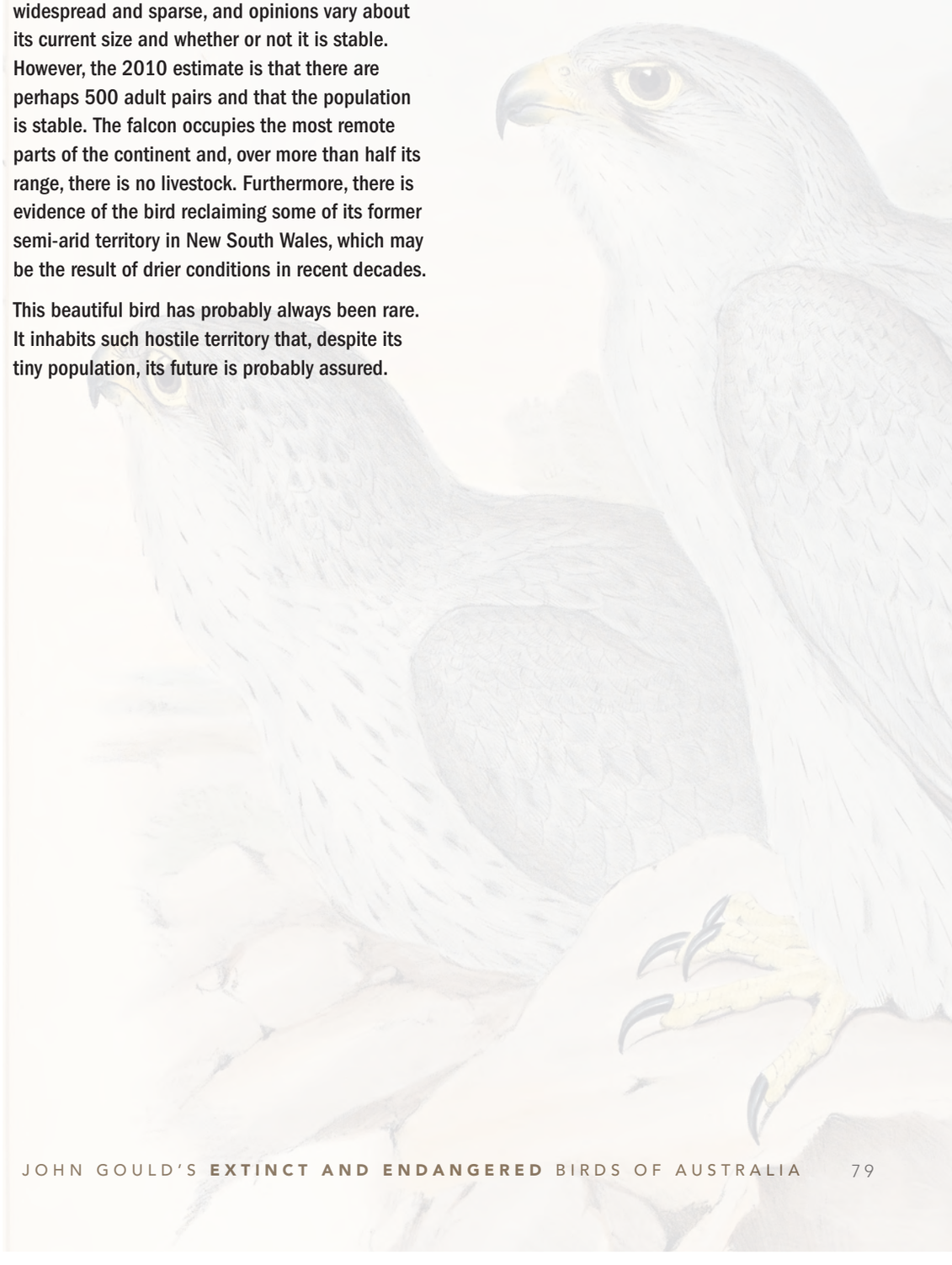
Incubation takes 35 days. Chicks fledge after six or seven weeks, and the family is thought to remain together until the following winter.

THREATS

The Grey Falcon is Australia's rarest raptor. During the twentieth century its range contracted mainly to the arid zone, perhaps as wetter parts became less suitable because of livestock grazing and clearing for agriculture. The provision of dams and bores may also have favoured the Peregrine Falcon which has a greater requirement for water.

The Grey Falcon population has always been widespread and sparse, and opinions vary about its current size and whether or not it is stable. However, the 2010 estimate is that there are perhaps 500 adult pairs and that the population is stable. The falcon occupies the most remote parts of the continent and, over more than half its range, there is no livestock. Furthermore, there is evidence of the bird reclaiming some of its former semi-arid territory in New South Wales, which may be the result of drier conditions in recent decades.

This beautiful bird has probably always been rare. It inhabits such hostile territory that, despite its tiny population, its future is probably assured.



Lewin's Rail
(Tasmanian subspecies)
Lewinia pectoralis brachipus

Lewin's Water Rail
Rallus lewinii

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20. LEWIN'S RAIL

(Tasmanian subspecies)

Gould first saw Lewin's Rail, or Lewin's Water Rail, as he called it, in 1838, when he was the guest of the Governor in Hobart. He reported that:

> *In Tasmania this species is very abundant in all low marshy situations, lagoons, and the rushy banks of rivers; it occurs on most of the small islands in D'Entrecasteaux Channel.*

He found a nest in a lagoon near the Derwent River that was:

> *formed of flags and other aquatic vegetables, placed in a low tuft of rushes, and contained two eggs, one inch and a quarter in length by seven-eighths of an inch in breadth, and of a pale olive-colour, blotched all over, but particularly at the larger end, with reddish and dark brown.*

Gould observed that the 'habits, manners, and mode of life' of Lewin's Rail closely resembled those of the European Water-Rail, *Rallus aquaticus*. It does, but Gould's suggestion that the rail was 'another representative of European forms' has not stood closer scrutiny. It is a uniquely Australian species.

Until the 1970s and 1980s, Lewin's Rails were quite numerous in Tasmania. In 1977, ornithologist Robert Hewett Green noted that it was not only common in Tasmania but also on Flinders Island and on several other Tasmanian islands, but uncommon on King Island. The 1984 *Atlas of Australian Birds*, collating sightings between 1977 and 1981, demonstrated that sighting rates were five times higher in Tasmania than on the mainland. In 1985, *The Waterbirds of Australia* said it was 'common especially in Tasmania'. The 1986 edition of the Simpson and Day field guide advised it was 'very numerous in Tasmania'.

Then, out of the blue, *The New Atlas of Australian Birds*, which gathered together sightings between 1998 and 2002, revealed more sightings on the mainland than in Tasmania and none at all on King Island. Suddenly, the Tasmanian Lewin's Rail was in trouble. This is puzzling because although there had been two close droughts (for Tasmania), in 1996 to 2001 and again in 2007 to 2010, Lewin's Rail numbers were expected to bounce back after rain, but they have not.

LEWIN'S RAIL (TASMANIAN SUBSPECIES)

LEWINIA PECTORALIS BRACHIPUS

STATUS

The Tasmanian subspecies of Lewin's Rail is VULNERABLE. The species as a whole is of Least Concern.

NAME

René Primevère Lesson gave Lewin's Rail its scientific name, *Rallus pectoralis,* in 1831. *Rallus* is New Latin from the French *râle*, a rail; *pectoralis* is from the Latin for 'breast' (*pectus*).

Gould first referred to the species as *Rallus lewinii*, the scientific name given to it by zoologist William Swainson in honour of naturalist and artist John William Lewin, the author of the first work on the birds of Australia. Later, Gould realised that Swainson had described the species under two names (in the same publication). According to the rules of scientific nomenclature, *Rallus brachipus,* the name that appears earliest, takes precedence. *Brachipus* joins the Greek for 'short' (*brachy*) with the Greek for 'foot' (*pus*) and is now applied only to the Tasmanian subspecies. As Gould suggested, Swainson may well have been misled by the claws of specimens from stony islands, which are worn down, making the toes appear short.

TAXONOMY

Now that the Western Australian subspecies is extinct, there are eight extant subspecies, two in Australia. Apart from Australia, Lewin's Rail occurs in New Zealand, New Guinea, the Philippines and on the island of Flores in Indonesia.

DESCRIPTION

Lewin's Rail is a stubby, dark bird with a beautiful, rich rufous eye-stripe, nape and shoulders, striking black and white barred underparts and brown and black streaked back and wings. It has a long, pinkish-orange bill. The sexes are similar, although the female is duller. Immature birds have far less rufous colouring in their plumage and a duller bill.

HABITAT

The Tasmanian Lewin's Rail has a scattered distribution, occurring along the coast and on some offshore islands including Furneaux Island, King Island and many small islands, usually in dense vegetation near or fringing water that is fresh, brackish or downright salty. They prefer permanent coastal habitats, especially swamps.

HABITS

Lewin's Rails are elusive and secretive and difficult to observe. They are sedentary and territorial, mainly keeping to dense cover where they create tunnels or runways.

Lewin's Rail can swim well, but will run away rather than take to the water if threatened. It is a reluctant flier and flies feebly with its legs dangling below like an undercarriage it has forgotten to retract. Nevertheless, it is reported to fly between some inshore islands and mainland Tasmania.

VOICE

Lewin's Rails are more often heard than seen and their calls can carry several hundred metres. The birds can be very vocal in the breeding season, calling most frequently in the afternoon. They make a loud 'kek' repeated many times, lasting up to 30 seconds, becoming faster and louder, then diminishing. They can also whistle, grunt and moan and they have a sharp alarm call.

DIET

Lewin's Rail feeds alone, often at dusk, pecking and probing the mud. It eats insects, crustaceans, earthworms, arthropods and molluscs, and sometimes frogs' and birds' eggs.

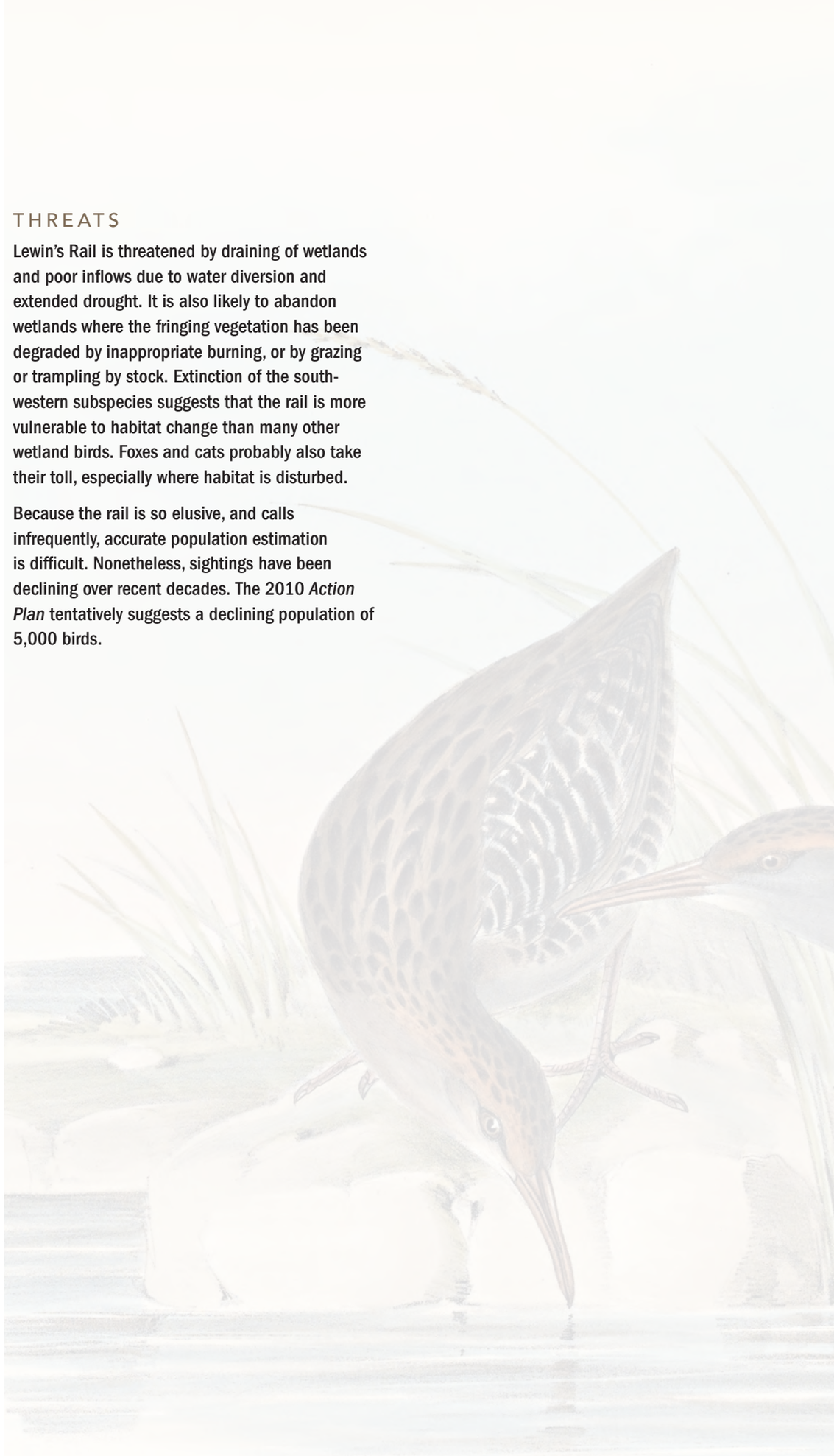
BREEDING

Pairs typically have two broods per season. The nest is built of rushes and dead grasses. It is a shallow saucer sometimes with a domed canopy or a ramp of trampled vegetation, low in clumps of rushes near the edge of a swamp. Egg laying commences in August. The female lays three to six eggs which are stone coloured and spotted with grey and brown. She lays on consecutive days then incubates the eggs herself for about 20 days. When she sits on the nest, she pulls vegetation down over herself and is quite hidden. The young are immediately independent and leave the nest as soon as they dry out. The second brood of the season may stay with their parents until the following autumn.

THREATS

Lewin's Rail is threatened by draining of wetlands and poor inflows due to water diversion and extended drought. It is also likely to abandon wetlands where the fringing vegetation has been degraded by inappropriate burning, or by grazing or trampling by stock. Extinction of the south-western subspecies suggests that the rail is more vulnerable to habitat change than many other wetland birds. Foxes and cats probably also take their toll, especially where habitat is disturbed.

Because the rail is so elusive, and calls infrequently, accurate population estimation is difficult. Nonetheless, sightings have been declining over recent decades. The 2010 *Action Plan* tentatively suggests a declining population of 5,000 birds.



Lesser Sand Plover
(Mongolian and Kamchatkan subspecies)
Charadrius mongolus mongolus and *Charadrius mongolus stegmanni*

Allied Dottrel
Hiaticula inornata

nla.aus-f4773-6-s45

21. LESSER SAND PLOVER

(Mongolian and Kamchatkan subspecies)

Apparently, Gould did not see the Lesser Sand Plover while he was in Australia, although he notes that Gilbert found it to be 'abundant on most of the sandy points and bays in the neighbourhood of Port Essington', in the Northern Territory. Gould also believed that it 'inhabits the islands in Torres' Straits and New Guinea', but most likely he was misled by records of birds that were actually on passage to or from their arctic breeding grounds.

Lesser Sand Plovers arrive in Australia in August, and although a few overwinter, most have left by May.

This plover is most common on northern coasts where it is a regular migrant and where thousands of birds can be seen. Had Gould travelled up the eastern coast in summer, to Moreton Bay for example, he would have had a greater chance of encountering the plover, but he ventured no further north than the Liverpool Plains.

LESSER SAND PLOVER (MONGOLIAN AND KAMCHATKAN SUBSPECIES) *CHARADRIUS MONGOLUS MONGOLUS* AND *CHARADRIUS MONGOLUS STEGMANNI*

STATUS

The populations of the Lesser Sand Plovers subspecies visiting Australia are ENDANGERED. The species is of Least Concern.

NAME

Peter Simon Pallas, a German zoologist and explorer working in Russia, named the Lesser Sand Plover in 1776 from a Siberian specimen. He called it the Mongolian Plover, *Charadrius mongolus. Charadrios* is Greek for 'valley bird', *mongolus* means 'from Mongolia'.

Apparently unaware of Pallas' work, Gould called this bird the Allied Dottrel, *Hiaticula inornata*. *Hiaticula* is derived from the Latin *hiatus*, meaning 'a cleft', and *colere* meaning 'to inhabit', that is, living in a valley. *Inornata* means 'unadorned', which Gould intended to refer to 'the uniformity of the colouring' of the two specimens he had from Australia. So, he added a rider:

> *I have received other examples with a brighter style of marking, which is doubtless characteristic of the summer or breeding-season, and which renders the above name only applicable to the bird when in the plumage of winter.*

TAXONOMY

There are five subspecies of Lesser Sand Plover, although only two visit Australia: the one that breeds in Mongolia (*mongolus*) and the one that breeds in Kamchatkan (*stegmanni*), both of which are Endangered. We do not know which subspecies Gould had illustrated; however, the Kamchatkan subspecies was not identified until 1939.

DESCRIPTION

The Lesser Sand Plover is a small plover with a stout bill. In flight, it displays a narrow white wing bar and its toes protrude very slightly beyond its tail. Its breeding plumage is very different from its non-breeding plumage. In breeding plumage, it has a bright chestnut cap and breast-band and a stylish black mark across its face. In non-breeding plumage, it loses these colours: its cap is a quiet brown and the breast-band all but disappears. Dark-grey legs distinguish the Lesser Sand Plover from the larger Greater Sand Plover, which has greenish legs.

HABITAT

The Lesser Sand Plover is a regular summer migrant to Australia, where it can be seen anywhere along the coast, with the exception of the western coast of Tasmania. It likes sandflats, mudflats, estuaries and beaches and is sometimes seen on rocky reefs. It is most common in Queensland, uncommon in Tasmania and rarely seen in the south-west. Occasionally, it is seen inland.

HABITS

The Lesser Sand Plover visits Australian coasts from August to May, although a few birds remain all year. It can be seen singly, in small groups or in flocks numbering hundreds, probing the mud industriously. It sometimes feeds and roosts in mixed flocks with other waders.

VOICE

As it takes off, the Lesser Sand Plover utters a hard ‘chrik’, often likened to the call of the Ruddy Turnstone (*Arenaria interpres)*. In flight, its contact call is a soft musical trill.

DIET

Lesser Sand Plovers search for molluscs, worms, crustaceans and insects by probing with their stubby bill, mostly on intertidal flats and mudflats.

BREEDING

The Lesser Sand Plover breeds in the tundra of central and north-east Asia. Those visiting Australian shores breed in Mongolia and Russia.

THREATS

It is estimated that 12,000 mature individuals of each subspecies visit Australian shores and that their numbers are decreasing. Counts of Lesser Sand Plovers (that is, both subspecies combined) at 49 sites declined by 84 per cent between the early 1980s and 2007—an alarming statistic.

The Lesser Sand Plover is mainly threatened by the loss and degradation of habitat on its migratory flyways in East Asia, in particular the intertidal flats of the Yellow Sea where it is estimated that half the population break their journey.

Hooded Plover
(eastern subspecies)
Thinornis rubricollis rubricollis

Hooded Dottrel
Hiaticula monacha

nla.aus-f4773-6-s43

22. HOODED PLOVER

(eastern subspecies)

In 1789, German naturalist Johann Friedrich Gmelin named the Hooded Plover. His bird came from Adventure Bay in Tasmania, which is only fitting as Tasmania has always been the bird's stronghold. The bird was collected on Cook's third voyage when he stopped to refuel at Adventure Bay in January 1777. Possibly Gmelin's description was based on a drawing by Surgeon's Mate William Ellis because no specimen has been found. The name Gmelin gave it—*rubricollis*—is also puzzling because the plover does not have a red collar.

Gould saw Hooded Plovers on his trip to Australia in 1838. He described them as 'universally dispersed over the sea-coasts of the southern parts of Australia … perhaps more abundant in Tasmania and the islands in Bass's Straits than elsewhere'. He was close. In fact, they have a break in distribution across the Great Australian Bight, which splits them into two subspecies, a western and an eastern form.

While he was in Tasmania, Gould watched the plover 'tripping over the sandy beach … with much elegance of movement', and he:

> *frequently found its two eggs on the shingly beach in a slight depression hollowed out by the bird for their reception just above high-water mark: these are so similar in appearance to the material upon which they are deposited that they would readily escape the attention of a casual observer; those I collected were of a pale stone-colour, sprinkled over with numerous small irregularly-shaped marks of brownish-black, and are one inch and a half long by one inch and an eighth broad.*

The Hooded Plover was never common but reductions in population have been reported from all locations where surveys have been conducted, showing that the species' range has contracted. The ornithological literature provides a broken trail of evidence of its disappearance southwards, possibly from as far north as Moreton Bay, Queensland.

The bird has certainly withdrawn from northern New South Wales. In 1888, Hooded Plovers were recorded from the Richmond and Clarence rivers and, in the early 1900s, on the Tweed River in northern New South Wales. In 1898, Alfred John North reported that the plover was not common around Sydney and, by 1913, it was considered 'extremely rare' there. The 1926 Official Checklist of the Birds of Australia accepted Sydney as the northern limit of the bird's range. Now Jervis Bay is regarded as the northernmost extent of its breeding distribution.

HOODED PLOVER (EASTERN SUBSPECIES)

THINORNIS RUBRICOLLIS RUBRICOLLIS

STATUS

The eastern subspecies of the Hooded Plover is VULNERABLE, as is the species as a whole.

NAME

Sometimes called the Hooded Dotterel, this bird was first named by Gmelin in 1789. He called it *Charadrius rubricollis* after the Red-necked Plover. *Charadrius* is from the Greek, meaning 'valley bird'; *rubricollis,* meaning 'red-neck', is quite an inappropriate name for this white-naped bird.

Gould called the bird *Hiaticula monacha*. *Hiaticula* is from the Latin *hiatus*, meaning 'a cleft', and *colere*, meaning 'inhabit'. *Monacha* is the Latin for 'solitary'.

The generic name has been changed to *Thinornis*, which comes from the Greek words for 'sandy beach' and 'bird'.

TAXONOMY

There are two subspecies of Hooded Plover—the eastern *Thinornis rubricollis rubricollis* and the western *T. r. tregellasi*. Both are classified as Vulnerable.

DESCRIPTION

With its black hood and white nape, red eye-ring and black-tipped red bill, the Hooded Plover is a pretty bird. A small plover, about 21 centimetres in length, it appears tubby and rather neckless, an impression enhanced by its short orange legs. In flight, its upper wings show a distinctive white wing bar.

The sexes are alike and there is no seasonal variation in plumage. The juveniles are duller overall, with brown heads rather than the dramatic black of their parents.

HABITAT

The eastern Hooded Plover occurs around the coast of mainland Australia from about Jervis Bay in New South Wales to Fowlers Bay in South Australia. It is also found around Tasmania and nearby islands. It lives and breeds on ocean beaches and at creek mouths or inlets, preferring wide sandy seashores with plenty of washed-up seaweed and extensive sand dunes. It rarely travels more than a kilometre from the coast.

HABITS

During the breeding season, September to January, Hooded Plovers are seen in pairs or small family groups. In winter, outside the breeding season, small groups congregate and visit nearby lakes.

Despite its attractive colours, when it freezes motionless on the beach, for example when aerial predators are around, the plover is invisible. It walks away slowly from ground predators, always ensuring that its pale back faces the intruder. It will fly low over surf if flushed, but mostly walks or runs along the beach. It feeds near the water, and spends time and roosts on the upper beach.

VOICE

Hooded Plovers are usually silent, but in flight they have a low-pitched guttural bark, described as 'kew, kew', and when agitated they utter a quiet, short high-pitched piping call.

DIET

Hooded Plovers forage busily on the beach, day and night, during all tide phases, but mostly in the wave-washed zone. They run fast along the shoreline and stop suddenly, bobbing their heads, then peck at food as the waves recede. They eat crustaceans, marine worms, molluscs, insects and seeds.

BREEDING

Hooded Plovers are monogamous and a pair can remain together for several years, but not necessarily for life. Pairs return to the same nest site year after year. They nest from August to March, later eggs being either a replacement or a second clutch.

The nest is a simple scrape in the sand, which may be lined with seaweed or twigs and is sometimes encircled with pebbles, shells, sticks or seaweed. It is often built beside driftwood or stones, is always above the high tide mark and can be in sand dunes up to 600 metres from the sea.

Hooded Plovers lay from one to four (usually three) beautifully mottled eggs, which both parents incubate for 30 days. This is the longest incubation period of any Australian plover. The chicks are mobile and can feed themselves soon after hatching. They are guarded by their parents for about seven weeks, by which time they can fly.

THREATS

The Hooded Plover population was never large. Even before European settlement the bird was thinly scattered over its range, which has contracted since. The eastern Hooded Plover population is estimated at 3,000 mature individuals, with more than half of them in Tasmania.

As with all ground-nesting birds, the Hooded Plover is threatened by cats, dogs and foxes and a variety of other disturbances associated with humans. Because it nests on ocean beaches in summer, it is also threatened directly by humans—in particular, by recreational vehicles. Even pedestrian use of beaches can cause adult birds to leave the nest, which exposes the eggs to predators. Near more urbanised areas, high numbers of Silver Gulls (*Larus novaehollandiae)* and ravens can reduce breeding success. Another problem for the plover is Marram Grass (*Ammophila arenaris)*, which has been used to control beach erosion. It grows thick and fast, making the beach unsuitable as nesting habitat. Marram Grass is no longer approved for controlling beach erosion, but there is no suggestion that existing plantations will be eradicated. These beaches are simply lost to the Hooded Plover forever.

Although the pairs that nest on some islands are secure, the overall Hooded Plover population is decreasing and will continue to do so unless appropriate beach management, particularly nest protection, is put in place.

Plains-wanderer
Pedionomus torquatus

Collared Plain Wanderer
Pedionomus torquatus

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23. PLAINS-WANDERER

Gould named the Plains-wanderer *Pedionomus torquatus* in 1840. He described it from a specimen that was sent to him by Frederick Strange—a sometime collector for Gould—who found it on the plains near Adelaide.

It must have been a female because Gould's illustrator depicted two females in place of a pair. Later, Gould learned that, 'the sexes differ considerably both in size and markings, the female being by far the largest and richest in colour'.

It was probably Gould's friend George Grey who supplied him with additional specimens. Grey, later Sir George, was Governor of the Colony of South Australia from 1841 to 1845, and a keen amateur naturalist. In 1842 Gould wrote to Grey asking him for further information on the unusual bird. Grey had Plains-wanderers in captivity, and they had become quite tame. But Grey also knew them in the wild. He reported back that the Plains-wanderer was a regular migrant to the Adelaide plains in June: 'The young are found running about the Plains at the end of July or beginning of August'. By January all had departed, but 'where they go has not yet been ascertained'.

He also commented on their great reluctance to fly:

> *They never fly if they can avoid so doing, and are often caught by dogs; when disturbed, they crouch down and endeavour to hide themselves in a tuft of grass. While running about they are in the habit of raising themselves in a nearly perpendicular position on the extremities of their toes, so that the hinder part of the foot does not touch the ground, and of taking a wide survey around them.*

In Gould's day, Plains-wanderers were found in west-central and south-eastern Queensland and in eastern New South Wales, including the Riverina and the inland slopes of the Great Dividing Range. They were also found in western and north-central Victoria and in southern and eastern South Australia, including the Adelaide plains, and on the Yorke and Eyre peninsulas.

Today the Plains-wanderer no longer wanders the Adelaide plains. It has all but disappeared from south-east South Australia, eastern New South Wales and south-east Queensland. In south-west Victoria, south-east South Australia and eastern New South Wales, where it was once common, it is now rare.

As for Grey's impression that the Plains-wanderer was migratory, we will never know whether that was the case in regions where it is now extinct. Radio tracking and banding studies in the Riverina have shown that Plains-wanderers are largely sedentary, but travel if they are forced to by drought, fire or encroaching agriculture.

PLAINS-WANDERER
PEDIONOMUS TORQUATUS

STATUS

The Plains-wanderer is ENDANGERED.

NAME

In 1840 Gould named this bird the Collared Plain Wanderer, *Pedionomus torquatus. Pedionomus* is Greek for 'plain-wandering' and *torquatus* is Latin for 'collared'.

TAXONOMY

The Plains-wanderer has no subspecies and is the only member of its family. Although superficially like a button-quail, molecular studies have shown that taxonomically it is a wader.

DESCRIPTION

The Plains-wanderer is a small ground-dwelling bird, about 10 centimetres tall, that resembles the button-quail. At 80 grams, the female is larger and more brightly coloured than the male, who weighs only 50 grams. The plumage of the Plains-wanderer is light brown patterned with fine black rosettes on the back and fawn with crescents on the belly. The female has a prominent white-spotted black collar and a rich rufous breast-band. They have straw-yellow legs, which are much longer than button-quails' legs.

HABITAT

The Plains-wanderer inhabits sparse, treeless native grasslands, with plants up to 10 centimetres high. It has been observed in cereal stubble, but such habitat cannot sustain it permanently. It occurs in north-central Victoria, eastern South Australia, the Riverina of southern New South Wales and west-central Queensland.

HABITS

The Plains-wanderer can be active at any time of the day or night, but it is rare, secretive, solitary and difficult to observe. It is found singly, in pairs and in family parties. It flies reluctantly, preferring to run while crouching low, or to freeze if disturbed. Characteristically, it stands on tiptoe, with neck craned to survey its surrounds. It roosts at night among the grass, and populations are sedentary wherever the habitat remains suitable.

VOICE

Calls are heard both day and night, and are described as a dove-like coo. The female makes a longer, more drawn-out coo prior to laying. Adults make a quiet 'chuck' to warn the chicks of danger. Chicks have an abrupt distress call.

DIET

The Plains-wanderer eats seeds, insects and spiders all year round, but the proportions differ from season to season. It eats more grass seeds in summer, more saltbush seeds in winter and more insects and spiders in spring.

BREEDING

The Plains-wanderer has reversed sex roles: the male cares for the eggs and chicks. The female probably mates with more than one male each breeding season.

Breeding has been reported in every month of the year except April. Typically though, first clutches are laid in spring and, if sufficient summer rain falls, second clutches in summer or autumn. The female lays three to five eggs, which are buff, spotted with brown and grey, in a shallow, grass-lined scrape under a tuft of grass. The male does most of the incubating but the female sometimes assists. Incubation takes 23 or 24 days. The chicks are mobile and self feeding soon after hatching and the male guards them for about two months.

Plains-wanderers can suppress their scent during the breeding season, a handy trick they share with quails; this gives them some protection from mammalian predators.

THREATS

The population size of the Plains-wanderer is highly dependent on rainfall; it is estimated to vary from some 2,000 birds during widespread drought to around 5,500 to 7,000 birds after successive seasons with favourable conditions. The bird's range has decreased since European settlement. It is now effectively extinct in south-east Queensland, eastern New South Wales, south-east South Australia and south-west Victoria.

The greatest difficulty faced by the Plains-wanderer is loss of habitat. Other threats are foxes and cats, especially where habitat is disturbed, and perhaps certain pesticides used to control locust plagues.

Australian Painted Snipe
Rostratula australis

Australian Rhynchaea
Rhynchaea australis

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24. AUSTRALIAN PAINTED SNIPE

Gould named the Australian Painted Snipe *Rhynchaea australis* in 1838, before he set out on his great adventure to Australia. For four months from September 1839, he was based at Yarrundi, in the Hunter Valley of New South Wales, the property of his brother-in-law, Stephen Coxen. He was fortunate in striking a wet spring, providing ample opportunity for him to study the bird he had named the Australian Rhynchaea:

> *During the fine season of 1839, when much rain had fallen and the whole face of the country was covered with the most luxuriant and varied verdure, and every hollow formed a shallow lagoon, this bird was tolerably plentiful in the district of the Upper Hunter, particularly in the flats of Segenho, Aberdeen, Scone, &c.*

He was told that the snipe was a summer visitor to New South Wales, arriving in August and September to breed:

> *Although I did not succeed in finding its nest, no doubt exists in my mind of its breeding in the immediate locality, as on dissecting a female an egg was found in the ovarium, nearly of the full size, and ready to receive its calcareous covering.*

Gould's friend, explorer Captain Sturt, who was then living in South Australia, knew the birds but also had never located a nest. He told Gould:

> *This beautiful bird was very scarce in the interior … Some three or four couples visit my residence at Grange yearly, and remain in the high reeds at the bottom of the creek, among which they doubtless breed, but we never found one of their nests. They lay basking in the shade of a tree on the sand-hills during the day, and separate when alarmed.*

Dissecting a female yielded Gould more than an ovum. He was already certain that the female was larger than the male, and more richly coloured. Indeed, he commented that the sexes were so different that some ornithologists considered them different species. Nevertheless, while examining specimens, he was surprised to discover that the bird had an elongated windpipe, exceptionally long and looped in the females:

> *The use of this convoluted trachea, so exclusively confined to the female, I could not in any way discover or surmise. No note whatever was heard to proceed from either sex, while on the wing or when flushed.*

Had Gould heard the female boom, he may have connected the call with the twisting windpipe, which acts like a resonator. It was also a clue that the snipe has reversed sex roles. The female is the more aggressive and territorial of the sexes, calling for partners and to deter other females.

Gould was well aware that his Australian Rhynchaea was not a true snipe: 'In its habits and disposition this bird neither lies so close, nor has the crouching manner of the true Snipes'. It was subsequently lumped with the painted snipe of Asia and Africa, itself not a 'true' snipe, and has only recently been recognised as sufficiently different to separate it as a species in its own right.

Today it is one of the rarest of Australian species—seen infrequently in Gould's collecting grounds about the Upper Hunter and never near Sturt's old home at the Grange, where the marshlands fed by the Torrens are long gone.

AUSTRALIAN PAINTED SNIPE
ROSTRATULA AUSTRALIS

STATUS

The Australian Painted Snipe is ENDANGERED.

NAME

In 1838 Gould named this bird the Australian Rhynchaea, *Rhynchaea australis. Rhynchos* is Greek for 'beak', and *australis* is the Latin word for 'southern'.

It is now known as *Rostratula australis. Rostratula* comes from the Latin *rostratus* meaning 'with curved bill'.

TAXONOMY

Until very recently, the Painted Snipe was believed to be a subspecies of the Greater Painted Snipe (*Rostratula benghalensis)*, which is found throughout Asia and Africa. Recent DNA studies have shown that the Australian Painted Snipe is a separate species.

Despite its name and appearance, the Painted Snipe is not a true snipe at all—rather, it is most closely related to the jacanas.

DESCRIPTION

The female Australian Painted Snipe is a beautifully marked, medium-sized bird about 25 centimetres in length with a chocolate head and neck and pure white eye-patch and 'harness'. The male is greyer, duller and smaller, reaching only 22 centimetres in length. The immature birds resemble the male.

HABITAT

The Australian Painted Snipe occurs across northern and eastern Australia, and in the south-west, and is most often reported from the Murray–Darling Basin. Its typical habitat is shallow, temporary, freshwater wetlands, well vegetated on the margins. Occasionally, it is found in brackish wetlands, saltmarsh, sewage farms and irrigation areas.

HABITS

The Australian Painted Snipe is either solitary or in small flocks of the same sex. It skulks among dense vegetation, only coming out to feed at the water's edge at dusk. It forages until dawn, when it returns to cover to roost through the day.

When approached, the Australian Painted Snipe freezes until the very last moment, when it flies rapidly into the reeds. When it runs it holds its head low, like a charging goose.

The snipe's movements are poorly understood. It appears to be nomadic, moving in response to rain, suddenly appearing in one place, then disappearing just as quickly. However, there is some evidence of partial migration from south-eastern wetlands to the coast of central and northern Queensland in autumn and winter.

VOICE

The Australian Painted Snipe is normally silent, but makes a loud 'kek' if flushed. During the breeding season the female broadcasts her presence around nightfall with a quiet 'hooo' and repeated 'kot, kot, kot' calls. The female's crop can be inflated to amplify her calls.

DIET

The Australian Painted Snipe feeds nocturnally, singly or in loose flocks. It walks along the edge of the water most deliberately, probing the mud for worms, aquatic insects, crustaceans and snails. It also eats some vegetable matter. It forages at night on mudflats and in shallow water.

BREEDING

The female guards the territory and takes the initiative in mating. The male incubates the eggs and cares for the young. It is likely that the Australian female is polyandrous, breeding with other males if seasonal conditions permit.

The breeding season is from August to February in the south of Australia, and from December to May in the north of the continent. The nest is a shallow scrape lined with grass, sometimes surrounded by water, and always well hidden in dense vegetation.

The female lays three or four cream eggs heavily splotched with black. Incubation takes 19 or 20 days. The pretty striped chicks all hatch at the same time and are immediately independent. The male leads them away from the nest very soon after hatching.

THREATS

Nocturnal nomadic birds must be almost impossible to survey accurately. Nonetheless, the Australian Painted Snipe population is estimated to be between 1,000 and 1,500 mature individuals, and is highly unlikely to exceed 2,500. Although it was never common, it is certain that the species is now more rare than it was in the past.

Habitat destruction is the biggest threat. Drainage of swamps and river diversions have stopped the formation of the temporary shallow wetlands it needs. Weed invasion, heavy grazing and trampling by livestock, and predation by foxes and cats are all possible contributors to the continuing reduction in population.

Bar-tailed Godwit
(western Alaskan and northern Siberian subspecies)
Limosa lapponica baueri and
Limosa lapponica menzbieri

Barred-rumped Godwit
Limosa uropygialis

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25. BAR-TAILED GODWIT

(western Alaskan and northern Siberian subspecies)

Gould saw a large number of Bar-tailed Godwits in Tasmania in 1838 and later in South Australia and New South Wales:

> *I saw this species in very great abundance, in company with Curlews, Oyster-catchers and Sandpipers, at Pitwater in Tasmania, feeding on the extensive flats left bare by the receding tide; I also observed it on the sandy flats in Spencer's Gulf and on the sand-banks at the mouth of the river Hunter in New South Wales.*

He was correct in surmising that 'in all probability it is dispersed over the whole of the Australian coasts'. What he was not sure about was whether it was the same as the European Bar-tailed Godwit, because John MacGillivray had informed him that he had seen a specimen clothed in 'rufous dress very similar to the summer plumage of the European species'. Gould opted for the Australian bird being a different species, naming it the Barred-rumped Godwit.

At that time there was uncertainty about where the European birds bred, let alone the Australian birds. Gould was desperately keen to solve the mystery:

> *Every ornithologist is aware how difficult it is to trace our own Bar-tailed Godwit to its breeding-place; so great indeed is it that its eggs are desiderata in nearly every European cabinet; and this want of knowledge is equally felt with regard to the Australian species, for we have not the most remote idea what country it resorts to during the breeding-season, and no Australian egg has yet been collected which can with certainty be referred to this bird; any information, therefore, on this point will be received by me, and I am sure by every other ornithologist, with pleasure.*

Gould would have been surprised to know that they are the same species, flying across the globe with the seasons. Before migration the birds fatten up to sustain themselves during their long flight, and they often wait for the arrival of storms to assist them on their way. It has only been in recent years, with the advent of lightweight satellite transmitters, that scientists have been able to accurately track their journey. The total trip can be about 29,000 kilometres, broken by a stopover of a few weeks in China or Korea to refuel. On southward migration from Alaska to New Zealand, at least some individuals cut out the stopover in Asia and fly directly across the Pacific. One female flew an amazing 11,000 kilometres in nine days, without stopping.

The global population of Bar-tailed Godwits is estimated to be 325,000, nearly 60 per cent of which spend the non-breeding season in Australia. Even though that sounds like a lot of birds, the 2010 *Action Plan* estimates that there may have been an overall decline of up to 50 per cent of the Australian population over the last 27 years. At two sites in the north-west of the continent where regular counts are made, numbers declined significantly between 2000 and 2008. On Eighty-mile Beach, the number of birds that visited halved from 110,000 in 2000 to 52,000 in 2008; at northern Roebuck Bay in 2000 to 2004, 12,000 birds overwintered but, from 2005 to 2008, there were only 9,000. The story is the same on the east coast.

BAR-TAILED GODWIT (WESTERN ALASKAN AND NORTHERN SIBERIAN SUBSPECIES) *LIMOSA LAPPONICA BAUERI* AND *LIMOSA LAPPONICA MENZBIERI*

STATUS

The Bar-tailed Godwit population visiting Australia is VULNERABLE. The species is of Least Concern.

NAME

The Bar-tailed Godwit was named by Carl Linnaeus in 1758. His specimen came from Lapland, so he called it *Scolopax lapponica. Scolopax* is Greek for 'snipe'.

Gould called it the Barred-rumped Godwit (*Limosa uropygialis). Limosa* is from the Latin *limosus* meaning 'muddy'; *uropygialis* joins the Greek for 'tail' (*ura*) with the Greek for 'rump' (*pyge*).

Today we know it as the Bar-tailed Godwit (*Limosa lapponica).* The two subspecies that visit Australia—*L. l. baueri* and *L. l. menzbieri*—are named in honour of naturalist and illustrator Ferdinand Bauer and Russian ornithologist Mikhail Aleksandrovich Menzbier.

TAXONOMY

There are three subspecies of Bar-tailed Godwit, two of which (the western Alaskan, *L. l. baueri,* and the northern Siberian, *L. l. menzbieri*) visit Australia.

DESCRIPTION

With a wingspan of 75 centimetres, the Bar-tailed Godwit is a large wader with a long neck, a long, slightly upturned bill, and a barred tail. In his breeding finery, the male is a rich chestnut colour below, and his upperparts are basically black, with exquisite rufous and white markings. Most birds seen in Australia are in pale, brown-streaked non-breeding plumage.

HABITAT

In the Austral summer, non-breeding Bar-tailed Godwits occur along the coasts of Australia, especially in the north and east. Birds from Northern Siberia favour the north of Western Australia (and South-East Asia) and birds from western Alaska prefer Queensland (and New Zealand). They frequent coastal mudflats, estuaries, sheltered bays and adjacent marshes and, sometimes, sewage ponds, salty inland lakes and flooded pastures.

HABITS

Bar-tailed Godwits are usually seen in scattered flocks, walking and wading over the mudflats as they forage. They roost in flocks, often with other waders, including other godwits. Flocks of Bar-tailed Godwits fly in formation and often perform spectacular aerial manoeuvres.

VOICE

Bar-tailed Godwits have soft contact calls and sharp, scratchy alarm calls.

DIET

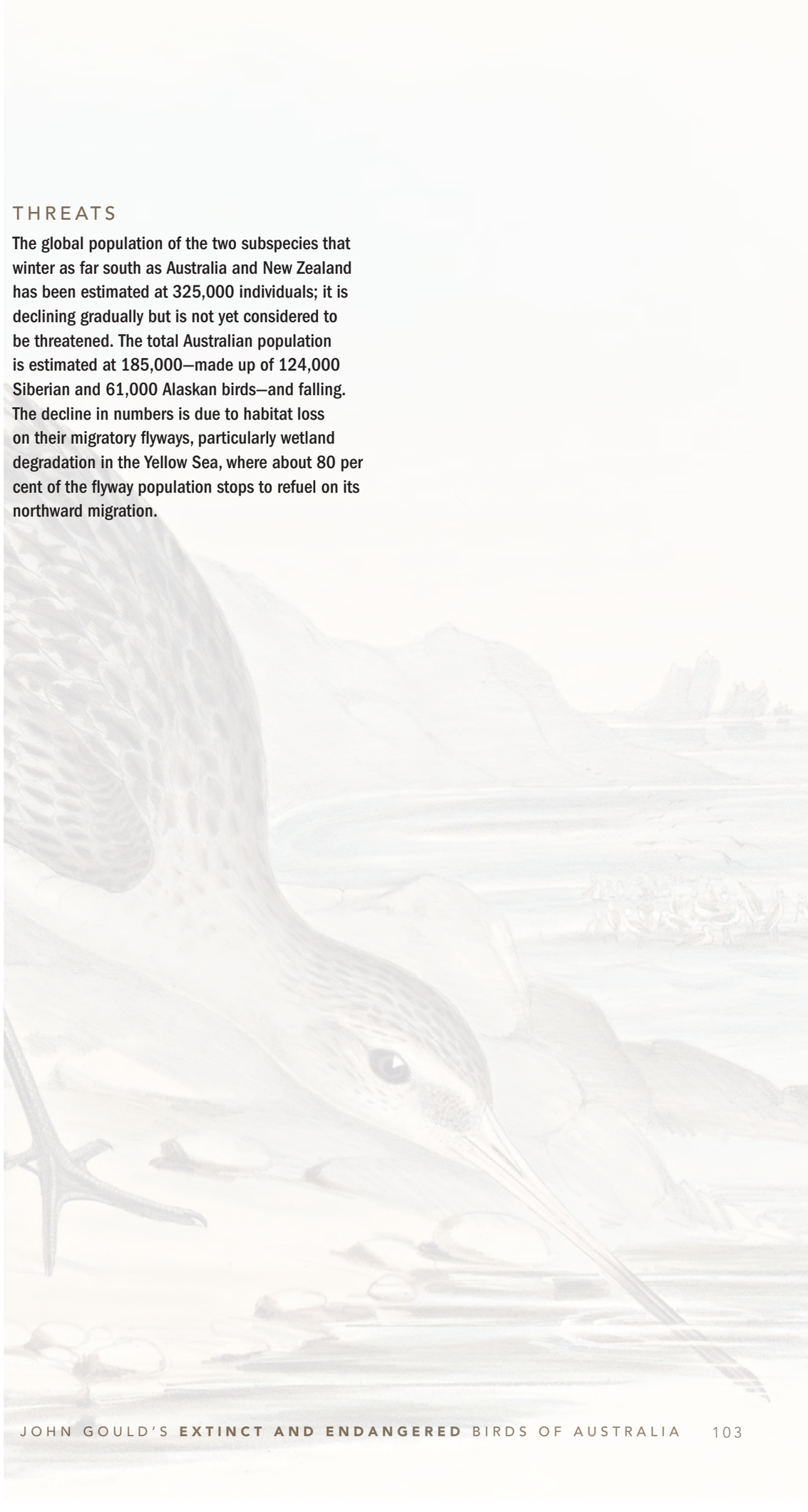
Bar-tailed Godwits walk along, probing the mud for annelids, bivalves and crustaceans, occasionally thrusting their long bill all the way in. If they see some tasty morsel a little way away, they will run to it.

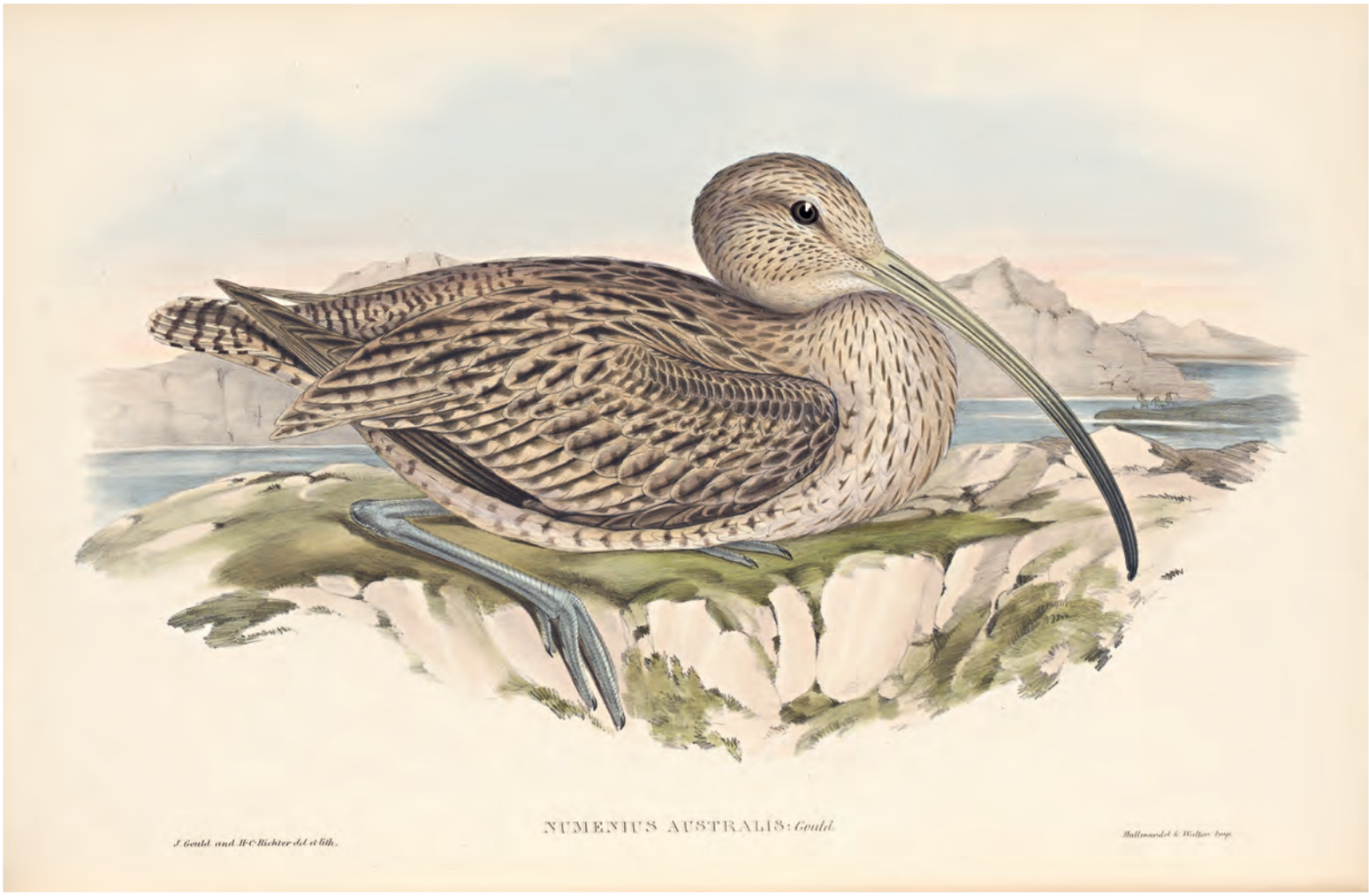
BREEDING

The two subspecies of Bar-tailed Godwits that visit Australia breed either in the lowland tundra of north and north-east Siberia or in north-west Alaska.

THREATS

The global population of the two subspecies that winter as far south as Australia and New Zealand has been estimated at 325,000 individuals; it is declining gradually but is not yet considered to be threatened. The total Australian population is estimated at 185,000—made up of 124,000 Siberian and 61,000 Alaskan birds—and falling. The decline in numbers is due to habitat loss on their migratory flyways, particularly wetland degradation in the Yellow Sea, where about 80 per cent of the flyway population stops to refuel on its northward migration.





Eastern Curlew
Numenius madagascariensis

Australian Curlew
Numenius australis

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26. EASTERN CURLEW

The rapidly decreasing populations of several migratory waders (shorebirds) which were previously not of conservation concern, have propelled them into the 2010 *Action Plan* as threatened species. This is mainly because of loss of feeding and resting habitat on their migratory pathways, most recently seen in the reclamation of tidal flats at Saemangeum in the South Korean Yellow Sea in 2006. The Eastern Curlew is one such unlucky bird. In particular, it has disappeared or become much rarer at many sites along the southern coasts of Australia. In Tasmania, for example, counts of Eastern Curlews fell by 80 per cent between the 1950s and 2000.

When Gould travelled across the world to Australia in 1838, his impression was that Tasmania was well supplied with Eastern Curlews and that the 'range of this species over Australia appears to be universal'. He reported that he had:

> *received specimens from Port Essington, Swan River, South Australia, New South Wales, Tasmania, and all the islands in Bass's Straits, but in no one of these countries is it more abundant than in Tasmania.*

In his explorations of Tasmania, he encountered the curlew in 'flocks in the neighbourhood of rivers and marshy situations', and noted that it was 'especially fond of running over the flats left bare by the receding tide, to feed upon the various molluscous animals abounding in such situations'.

Gould had no inkling that the Eastern Curlew was a long-distance migrant. Instead, he suggested that it stayed in Australia to breed and 'probably retires to the high lands of Tasmania or Australia Felix [western Victoria] for that purpose'.

We now know that the Eastern Curlew nests in Siberia, Kamchatka and Mongolia, and spends the non-breeding season mostly in Australia but aslo in coastal East Asia. It deserts its breeding grounds in June and July, and begins arriving in north-west and east Australia in July, peaking in August, and the movement continues southwards in stages until December. Most individuals depart for the return trip in March or April. Young birds, however, stay in Australia for two or three winters before returning to the Northern Hemisphere; they simply move northwards within Australia for the colder months.

EASTERN CURLEW
NUMENIUS MADAGASCARIENSIS

STATUS

The population of Eastern Curlews visiting Australia is VULNERABLE.

NAME

In 1776, Carl Linnaeus mistakenly named the Eastern Curlew *Numenius madagascariensis* in the belief that his specimen came from Madagascar, when in fact it was from Macassar in Sulawesi. *Numenius* may come from the Greek for 'new moon', a reference to the bird's crescent-shaped bill.

In *The Birds of Australia*, Gould's name for the bird was Australian Curlew, *Numenius australis, australis* meaning 'southern' in Latin.

TAXONOMY

There are no subspecies of the Eastern Curlew.

DESCRIPTION

The Eastern Curlew is a large wader, streaked dark brown and with long, grey legs. Having a wingspan of 1.1 metres and weighing up to 900 grams, this is the world's largest migratory wader. At 19 centimetres, its bill is impressively long, downturned, and about half the length of its body. The female's bill is even longer than the male's.

HABITAT

Eastern Curlews overwinter on intertidal mudflats on sheltered coasts, especially those with beds of seagrass, around coastal Australia but most commonly in the north.

HABITS

Eastern Curlews are seen singly, in small groups or, sometimes, in large flocks. They roost in sizeable flocks, separate from other waders, sometimes in trees. They take a short run before taking off and their flight is strong and direct with slow, deliberate wing beats. Their feet project beyond their tail in flight.

They are migratory, breeding in Siberia, Kamchatka and Mongolia and wintering in coastal East Asia, mostly in Australia, breaking the migration for a stopover at the Yellow Sea.

VOICE

Named after their call, Eastern Curlews make a musical 'cur-loo' call.

DIET

The Eastern Curlew eats crustaceans, particularly crabs, and small molluscs, using its long bill to probe deeper into the mud than any other Australian wader. It can feed by day or at night, finding the burrows of prey by sight during the day or in bright moonlight, but also locating prey by touch with its sensitive bill.

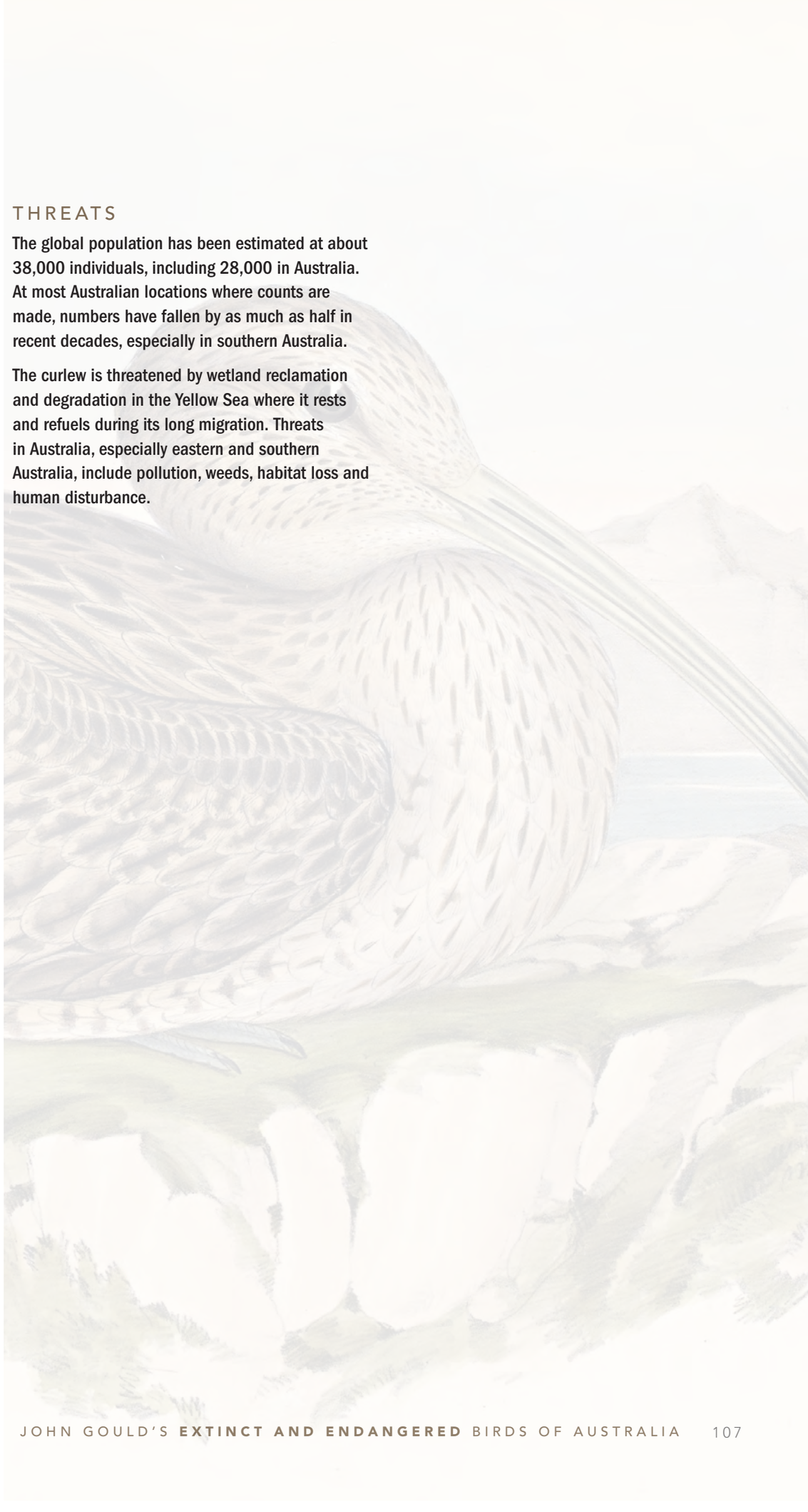
BREEDING

The Eastern Curlew breeds in the bogs and wetlands of Siberia, Kamchatka and Mongolia.

THREATS

The global population has been estimated at about 38,000 individuals, including 28,000 in Australia. At most Australian locations where counts are made, numbers have fallen by as much as half in recent decades, especially in southern Australia.

The curlew is threatened by wetland reclamation and degradation in the Yellow Sea where it rests and refuels during its long migration. Threats in Australia, especially eastern and southern Australia, include pollution, weeds, habitat loss and human disturbance.



Great Knot
Calidris tenuirostris

Great Sandpiper
Schoeniclus magnus

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27.
GREAT KNOT

'This is one of the birds that I did not meet with during my sojourn in Australia', Gould wrote after his return to England. There were many specimens in Europe, however. He mentions two from London: one in the British Museum which came from the north coast of Australia, and one owned by Lord Braybrooke—'a nobleman much attached to natural history'—collected in Perth.

Gould knew that the Great Knot occurred in Japan and China because of the 'beautiful figures' of it in *Fauna Japonica*. This five-volume work on the zoology of Japan, written in French and published between 1833 and 1850, was the regional equivalent of Gould's large format, lavishly illustrated scholarly tomes on the birds of Australia, Papua New Guinea, England and the Himalayas.

In Australia, Great Knots inhabit coastal mudflats, mainly in the north, from the Dampier Archipelago in the west, to Moreton Bay in Queensland. Hence, Gould would have had a better chance of seeing a Great Knot had he visited the north of Australia, where the knot is most numerous, sometimes gathering in flocks of 20,000 at roosts in north-west Australia. In December 2008, for example, there were 128,623 birds on Eighty-mile Beach, south of Broome.

In 2006, the global population of Great Knots was estimated to be 380,000. Almost all of them, a whopping 360,000, visited Australia. In that same year, the tidal flats at Saemangeum in the South Korean Yellow Sea were reclaimed, and some 90,000 Great Knots disappeared. The population now visiting Australia is thought to be about 290,000 mature individuals. Regardless of these large numbers, the Great Knot population is declining and vital habitat along its migratory pathway is being lost and degraded.

GREAT KNOT
CALIDRIS TENUIROSTRIS

STATUS

The population of Great Knots visiting Australia is VULNERABLE.

NAME

The Great Knot was named *Totanus tenuirostris* by American naturalist Thomas Horsfield in 1821, based on a specimen from Java. *Totanus* is Latinised from the Italian *totoano* ('moorhen'); *tenuirostris* joins the Latin for 'slender' (*tenuis*) and 'bill' (*rostrum*).

Today it is known as the Great Knot (*Calidris tenuirostris). Calidris* is Greek for 'kind of bird'.

TAXONOMY

The Great Knot has no subspecies.

DESCRIPTION

The Great Knot is a plump, medium-sized wader, with a long bill and an obvious white rump in flight. In Australia, it is usually in non-breeding plumage, also known as eclipse plumage: grey-brown above with pale margins to feathers, a streaked head and pale below with grey arrowheads on the breast. Its breeding plumage is distinctive, boldly marked above with black, chestnut and white and with a white breast so heavily speckled that it can look completely black. The female is slightly larger than the male.

HABITAT

The Great Knot breeds in the montane tundra of north-east Siberia and winters along coasts from the Arabian Peninsula to Australia. Large numbers occur from northern Western Australia and the Northern Territory to the Gulf of Carpentaria, and along east Queensland, in coastal areas with large intertidal mudflats or sandflats.

HABITS

Great Knots are usually found in flocks, either with other Great Knots or mixed with other waders, principally godwits. They are often seen foraging in shallow water or at the water's edge as the tide recedes. Their flight is direct and strong.

Great Knots begin arriving in the north-west of the continent in late August or early September, and keep arriving throughout October and November. Most birds remain in the north; a few move south. Immature birds may stay for a few seasons before making the return journey to the Northern Hemisphere.

VOICE

Great Knots are usually quiet away from their breeding grounds. In flight, they make a call rendered as ‘nut-nut’, with the first syllable longer and higher pitched than the second.

DIET

The Great Knot forages slowly, deeply probing mud or sand for bivalves, gastropods, crustaceans and other invertebrates.

BREEDING

The Great Knot breeds in north-east Siberia.

THREATS

Great Knots are safest on their breeding grounds. As soon as they leave home, they face danger. They are hunted as they migrate and, wherever they try to land, there is likely to be some environmental problem, be it pollution, urban expansion, wetland degradation, reduced river flows or industrial development. Even when they reach Australia, their difficulties do not cease. They still face pollution, habitat loss, human disturbance, changes to water flows and invasive plants.

Some 290,000 mature individuals winter in Australia each year, but that number is decreasing and the species is no longer a regular visitor to southern coastal areas.

Painted Button-quail (Houtman Abrolhos subspecies)
Turnix varius scintillans

Sparkling Hemipode
Hemipodius scintillans

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28. PAINTED BUTTON-QUAIL

(Houtman Abrolhos subspecies)

The Houtman Abrolhos is a group of 122 islands and associated coral reefs off the Western Australian coast, 80 kilometres from Geraldton. The islands are uninhabited, except when fishermen visit during the crayfish season.

On Gould's behalf, John Gilbert visited the Houtman Abrolhos in 1843 and described East and West Wallabi islands as 'the largest and the most interesting' of the group. Here he found, among other things, 'a new species of painted quail'. Thanks to Gilbert's work, Gould was able to report that the button-quail was 'tolerably abundant' on East and West Wallabi islands, 'where it is principally met with among the limestone crags'.

Gould considered it a 'very beautiful species' and called it 'the Sparkling Hemipode' because it was 'lighter, more varied and sparkling' in colour than the much larger Painted Button-quail on the mainland. 'Nothing whatever is known of its habits and economy,' he reported.

In 2000, it was classified as Vulnerable because it was restricted to just three sites. By 2006, alarm bells began to ring. Surveys of North Island (180 hectares) yielded just one sighting and little evidence of foraging activity (counts were made of the soup-bowl depressions the birds make while foraging).

There was also evidence of severe damage to the vegetation by recently introduced wallabies. On East Wallabi (321 hectares) there were only two sightings but much evidence of activity, so it was concluded that the population there was healthy. As there were no known threats on West Wallabi (600 hectares) the population there was also presumed to be stable. Nevertheless, with one out of three locations compromised and a tiny population of a little over 1,000, in 2010 the Houtman Abrolhos Painted Button-quail was moved up the threatened species list from Vulnerable to Endangered.

PAINTED BUTTON-QUAIL (HOUTMAN ABROLHOS SUBSPECIES)

TURNIX VARIUS SCINTILLANS

STATUS

The Houtman Abrolhos subspecies of the Painted Button-quail is ENDANGERED. The species as a whole is of Least Concern.

NAME

John Latham named the Painted Button-quail in 1802 from a specimen from Sydney. He called it *Perdix varia. Perdix* is Latin for 'partridge', *varia* means 'variegated' or 'various'.

Gould thought the Painted Button-quail from the Houtman Abrolhos was a separate species from that on the mainland. In 1845, he named it the Sparkling Hemipode (*Hemipodius scintillans). Hemipodius* is from the Greek for 'half-foot', a reference to the bird's lack of a hind toe; *scintillans* is Latin for 'speckled' or 'sparkling'.

Today, the Painted Button-quail is known as *Turnix varius. Turnix* is a shortened version of the Latin for 'quail' (*coturnix)*; *varius* is Latin for 'different'. The Houtman Abrolhos bird is a subspecies, *Turnix varius scintillans.*

TAXONOMY

There are three subspecies of Painted Button-quail: *Turnix varius varius* in south-western and eastern mainland Australia and in Tasmania, *T. v. scintillans* on the Houtman Abrolhos islands, and *T. v. novaecaledoniae*, which was found on New Caledonia, but is possibly extinct.

DESCRIPTION

With a length of 14 to 17 centimetres and a weight of 52 to 82 grams, the Painted Button-quail on the Houtman Abrolhos group is little more than half the size of the mainland bird. The female has a bright rufous back with narrower black barring than her mainland relative, and more obvious white spots on her wings. She also has a paler belly. The male is smaller and duller. Both have red eyes. There is no seasonal variation.

HABITAT

On North Island and East and West Wallabi islands in the Houtman Abrolhos, the Painted Button-quail can be found everywhere except on bare limestone. It favours low dunes covered by spinifex or coral shingle with open saltbush.

HABITS

Painted Button-quails are seen singly, in pairs or in small coveys. If they are flushed, they fly fast, just a metre or two above the ground, for a fair distance, before dropping to the ground and running on.

VOICE

Female Painted Button-quails boom in the breeding season. Males make soft clucks but are usually silent.

DIET

The Houtman Abrolhos subspecies of the Painted Button-quail feeds on the ground by scratching in leaf litter, turning as it goes so creating round depressions called platelets. It eats seeds, insects and scraps left by fishermen.

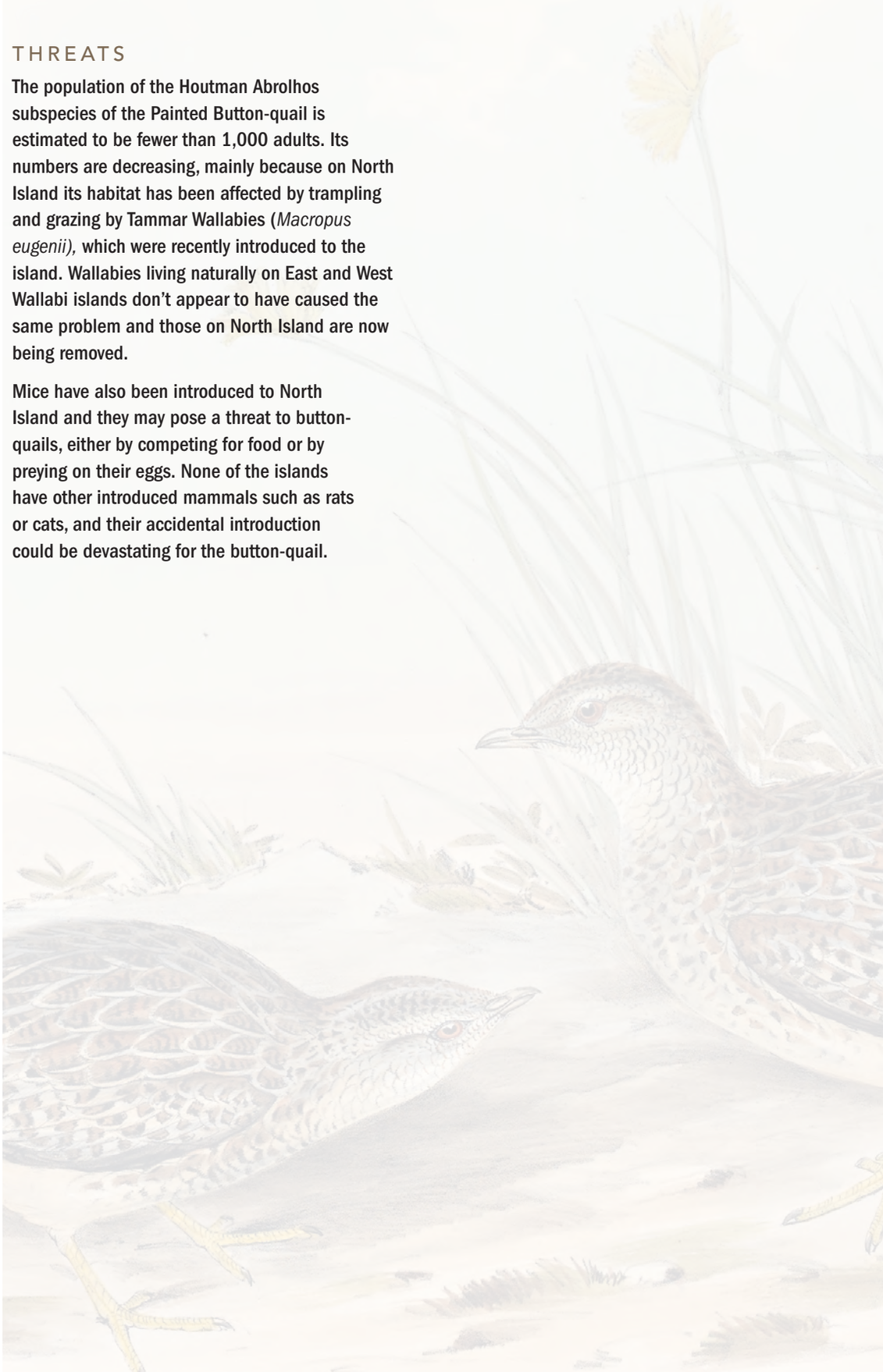
BREEDING

The breeding season is from April until October. The nest is a mere scrape in the ground, about 10 centimetres in diameter and 2 centimetres deep, lined with fine twigs and sheltered by overhanging vegetation. The female probably mates with several males over the breeding season. She lays three white eggs, finely speckled with blue-brown and leaves them in the care of the male. The chicks leave the nest soon after hatching; the male cares for them for about ten days by which time they can fly.

THREATS

The population of the Houtman Abrolhos subspecies of the Painted Button-quail is estimated to be fewer than 1,000 adults. Its numbers are decreasing, mainly because on North Island its habitat has been affected by trampling and grazing by Tammar Wallabies (*Macropus eugenii),* which were recently introduced to the island. Wallabies living naturally on East and West Wallabi islands don't appear to have caused the same problem and those on North Island are now being removed.

Mice have also been introduced to North Island and they may pose a threat to button-quails, either by competing for food or by preying on their eggs. None of the islands have other introduced mammals such as rats or cats, and their accidental introduction could be devastating for the button-quail.



Lesser Noddy
(Houtman Abrolhos subspecies)
Anous tenuirostris melanops

Lesser Noddy
Anous melanops

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29. LESSER NODDY

(Houtman Abrolhos subspecies)

In September 1842, the *Ocean Queen* was wrecked on the outer reef of the Houtman Abrolhos islands near Geraldton off the Western Australian coast. Early the next January, a boat sailed from Fremantle to see what it might be possible to salvage. Gould's collector, John Gilbert, was in Western Australia at the time and seized the opportunity to visit the little-known islands.

An experienced field ornithologist, Gilbert was awed by the immense numbers of Lesser Noddies on the Houtman Abrolhos, writing to Gould:

> *I have seen many vast flocks of birds, but I confess I was not at all prepared for the surprise I experienced in witnessing the amazing clouds, literally speaking, of these birds when congregating in the evening while they had their young to feed … From their breeding-place to the other reefs, beyond the smooth water, the distance is four miles; and over this space the numbers constantly passing were in such close array that they formed one continuous and unbroken line. After the young birds were able to accompany their parents, I observed that they all left the breeding or roosting-place in the morning and did not again return until evening, the first-comers apparently awaiting the arrival of the last before finally roosting for the night. It is when thus assembling that their immense numbers strike you with astonishment.*

Gilbert was less impressed with their odorous breeding colonies, which he found only on Pelsaert, and not on any of the other islands. He described the nesting noddies as:

> *truly gregarious, the nests being arranged as closely as possible on the branches of the mangrove, at a height of from four to ten feet above the ground, the sea-weed of which each nest is constructed being merely thrown across the branch, without any regard to form, until it has accumulated to a mass varying from two to four inches in height; in many instances long pieces of sea-weed hang down beneath the branch, giving it the appearance of a much larger structure than the reality; the nests and the branches of the trees are completely whitened with the excrement of the bird, the disagreeable and sickly odour of which is perceptible at a considerable distance.*

Gilbert also commented on the birds' extreme tameness—the very reason for the name 'noddy', which means 'stupid' or 'foolish':

> *while sitting on* [the nest] *or tending its young, it is very easily caught, as it will suffer itself to be taken off the nest rather than quit it. It forms an excellent article of food, and several hundreds were daily killed during our stay on the island.*

Unlike its cousin the Common Noddy, Gilbert observed that the Lesser Noddy was canny enough to build its nest out of reach of the local predator, the King Skink (*Egernia kingii*):

> *As this bird resorts to the upper branches alone, it is secure from the attacks of the lizard, so destructive to the* [Common] *Noddy, the animal not being able to climb the branches with sufficient facility to capture it; and this may doubtless be one of the causes why it is more numerous than any of the many other birds inhabiting the islands.*

Today there are an estimated 100,000 Lesser Noddies nesting on the Houtman Abrolhos. The number of nests fell precipitously from nearly 68,000 in 1999 to only 34,000 in 2006. The colonies have always waxed and waned in size, and it is to be hoped that 2006 was a poor season and the population will bounce back.

But in the 1840s, Gilbert likened the teaming flocks of Lesser Noddies to those of the Passenger Pigeon (*Ectopistes migratorius*):

> *Even those who have witnessed the vast flights of the Passenger Pigeon, so vividly described by Audubon, could hardly avoid expressing surprise at seeing the multitudes of these birds which at sunset move in one dense mass over and around the roosting place, when the noise of the old birds, the quack and the piping whistle of the young ones, are almost deafening.*

By the early twentieth century, the Passenger Pigeon, which needed large flocks to survive, was extinct.

LESSER NODDY (HOUTMAN ABROLHOS SUBSPECIES)

ANOUS TENUIROSTRIS MELANOPS

STATUS

The Houtman Abrolhos subspecies of the Lesser Noddy is ENDANGERED. Globally, the Lesser Noddy is of Least Concern.

NAME

The Houtman Abrolhos subspecies of the Lesser Noddy was named by Gould in 1845. He called it the Lesser Noddy, *Anous melanops.*

The Lesser Noddy is so called because it is smaller than the otherwise similar Common Noddy (*A. stolidus*). 'Noddy' means foolish: noddies were thought to be stupid because they were unafraid of people and easily caught. *Anous* is Greek for 'senseless'; *melanops* is Greek for 'black'.

Today the Houtman Abrolhos subspecies of the Lesser Noddy is known as *Anous tenuirostris melanops. Tenuis* is Latin for 'slender' and *rostris* means 'billed'.

TAXONOMY

There are two subspecies of Lesser Noddy: *Anous tenuirostris tenuirostris* breeds in the Seychelles and *A. t. melanops* breeds on three Houtman Abrolhos islands off Western Australia. One of the subspecies occurs on Ashmore Reef but it is not known which one.

DESCRIPTION

The Lesser Noddy is a small dark tern, 32 centimetres in length, with a partial white eye-ring and a long, slender, straight bill. Its light grey head blends beautifully into its dark body. The sexes are alike and there is no seasonal variation. Juveniles have a whiter cap with a more definite division between head and body colour.

HABITAT

Lesser Noddies are exclusively a bird of the Indian Ocean. The Australian subspecies breeds in White Mangroves (*Avicennia marina)* on three tiny islands in the Houtman Abrolhos group: Pelsaert, Wooded and Morley.

HABITS

The Lesser Noddy is gregarious, always seen in flocks. The birds sometimes rest on beaches during the day and roost together at night in the mangroves. A colony can contain up to 70,000 birds.

The Lesser Noddy mostly remains near its breeding colony all year, even when the colony is deserted. The bird never plunges into the sea for food, but sometimes dives through the waves, perhaps to bathe or to dislodge feather parasites.

Each winter, violent storms force thousands of Lesser Noddies on to the Australian mainland. When the weather has calmed, birds that have survived the storm disperse, leaving hundreds of dead carcasses behind.

VOICE

Lesser Noddies have a soft purring rattle and a loud alarm rattle. The noise from a colony has been described as a 'vast purring chorus'.

DIET

Lesser Noddies eat small fish and squid, taken from the surface of the water on the wing.

BREEDING

Male and female Lesser Noddies share nest building and incubation. Breeding commences with courtship feeding and zigzag flights. The nest is a deep platform of seaweed, leaves and guano. Between late August and early December, a single egg is laid. Incubation takes from 30 to 37 days and fledging takes 40 days. As soon as the chicks can fly, they form crèches on the beach during the day, while their parents forage at sea.

The size of breeding colonies on various islands fluctuates naturally over time. The colony damages the mangroves and the birds move, either to give the trees the chance to recover or perhaps simply to find sheltered sites. Sites protected from strong west-north-westerly winds are more likely to succeed than exposed nests. Fluctuations in fish populations may also influence breeding. For all these reasons, colonies come and go on each island.

THREATS

In the past, Lesser Noddy populations suffered at the hands of guano gatherers and egg collectors. In the future, global warming may destroy the small patches of White Mangroves in which they breed.

For the present, the species' greatest danger is the weather. The total population—estimated at 100,000 mature birds and decreasing—breeds in several colonies, but within a small area in the Houtman Abrolhos, hence it is susceptible to catastrophes, such as cyclones, pollution from oil slicks, or local overfishing.

Fairy Tern
(Australian subspecies)
Sternula nereis nereis

Australian Little Tern
Sternula nereis

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30. FAIRY TERN

(Australian subspecies)

Gould first saw Fairy Terns early in 1839 when he visited the Aboriginal settlement on Flinders Island, where he saw 'the remnants of the inhabitants which once peopled this fine Island', as he wrote to his wife Elizabeth. But new birds were his main interest and, as he recorded in *The Birds of Australia*, there he also observed a:

> *delicately coloured and elegant Little Tern* [that] *inhabits many of the low sandy islands in Bass's Straits … I observed several pairs on the small island opposite the settlement on Flinder's Island, where they appeared to be breeding.*

He learned from his many informants that its range extended from Bass Strait:

> *along the south coast to Western Australia. It would seem, however, to be much more numerous on the western coast, and during the month of December congregates in immense flocks on Rottnest and Garden Islands.*

It was January, the last month of the tern's breeding season, but it seems that he did not confirm that they were breeding. He was informed that the tern 'makes no nest, but lays its two eggs in a depression on the sand or shingle'. He continued:

> *The eggs are two in number, of a pale stone-colour, in some instances marked all over, but more thickly at the larger end, with dark umber-brown; in others very largely blotched with the same colour; they are one inch and three-eighths long by seven eighths broad.*

Gould watched them feeding and noted:

> *Like that of other Terns, the food of this species principally consists of the smaller oceanic fishes, which it captures with apparent ease, plunging down into the water from a considerable height with such unerring aim that it rarely misses the object.*

As in Gould's day, in 2010 the Western Australian populations were the strongest and most stable. However, by the 1990s, the Victorian population was in trouble. Several long-standing colonies had disappeared from Werribee Spit, French Island, Mud Island and Queenscliff, and the colony at Corner Inlet bred successfully just one year in ten. In 1993, there were 108 breeding pairs on French Island in Victoria; in 2005, this had fallen to 21 breeding pairs. In that same decade, Fairy Terns disappeared from Kangaroo Island. Suddenly, Fairy Terns were Vulnerable.

In 2010, the total Australian population was put at somewhere between 3,300 and 5,700 pairs, by far the most of which were in Western Australia. Over the summer of 2009 to 2010, the New South Wales population was judged to be a miniscule 12 to 40 pairs; South Australia had 180 to 300 pairs; Victoria, six to 70 pairs; and Tasmania, 200 to 250 pairs. A few pairs of Fairy Terns can still be found along the east coast of Flinders Island.

FAIRY TERN (AUSTRALIAN SUBSPECIES)

STERNULA NEREIS NEREIS

STATUS

The Australian subspecies of the Fairy Tern is VULNERABLE, as is the species as a whole.

NAME

Gould named the Australian Fairy Tern in 1843 from a specimen collected in Bass Strait. He called it the Little Tern, *Sternula nereis.* In the north of England, terns were so called because they inhabited tarns or lakes. This was Latinised to *sterna* or *sternula. Nereis* is Greek for 'sea nymph'.

TAXONOMY

There are three subspecies of Fairy Tern: *S. n. nereis* which breeds in Australia; *S. n. exsul* in New Caledonia and the Coral Sea; and *S. n. davisae* in New Zealand.

DESCRIPTION

Fairy Terns are small white terns about 23 centimetres in length, with a black cap, orange bill and short, dark-orange legs. In the breeding season the bill becomes more orange and the cap slightly more extensive. Immature birds are greyer on the head and have a dark bill.

HABITAT

Fairy Terns are seen along the coast in sheltered bays, inlets, saltfields, sewage ponds and brackish coastal lakes. They are rarely observed out of sight of land. They are found around the south coast of Australia, from the Montebello Islands—off the Pilbara in Western Australia—to southern New South Wales. There is a gap along the Great Australian Bight, leaving western and eastern populations quite separate. They nest on beaches, islands and rock platforms.

HABITS

Fairy Terns are usually seen in flocks, foraging inshore over sheltered waters. They have a rapid, fluttering flight reminiscent of a fairy. They hover about 6 metres above the water, displaying a forked tail, before plunge diving for fish.

There may be northern movement of Fairy Terns from Tasmania and the south-west in winter. Apparently, South Australian and Victorian birds do not migrate.

VOICE

Fairy Terns have a variety of calls, from harsh nasal calls to fast excited ones. One common call is described as 'crick-crick-crick'. They are very noisy at their breeding colonies.

DIET

Fairy Terns eat small fish, which they catch by plunge diving. They also occasionally take aquatic insects and crustaceans.

BREEDING

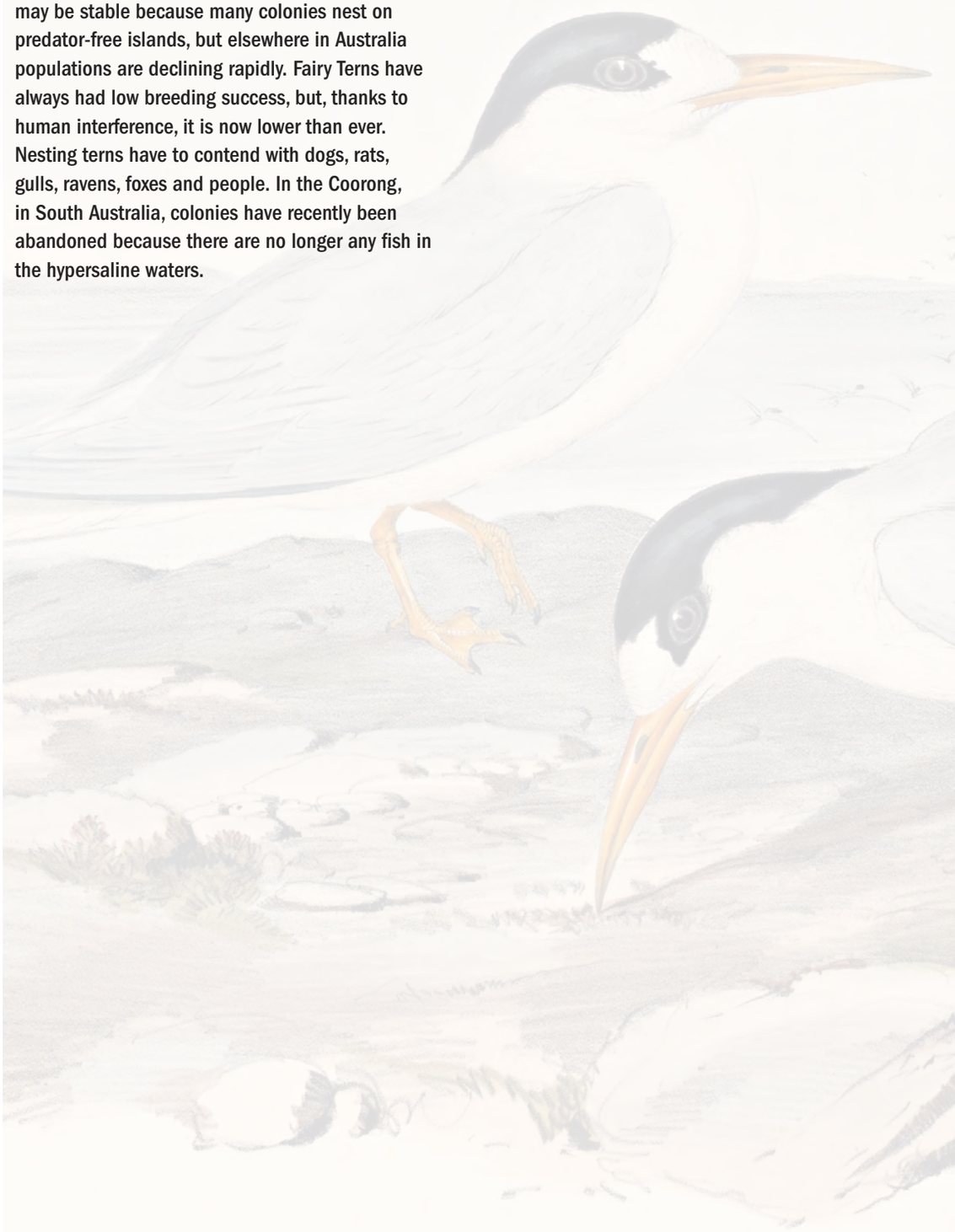
Fairy Terns select nesting sites on sand between the high tide mark and onshore vegetation. They may nest as single pairs or in colonies of about 40 to 50 birds, although there is a larger colony on Flinders Island.

The breeding season extends from September to March. During courtship, the male offers the female fish. She lays one or two eggs in a scrape in the sand. The eggs are beautifully marked with dark spots and blotches, and no two are alike. It is suggested that this helps birds to locate their own eggs among large colonies. Both parents share incubation, which takes about three weeks, and care of the young, for a further three weeks.

THREATS

The population of the Australian subspecies of the Fairy Tern is estimated at 9,000 mature individuals.

The Western Australian population of Fairy Terns may be stable because many colonies nest on predator-free islands, but elsewhere in Australia populations are declining rapidly. Fairy Terns have always had low breeding success, but, thanks to human interference, it is now lower than ever. Nesting terns have to contend with dogs, rats, gulls, ravens, foxes and people. In the Coorong, in South Australia, colonies have recently been abandoned because there are no longer any fish in the hypersaline waters.



Norfolk Island Kaka
Nestor productus

Phillip Island Parrot
Nestor productus

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31. NORFOLK ISLAND KAKA

Captain Cook discovered Norfolk Island—and its tiny neighbours Philip and Nepean islands—in 1774, and was the first European to report seeing a Norfolk Island Kaka. He went ashore on 11 October, then wrote in his log, 'here are the same sort of pigeons, parrots and parakeets as in New Zealand'. Johann Forster, the naturalist on the voyage, had probably pointed this out to Cook, because he made a similar observation. However, Forster's son, the natural history artist Georg Forster, judged the Norfolk Island parrot 'infinitely brighter coloured' than the one in New Zealand.

Gould would have agreed with the younger Forster, for when he named it the Phillip Island Parrot, *Nestor productus* (after determining that the bird survived only on Philip Island), he recognised it as similar to the Kaka (*Nestor meridionalis*) of New Zealand but a new species:

> *I have considerable pleasure in being enabled to add a second and so beautiful species as the present to the genus Nestor … Like its near ally, the* [kaka] *… the N. productus has a very limited habitat, the entire race, as I am credibly informed, being confined to Phillip Island, whose whole circumference is not more than five miles in extent; so strictly in fact is it confined to this isolated spot, that many persons who have resided in Norfolk Island for years, have assured me its occurrence there is never known, although the distance from one island to the other is not more than three or four miles.*

As it turned out, Gould had named the unfortunate parrot for its final refuge. So, in *The Birds of Australia* he lamented:

> *I regret to state, that, in consequence of the settlement of Norfolk Island, the native haunts of this fine bird have been so intruded upon, and such a war of extermination been carried out against it, that if such be not the case already, the time is not too far distant when the species will be completely extirpated, and like the Dodo, its skin and bones become the only mementos of its existence.*

In 1839, unable to travel to the island, Gould had inspected a captive in Sydney. It was a 'contented, cheerful, and an amusing companion' that had the run of the house. Unlike most parrots, that walk with an 'awkward waddling gait', it moved about easily in 'a succession of leaps'. Its owners told him that in the wild it was found in the canopies of lofty trees and on the ground among rocks where it was so tame that it could be caught with a noose. It may well have already been extinct in the wild. The last known Norfolk Island Kaka died in captivity in London some time after 1851.

NORFOLK ISLAND KAKA
NESTOR PRODUCTUS

STATUS

The Norfolk Island Kaka is EXTINCT.

NAME

Gould first described this bird in 1836, calling it the Phillip Island Parrot, *Nestor productus.* In Greek mythology, Nestor was a wise old king of Pylos who was present at the siege of Troy. Thus *Nestor* is a reference to the bird's hoary, grey head. *Productus* is Latin for 'lengthened' or 'protracted', referring to the bird's exceptionally long upper mandible.

TAXONOMY

There are no subspecies of the Norfolk Island Kaka.

DESCRIPTION

The Norfolk Island Kaka was a large, robust parrot with a short tail and wings, and a very long, curved bill. It had a brown back, deep-red rump, belly and undertail coverts and a yellow chest, throat and cheeks. The sexes were similar. Immature birds lacked the yellow and red markings on the breast.

HABITAT

The Norfolk Island Kaka was found in the forests of Norfolk and Philip islands.

HABITS

Nothing is known about the habits of the Norfolk Island Kaka except that it lived some of the time on the ground and must have been sedentary. Presumably, like the New Zealand Kaka, it flew well, lived in pairs and congregated into small flocks, particularly in the non-breeding season and where food was plentiful.

VOICE

The call of the Norfolk Island Kaka was described as a 'hoarse, quacking, inharmonious noise, sometimes resembling the barking of a dog'.

DIET

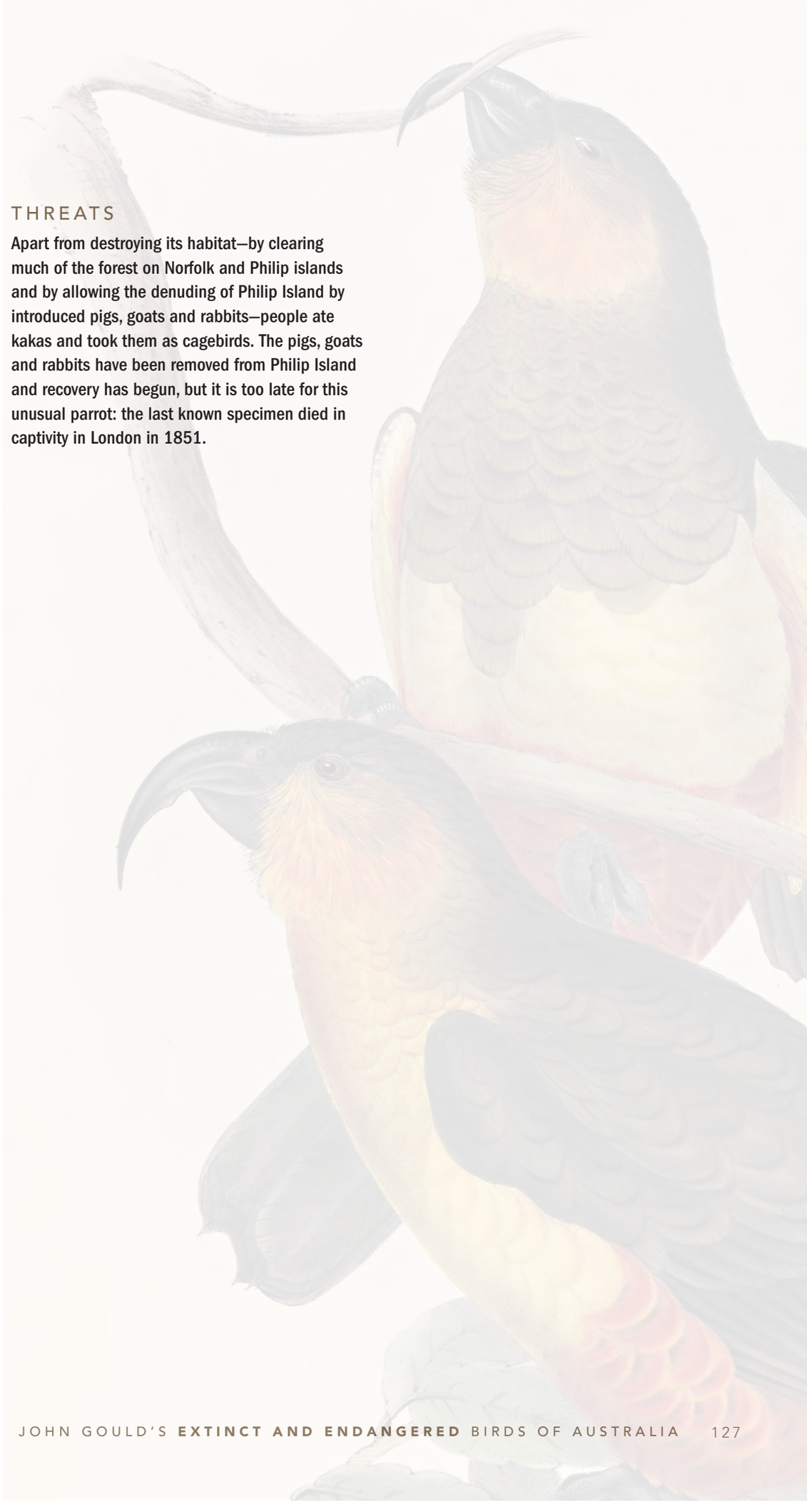
The Norfolk Island Kaka probably foraged at all levels of the forest, eating blossoms, fruit, leaves, seeds and insects.

BREEDING

The bird was said to lay four eggs in the hollow of a tree.

THREATS

Apart from destroying its habitat—by clearing much of the forest on Norfolk and Philip islands and by allowing the denuding of Philip Island by introduced pigs, goats and rabbits—people ate kakas and took them as cagebirds. The pigs, goats and rabbits have been removed from Philip Island and recovery has begun, but it is too late for this unusual parrot: the last known specimen died in captivity in London in 1851.



Palm Cockatoo
(Australian subspecies)
Probosciger aterrimus
macgillivrayi

Great Palm Cockatoo
Microglossus aterrimus

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32.
PALM COCKATOO

Although the Palm Cockatoo had been known from New Guinea since 1788, the Australian subspecies was not discovered until 60 years later, when in 1848 John MacGillivray, naturalist on the survey ship HMS *Rattlesnake*, visited Cape York. In the narrative of the expedition, MacGillivray recorded that he had made 'many additions to the ornithological collections of the voyage … about seven … previously known only as inhabitants of New Guinea and neighbouring islands'. The first among these was:

> *an enormous black parrot … with crimson cheeks … it feeds on the cabbage of various palms, stripping down the sheath at the base of the leaves with its powerful, acutely hooked upper mandible.*

Of all MacGillivray's discoveries, it was the Palm Cockatoo that most excited Gould, who wrote that although the species was 'not new to science', none of the other specimens was 'of greater interest'. He thought that the cockatoo was a 'noble bird' and realised that MacGillivray's findings tied the fauna of Cape York to the islands to Australia's north.

MacGillivray also admired the cockatoo and informed Gould that:

> *this very fine bird, which is not uncommon in the vicinity of Cape York, was usually found in the densest scrub among the tops of the tallest trees, but was occasionally seen in the open forest land perched on the largest of the Eucalypti, apparently resting on its passage from one belt of trees or patch of scrub to another … it is a slow flier, and usually flies but a short distance. In November 1849, the period of our last visit to Cape York, it was always found in pairs, very shy and difficult of approach.*

From his inspection of stomachs, MacGillivray made the observation that gave rise to the Palm Cockatoo's common name:

> *the idea immediately suggests itself, that the powerful bill of this bird is a most fitting instrument for stripping off the leaves near the summits of the Seaforthia elegans and other palms to enable it to arrive at the central tender shoot.*

Gould was not interested in subspecific differences and it took another 60 years before Gregory Mathews realised that the Australian and New Guinean birds were separate subspecies.

The quirky and impressive Palm Cockatoo became sought after for the bird trade, initially for specimen skins and later for live birds and eggs. It was also shot for sport. As early as 1910, its numbers on the tip of Cape York were noticeably declining. Although the bird trade has stopped, a small population and recent declines in numbers nesting at Iron Range qualify the Palm Cockatoo as a threatened species.

PALM COCKATOO (AUSTRALIAN SUBSPECIES)

PROBOSCIGER ATERRIMUS MACGILLIVRAYI

STATUS

The Australian subspecies of the Palm Cockatoo is VULNERABLE. The species as a whole is of Least Concern.

NAME

Johann Friedrich Gmelin described the Palm Cockatoo in 1788, from a specimen collected in New Guinea. He named it *Psittacus aterrimus: Psittacus* is Greek for 'parrot'; *aterrimus* is Latin for 'very black'.

In *The Birds of Australia*, Gould called the cockatoo the Great Palm Cockatoo, *Microglossus aterrimus. Microglossus* means 'small tongue'.

In 1912, Gregory Mathews named the Australian subspecies of the Palm Cockatoo *Solenoglossus aterrimus macgillivrayi*, in honour of John MacGillivray. *Solenoglossus* is an amalgam of the Greek for 'channel' or 'pipe' (*soleno*) and 'tongue' (*glossus*). Today it is known as *Probosciger aterrimus macgillivrayi. Probosciger* is Greek for 'wearing a nose' (*proboscis* means 'nose', while *gero* means 'to carry'), a reference to its enormous bill.

It is called the Palm Cockatoo because of its proclivity to feed in pandanus palms.

TAXONOMY

It is generally accepted that there are four subspecies of Palm Cockatoo: one in Australia and three in New Guinea. However, there is room for argument.

DESCRIPTION

The Palm Cockatoo is a very large black cockatoo, with broad heavy wings and a wingspan of over a metre. Its tail is short and square and completely black, unlike the tails of the other black cockatoos, which are banded. The Palm Cockatoo has a huge grey bill and a long spiky crest. The bare red facial skin turns bright scarlet when the bird is excited, and can be covered by feathers when it is cold or the bird is being coy.

The female is slightly smaller than the male, with a marginally smaller bill. There is no seasonal variation in plumage and juvenile birds have paler facial skin and pale yellow scallops on the breast and under the wings.

HABITAT

The Palm Cockatoo is found in tropical woodland and rainforest on the northern tip of Cape York, and seems to prefer the zone where dense rainforest meets open woodland of eucalypt and melaleuca.

HABITS

Palm Cockatoos roost alone, in pairs or in small groups, in the topmost leafless branches of tall trees on the edge of the rainforest, using the same tree each night. The birds preen before starting their day, rubbing their heads in the powder that flakes from the downy feathers on their rumps and distributing it through their plumage. About an hour after sunrise, they congregate in one tree, calling and displaying until one bird flies off to feed. The others follow and they feed together in pandanus palms until mid-morning when they shelter in the cool of the rainforest.

Pairs occupy permanent territories all year, which they visit most mornings and afternoons. The male Palm Cockatoo performs an extraordinary territorial display. He drums a tree trunk, usually with a piece of wood, although another article may be used, such as a nut. If he chooses a piece of wood, he prepares it by stripping off any leaves and bark and breaking it into a length of up to 35 centimetres. He drums in the early morning and late afternoon throughout the year, but most often during June and July. The noise can be heard 100 metres away.

VOICE

The two-note contact call is a whistle, which sounds like ‘he-llo’, often (but not always) accompanied by a display. All birds may call this way, including juveniles, often one after the other in the same tree. They also make harsh deep screeches.

DIET

Palm Cockatoos eat fruit, berries, seeds and nuts, mostly taken from a tree, where they clamber about looking most acrobatic in the topmost branches, but also from the ground. Their huge bill is capable of cracking extremely hard nuts.

BREEDING

Palm Cockatoos are monogamous and have a very strong pair bond. The nest is in a large vertical tree hollow, usually in the main trunk. It is often in a dead gum tree, which may be up to 45 metres high. It is lined with up to 2 metres of twigs broken into lengths of 4 to 5 centimetres. This is thought to act as a platform keeping the egg out of rainwater at the bottom of the hollow, as nesting almost always extends into the wet season.

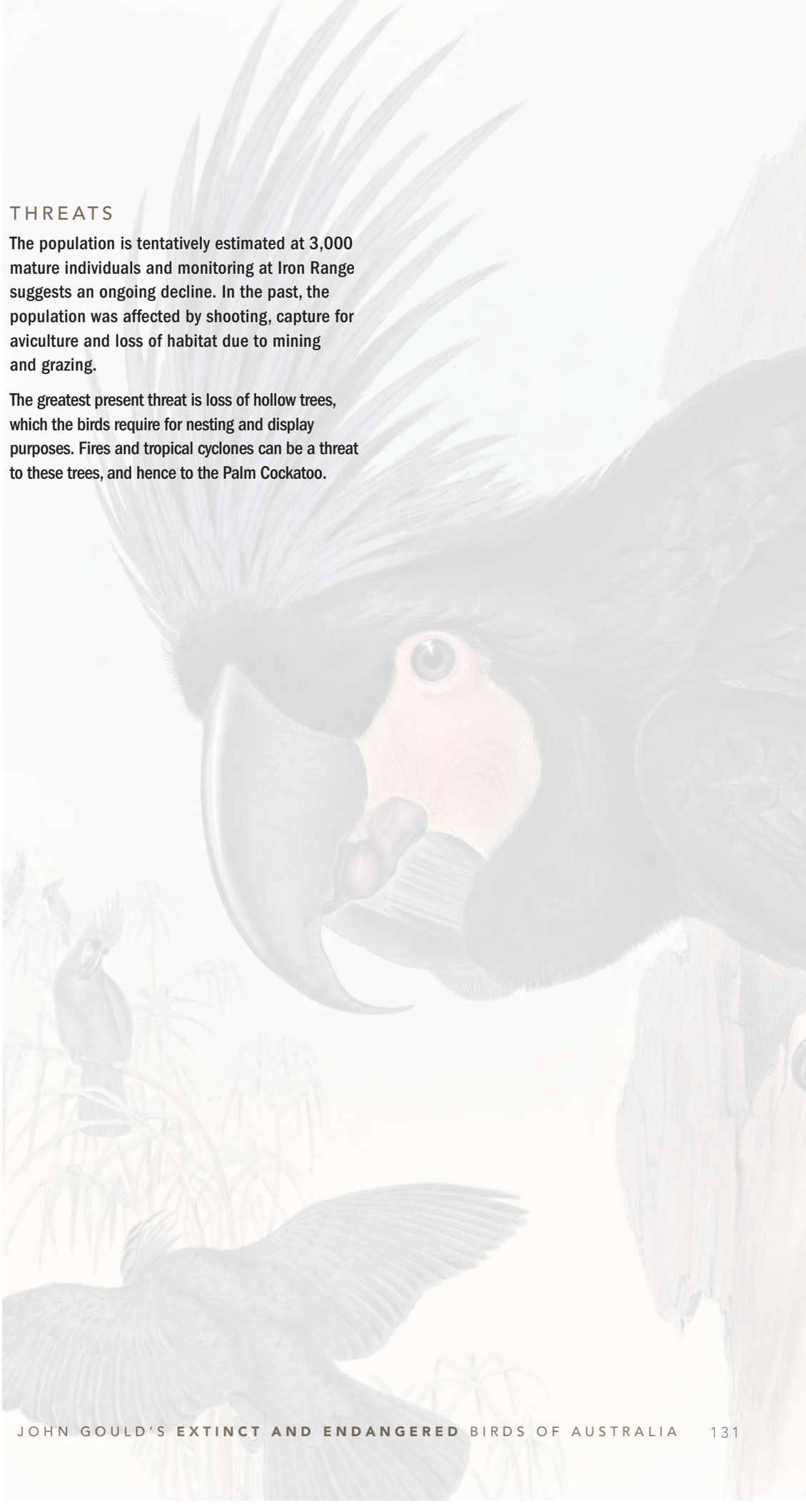
Nesting can occur at any time between July and February. The female lays one white egg.

The young remain in the nest until they are four months old. This is because they are dependent on their parents until the bill has developed sufficiently to crack nuts.

THREATS

The population is tentatively estimated at 3,000 mature individuals and monitoring at Iron Range suggests an ongoing decline. In the past, the population was affected by shooting, capture for aviculture and loss of habitat due to mining and grazing.

The greatest present threat is loss of hollow trees, which the birds require for nesting and display purposes. Fires and tropical cyclones can be a threat to these trees, and hence to the Palm Cockatoo.



Red-tailed Black-Cockatoo (south-western subspecies)
Calyptorhynchus banksii naso

Western Black Cockatoo
Calyptorhynchus naso

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33. RED-TAILED BLACK-COCKATOO

(south-western subspecies)

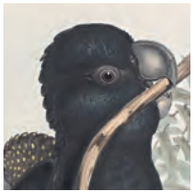
Today five subspecies of Red-tailed Black-Cockatoo are recognised. Gould illustrated three of them, treating them as separate species. In 1837, he named the Western Black Cockatoo (*Calyptorhynchus naso*) based on a specimen collected near Perth. At that time, the bird's range extended from Albany to Perth and north almost to Moora. This subspecies of Red-tailed Black-Cockatoo is no longer found north of Perth.

Gould noted correctly that it resembled the other black-cockatoos but had a smaller and more bulbous bill, a shorter tail and a more rounded crest. He was able to report that:

> *Except in the breeding-season, when it pairs, it may often be observed in companies of from six to fifteen in number … it flies slowly and heavily, and while on the wing utters a very harsh and grating cry, resembling the native name (Kar-rak).*

Collector John Gilbert had even managed to secure some eggs, given to him 'by the son of the colonial chaplain [which] were taken by a native from a hole in a very high white gum, in the last week of October'. Presumably it was Gilbert who told Gould that the cockatoo:

> *breeds in the holes of trees, where it deposits its snow-white eggs on the soft dead wood. They are generally placed in trees so difficult of access that even the natives dislike to climb them.*



RED-TAILED BLACK-COCKATOO (SOUTH-WESTERN SUBSPECIES) *CALYPTORHYNCHUS BANKSII NASO*

STATUS

The south-western subspecies of the Red-tailed Black-Cockatoo is VULNERABLE. The species as a whole is of Least Concern.

NAME

The Red-tailed Black-Cockatoo was named by John Latham in 1790, from a specimen collected at Endeavour River, Queensland. He called it *Psittacus banksii: Psittacus* from the Greek for 'parrot' and *banksii* for Sir Joseph Banks. Today, it is called *Calyptorhynchus banksii*. *Calyptorhynchus* is from the Greek for 'hidden' (*calyptos*) and 'beak' (*rhynchos*), referring to the fact that the lower mandible is covered with feathers.

Gould described the south-western subspecies of the bird in 1836, naming it the Western Black Cockatoo, *Calyptorhynchus naso. Naso* is Latin for 'large-nosed'. It is now recognised as a subspecies of the Red-tailed Black-Cockatoo and has the scientific name of *Calyptorhynchus banskii naso*.

TAXONOMY

In addition to the south-western subspecies, there are four other subspecies of Red-tailed Black-Cockatoo in Australia. The south-eastern subspecies is Endangered; the three northern and central Australian subspecies are of Least Concern.

DESCRIPTION

The Red-tailed is the largest black-cockatoo. The south-western subspecies is among the smallest of the five subspecies but it has a relatively large bulbous bill. The Red-tailed Black-Cockatoo has a large rounded crest. The male is black with bright red patches in his long tail that are conspicuous from a great distance. The female's tail is orange barred with black. She has a yellow scalloped belly and yellow speckled head and shoulders. There is no seasonal variation in plumage. Immature birds are sprinkled with yellow like adult females.

HABITAT

The south-western subspecies of the Red-tailed Black-Cockatoo inhabits tall eucalypt forests and adjacent woodlands south of Perth and east to Albany. It prefers Jarrah (*Eucalyptus marginata*), Karri (*E. diversicolor*) and, particularly, Marri (*E. calophylla*).

HABITS

A big bird, the Red-tailed Black-Cockatoo is noisy and conspicuous and usually very wary. Its flight is buoyant and laboured with deep, slow wing beats. It enjoys bathing—always preening afterwards—and particularly likes chewing. Flocks of south-western Red-tailed Black-Cockatoos are usually fewer than ten birds, and they are often seen in pairs or trios. The cockatoos' movements are poorly known but some seem to be seasonal.

VOICE

All calls are a loud and harsh, far-carrying 'kreee', like a rusty windmill, the male's screech being higher pitched than the female's.

DIET

The south-western Red-tailed Black-Cockatoo eats eucalypt seeds, primarily those of the Marri tree, and drinks at least once a day. It forages in the canopy and on the ground. When feeding, the click of its bill can be heard for some distance.

BREEDING

The south-western Red-tailed Black-Cockatoo is believed to breed between August and October, but may only attempt to breed when the fruit of the Marri is abundant, which occurs about every third year.

The nest hollow must be sufficiently large to comfortably accommodate the bird's long tail. The pair chew the wood around the entrance, making the hole larger as well as providing wood chips to line the nest.

The female incubates the eggs, and the male feeds her during the four weeks this takes. She lays one or two eggs but only raises one chick, which she broods for three weeks. The male continues to feed her and she feeds the yellow downy chick. After she leaves the nest, both parents feed the chick, which fledges after three months. The chick remains dependent on its parents for a further four months.

THREATS

The adult population of the south-western Red-tailed Black-Cockatoo is estimated to number 15,000 but as few as 10 per cent are thought to breed each year and nesting success is often low. More than a third of the bird's former habitat has been cleared for agriculture and large trees have been felled for woodchipping; fires cause old trees to die or fall; and feral honey bees and other cockatoos compete for the scarce remaining nesting holes.

Baudin's Black-Cockatoo
Calyptorhynchus baudinii

Baudin's Cockatoo
Calyptorhynchus baudinii

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34. BAUDIN'S BLACK-COCKATOO

Edward Lear, more famous today for his nonsense verse than for his ornithological knowledge, was also an accomplished artist. At 19, he began work on a book illustrating all the parrots of the world. The London Zoological Society granted him permission to draw the live parrots in its menagerie and he sought others in private collections. In 1832 he published 42 large-format, hand-coloured lithographs under the title *Illustrations of the Family of Psittacidae, or Parrots*. Among the species illustrated are several Australian parrots, some of which had not then been formally described and named. These included *Calyptorhynchus baudinii*, Baudin's Black-Cockatoo, which Lear saw in the aviary of Mr Leadbeater—presumably Benjamin Leadbeater, renowned London taxidermist, ornithologist and trader in natural history specimens.

Lear named the cockatoo in honour of Nicolas Baudin, the commander of the French scientific expedition of 1800 to 1804 to Australia by the corvettes *Le Géographe* and *Le Naturaliste*. During the two-year survey of the coast, Baudin and his naturalists made a huge collection of natural history specimens, but Baudin died on the return voyage. When the expedition called at Albany in 1803, it was February, a little early for wintering flocks of Baudin's Black-Cockatoo to be visiting the Swan Coastal Plain.

Although Lear's artwork was much admired, his book was not a financial success and he abandoned the project. Gould hired him to help his wife, Elizabeth, illustrate *The Birds of Europe* and Lear is credited with teaching her lithography.

Elizabeth went on to illustrate many of the parts of *The Birds of Australia*. After her death in 1841, Gould employed Henry Richter to complete the later plates including that of Baudin's Black-Cockatoo, which, Gould observed, is 'distinguished from all other known members of the group by its small size and by the white markings of its tail-feathers'.

BAUDIN'S BLACK-COCKATOO
CALYPTORHYNCHUS BAUDINII

STATUS

Baudin's Black-Cockatoo is ENDANGERED.

NAME

Baudin's Black-Cockatoo was first named in 1832 by Lear, who called it *Calyptorhynchus baudinii. Clayptorhynchus* is from the Greek for 'hidden' (*calyptos*) and 'beak' (*rhynchos*), referring to the fact that the lower mandible is covered with feathers. *Baudinii* acknowledges French explorer, Nicolas Baudin.

In the past, the bird was sometimes called the Long-billed Black-Cockatoo.

TAXONOMY

Baudin's Black-Cockatoo has no subspecies. Historically, it was often considered to be the same species as Carnaby's or the Short-billed Black-Cockatoo (recently named *C. latirostris*), both birds being called White-tailed Black-Cockatoos (*C. baudinii)*. However, they occupy different habitat and have different bill shapes, calls and feeding behaviours.

DESCRIPTION

Baudin's Black-Cockatoo is a white-tailed black-cockatoo with a wingspan of 1.1 metres. Superficially alike, the sexes have several minor differences. The bare skin around the eye is red in the male and grey in the female. The male's bill is black, the female's horn-coloured. The cheek patch is white in the female, dusky and smaller in the male. The breast feathers on the female have buff edges; this is not noticeable in the male. There is no seasonal variation.

Immature birds resemble the adult female; males start to develop a black bill when they are about a year old.

HABITAT

Baudin's Black-Cockatoo inhabits dense, tall eucalypt forests in south-west Western Australia, particularly forests of Jarrah (*Eucalyptus marginata)*, Karri (*E. diversicolor)* and Marri (*E. calophylla)*. It is restricted to higher rainfall areas between Perth, Albany and Margaret River.

HABITS

Baudin's Black-Cockatoo is usually seen in trios comprising a pair with their dependent young. At the end of the breeding season, the birds congregate in flocks and move to where food is plentiful. They also sometimes form flocks with other black-cockatoos at a rich food source.

VOICE

Baudin's Black-Cockatoos are often heard before they are seen. Their distinctive wailing contact call, 'wy-lah', is made constantly in flight. They also croak and the females also whistle.

DIET

Baudin's Black-Cockatoos feed in flocks of up to 200 birds, usually in a tree, but also on the ground. They feed mainly on eucalypt seeds and insect larvae, but also on flowers and seeds from banksias, dryandras and hakeas. Their favourite food is the seed of the Marri, which they remove using their long upper bill. They also tear off strips of bark to expose wood-boring insect grubs.

In addition, they feed on the introduced wild geranium, *Erodium*, as well as on seeds from apples and pears, which makes them most unpopular with orchardists.

BREEDING

The breeding season of Baudin's Black-Cockatoo is between July and November. They nest in a large hollow, usually very high in a mature eucalypt, particularly in Marri, Karri and Wandoo (*E. wandoo)* and Bullich (*E. megacarpa*) trees.

The male's courtship display involves erecting his crest, fanning his tail, walking towards his mate and bobbing. The female bites off chips of wood from around the entrance to the nest hollow, adding a layer of wood chips to the debris in the bottom of the nest. Females are aggressively territorial around their nest sites, which may explain their sparse dispersal in the forest, and may mean that the species requires a larger area for breeding than thought.

The female may lay two eggs, but only rears one chick. She does all the incubating and is fed by the male during this time. The chick hatches after four weeks and she broods it for a week. It remains in the nest for three months, being fed twice a day by both parents. After the chick leaves the nest, it remains dependent on its parents for several months. It does not breed until it is four years old.

THREATS

Up to 25 per cent of the habitat of Baudin's Black-Cockatoo has been cleared for agriculture. The latest population estimate is 12,500 adults and there is an ongoing population decline because of shooting by orchardists and scarcity of nest hollows.

Double-eyed Fig-Parrot (Coxen's subspecies)
Cyclopsitta diophthalma coxeni

Coxen's Parrakeet
Cyclopsitta coxeni

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35.
DOUBLE-EYED FIG-PARROT

(Coxen's subspecies)

Gould named Coxen's Fig-Parrot *Cyclopsitta coxeni* in 1867, stating that he had named it after Charles 'Coxen, Esq, a Member of the Legislative Assembly of Queensland, who has for many years taken a lively interest in the ornithology of Australia'. What he omitted to say was that Charles Coxen was his brother-in-law.

Two of Elizabeth Gould's brothers, Charles and Stephen, had emigrated to Australia in the 1830s and had sent many specimens to Gould in London, whetting his appetite to visit Australia. Stephen had a property on the Hunter River in New South Wales, where his fortunes fluctuated. Eventually, in 1845, facing financial ruin, he committed suicide. No sooner had he swallowed poison, than a messenger brought news that he'd been granted government maintenance of two guineas a week. It was too late. Charles is remembered in the name of a pretty parrot; Stephen for his tragic tale.

The 'fine specimen of this little Parrakeet … quite new to science' that Gould used to describe Coxen's Fig-Parrot was shot by Eli Waller of Brisbane, following a tip-off from a sawyer who had shot several to bake into a pie. Waller visited the area and obtained several specimens. His letter to Gould explains the reason for the late discovery of the bird. Waller believed its home was 'the large scrubs of that mountainous district about forty or fifty miles north-west of Brisbane, which has been little visited by Europeans'. Also, the parrot was all but impossible to see among the large green leaves of 'lofty fig trees', where its plumage blends in perfectly and:

> *it sits … silent as death; and its presence can only be detected by attentively listening to the falling of the refuse of the wild figs, upon which it seems solely to subsist.*

Gould was pleased with the discovery:

> *I scarcely know of any bird among the recent ornithological discoveries in Australia that is invested with greater interest than the present one, for it not only forms a new species, but also an additional genus to the avifauna of the country.*

At that time, Coxen's Fig-Parrot was found in coastal subtropical rainforest in south-eastern Queensland and north-eastern New South Wales. By 1900, much of this habitat had been cleared for agriculture or destroyed by logging. A century and a half after Gould's description, we know little more about this scarce little parrot.

DOUBLE-EYED FIG-PARROT (COXEN'S SUBSPECIES)

CYCLOPSITTA DIOPHTHALMA COXENI

STATUS

The subspecies of Double-eyed Fig-Parrot known as Coxen's Fig-Parrot is ENDANGERED. The species as a whole is of Least Concern.

NAME

In 1867 Gould named this bird Coxen's Parrakeet, *Cyclopsitta coxeni. Cyclopsitta* is from the Greek: Cyclops is the mythical one-eyed giant, and *psitta* means 'parrot'. Apparently the name 'Cyclops' is invoked because of the bird's large head. *Coxeni* honours Gould's brother-in-law, Charles Coxen.

Today, we know it as Coxen's Fig-Parrot (*Cyclopsitta diophthalma coxeni). Diophthalma* is Greek for 'double-eyed', with the result that the full name strangely marries 'one-eyed' and 'double-eyed'. The name *diophthalma* is explained by a New Guinea subspecies that has a dark mark near its eye, giving it the appearance of having four eyes.

TAXONOMY

There are eight known subspecies of Double-eyed Fig-Parrot, three of which occur in Australia, each quite geographically discrete. Only the most southern subspecies, Coxen's Fig-Parrot, is Endangered. Other subspecies occur in Irian Jaya (in Indonesia), Papua New Guinea and on Aru Island (in Indonesia).

DESCRIPTION

The Double-eyed Fig-Parrot is Australia's smallest parrot. Fig-parrots are very plump, bright-green birds with short tails. They are quite inconspicuous when they feed quietly in the canopy, but noisily draw attention to themselves when they flash through the sky above the rainforest like little black bullets, calling constantly. Each subspecies has a slightly different facial pattern. Coxen's Fig-Parrot has a blue forehead and red ear coverts, the male having slightly more red than the female.

HABITAT

Coxen's Fig-Parrot is found in the coastal rainforests of south-east Queensland and north-east New South Wales, from Maryborough in Queensland to Hastings River in New South Wales, as far inland as the Bunya Mountains. It inhabits lowland subtropical rainforest, forest along rivers and any scrub, woodland or urbanised area that contains fig trees, from sea level up to 900 metres.

HABITS

Fig-parrots are seen in pairs or small groups, although greater numbers can congregate at a large, heavily fruiting fig tree. At night they roost communally, scattering into small groups at dawn.

Fig-parrots are normally wary, but can be approached when they are preoccupied feeding. Their flight is swift and direct with little undulation, darting through and above the forest canopy. They appear to be sedentary with some local movement according to what trees are fruiting.

VOICE

Quiet while feeding, fig-parrots make a call in flight that has been described as a sharp, penetrating 'tseet'. Their alarm call is a shrill rolling screech.

DIET

Fig-parrots eat seeds and fruits of rainforest plants, mainly those of fig trees but also those of other native and exotic plants. They also occasionally eat nectar, berries, lichen and insect larvae. They feed quietly in the canopy of fig trees with pigeons, figbirds and Scaly-breasted Lorikeets (*Trichoglossus chlorolepidotus)*, which mask the presence of the little parrot.

BREEDING

The nest and eggs of Coxen's Fig-Parrot have not been described. It is believed that the birds breed between October and January. Presumably they are like other fig-parrots which excavate a nest hole in the decaying branch of a tree, the only Australian parrots to do so. The female alone chews out the soft wood. Nests are usually very high, typically 10 to 20 metres, in the underside of a dead limb of a tall tree, and are lined with soft wood chips. The female incubates the two rounded white eggs, which are laid 48 hours apart and take 18 days to hatch. Then she broods the young until they are four weeks old, the male bringing her food while she sits. After this time, both parents feed the chicks for another four weeks until they fledge.

THREATS

Coxen's Fig-Parrot has been very rare since at least the 1920s and the most recent population estimate, which is made with low certainty because the bird is so rare and difficult to observe, is a stable 100 mature birds. Widespread clearing of lowland rainforest and logging of rainforest trees occurred around the turn of the twentieth century, fragmenting the fig-parrot's habitat and there have been no sightings of the bird around Brisbane since 1900. Remaining habitat is vulnerable to weed invasion which could further reduce the area of suitable habitat in the future. Furthermore, the large fig trees that the fig-parrots require are decreasing in number.

Swift Parrot
Lathamus discolor

Swift Lorikeet
Lathamus discolor

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36.
SWIFT PARROT

In 1788, George Shaw, an English botanist and zoologist, co-founded the Linnean Society. In the same year, Surgeon-General John White arrived in Australia with the First Fleet and proceeded to study the natural history of the colony. Two years later, he published his *Journal of a Voyage to New South Wales*, featuring several illustrations of Australian birds. One of them was the Swift Parrot, which he called the 'Red-shouldered Parrot'. White's illustration enabled Shaw to name the new species.

Visiting Tasmania in 1838, Gould saw the Swift Parrot in great numbers, 'abundant in all the gum-forests of Tasmania'. He had many opportunities to observe them in Hobart where they were 'very common in the shrubberies and gardens'. There, they could be easily approached as they gorged on nectar from the heavily flowering Blue Gums (*Eucalyptus globulus*) planted as street trees. Gould stated that the birds drank so much nectar that: 'Several of those I shot, upon being held up by the feet, discharged from their mouths a stream of this liquid to the amount of a dessert-spoonful'. Elizabeth illustrated them feeding happily in a Blue Gum bursting with blossoms.

So well known was the Swift Parrot that Gould was able to report that it:

> *is a migratory species, passing the summer and breeding-season only in the more southern parts of the Australian continent and Tasmania, and retiring northward for the remainder of the year.*

The bird breeds only in Tasmania, but a few individuals remain on the mainland for the non-breeding season.

Not only could he describe the plumage of both the male and female but he was also able to note that 'the young at an early age assume the plumage of the adult, after which they undergo no change'. He never knew them 'to alight upon the ground, or elsewhere than among the branches'. Gould observed that, once perched:

> *their plumage so closely assimilates in colour to the leaves of the trees they frequent, and they moreover creep so quietly yet actively from branch to branch, clinging in every possible position, that were it not for their movements and the trembling of the leaves, it would be difficult to perceive them without a minute examination of the tree upon which they have alighted.*

Gould found the birds:

> *breeding about midway between Hobart Town and Brown's River, but was not fortunate enough to obtain their eggs, in consequence of their being laid in holes of the loftiest and most inaccessible trees; they are said to be two in number, and perfectly white.*

Today, the Swift Parrot can still be seen feeding in the streets of Hobart, but its population numbers only about 1,000 pairs and knowledge of its breeding habits remains poor.

SWIFT PARROT
LATHAMUS DISCOLOR

STATUS

The Swift Parrot is ENDANGERED.

NAME

Shaw named the Swift Parrot in 1790 calling it *Psittacus discolor. Psittacus* is Greek for 'parrot'; *discolor* is Latin for 'different coloured'. When ornithologists decided that the Swift Parrot was not appropriately included in the genus *Psittacus*, Shaw's specific name was retained by convention, and a new genus was created in honour of John Latham, the English ornithologist who published the first significant work on Australian birds.

TAXONOMY

There are no subspecies of Swift Parrot and it is the only parrot in the genus *Lathamus*.

DESCRIPTION

The Swift Parrot is a slender green parrot about 25 centimetres in length, with a yellow eye and patches of red in its plumage. Although less obvious, it also has yellow lores and blue on its crown and wings. In flight, the Swift Parrot's whirring wings are audible, and the red patches under the wings are clearly visible. Juvenile birds have a pale wingstripe on the underwing, retained in some adult females.

HABITAT

Being annual migrants, Swift Parrots have two habitats. They spend autumn and winter on the mainland, mainly in the box-ironbark forests inland of the Great Dividing Range, but also east into the coastal forests and west to near Adelaide. In spring and summer they return to Tasmania's dry eucalypt woodlands, where they breed within 8 kilometres of the coast.

HABITS

The Swift Parrot is most often seen in small tight flocks that weave quickly through woodlands at about canopy level. When nectar is plentiful they gather in hundreds and form noisy, crowded roosts. This is one of only two Australian parrots with regular annual migration; the Swift Parrot can travel up to 2,000 kilometres each year—further than any other parrot in the world.

VOICE

Swift Parrots are noisy in flight and when feeding. They do not screech as lorikeets do, but have a mellow piping call. The contact call is described as a repeated soft 'chit'.

DIET

Swift Parrots forage mainly in the canopy and are almost exclusively arboreal, only coming to the ground to drink. Eucalypt nectar is the main item on the menu for Swift Parrots, which in spring and summer comes mostly from Tasmanian Blue Gums (*Eucalyptus globulus)* and Swamp Gums (*E. ovata*). They feed on box-ironbarks when they visit the mainland, always selecting the largest trees that produce the most nectar. When box-ironbark forests are not flowering well, the birds will visit any flowering eucalypt they can find. As they clamber through the gum trees in search of blossoms, they will also eat soft fruits, berries, lerps and honeydew, which, like nectar, are packed full of carbohydrates.

BREEDING

The Swift Parrot breeds in spring and summer when Tasmanian Blue Gums flower. If the trees do not flower well, the parrots do not breed very successfully. On average, these trees flower sufficiently three years out of ten.

Swift Parrots nest in hollows in old gum trees—usually Messmate (*E. obliqua)* or White Peppermint (*E. pulchella)*—away from their feeding sites. They return to the same areas, perhaps to the same nest hollow—but irregularly, depending on what is flowering. Generally, several pairs nest in close proximity. The female alone incubates the eggs for 21 days, being fed by the male during this time. The chicks take seven weeks to fledge.

THREATS

Since European settlement, large areas of both the winter and summer habitats of the Swift Parrot have been destroyed. Seventy per cent of Tasmanian Blue Gum forest has gone, as has 97 per cent of Swamp Gum forest. Over 80 per cent of Victorian box-ironbark forest has been cleared and the situation is similar in New South Wales.

With only 2,000 adults estimated to survive and an ongoing population decline, the main threat to the Swift Parrot is still habitat loss, especially within breeding and drought refuge habitats. In Tasmania the principal causes of habitat loss are forestry operations, including firewood collection. On the mainland, loss of old paddock and roadside forage trees and logging are among the reasons for loss and degradation of habitat. Other threats include increased competition for remaining nectar sources and for nest holes with other nectar feeders and hole nesters. Because of their flight pattern, each year many Swift Parrots, probably mainly inexperienced young birds, are killed by collisions with windows and fences.

Golden-shouldered Parrot
Psephotus chrysopterygius

Golden-backed Parrakeet
Psephotus chrysopterygius

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37. GOLDEN-SHOULDERED PARROT

Most Australian schoolchildren know of the fateful expedition of Burke and Wills. But not everyone knows of the far more impressive journey made by Augustus Charles Gregory in 1855 to 1856. In 16 months, the North Australian Exploring Expedition traversed 3,000 kilometres by sea and 8,000 kilometres by land, including trekking from the Victoria River in the Northern Territory across Queensland to Brisbane. Gregory had with him, as surgeon and assisting naturalist, Joseph Ravenscroft Elsey, who discovered three new birds on the expedition, including the Golden-shouldered Parrot, collected in September 1856 near Normanton in north Queensland. When Elsey returned to London in 1857, he donated 249 bird specimens to the British Museum.

Gould named the Golden-shouldered Parrot *Psephotus chrysopterygius* in 1857, noting that his friend, the botanist Robert Brown, had a drawing of this bird, done by Ferdinand Bauer 40 years previously. Brown was the botanist on Matthew Flinders' Australian voyage in 1801, and Bauer was the botanical artist. Gould states that the drawing was done 'from a specimen procured somewhere on the north coast of Australia, but of which no specimen was preserved at the time'.

Brown evidently took great pleasure in teasing Gould with the illustration:

> *it afforded him … much amusement to exultingly show me this drawing as a bird I could not find, and had not included in my great work on the birds of the country.*

Hence, Gould was ecstatic when Elsey arrived with a pair and an immature bird, not long before Brown's death. What he failed to see was that Bauer's illustration was of another species he did not yet have, the closely related Hooded Parrot!

Gould included the new parrot in the supplement to *The Birds of Australia*. The plate purports to show a pair with 'a reduced figure of the young in the distance'. In fact, it appears to show two adult males and a juvenile female.

GOLDEN-SHOULDERED PARROT *PSEPHOTUS CHRYSOPTERYGIUS*

STATUS

The Golden-shouldered Parrot is ENDANGERED.

NAME

Gould named this bird in 1857, calling it the Golden-shouldered Parrakeet, *Psephotus chrysopterygius*. *Psephotus* is Greek for 'inlaid with pebbles', as in mosaics, apparently a reference to the colourful wing patch; *chrysopterygius* joins the Greek words for 'golden' (*chrysos*) and 'wing' (*pterygos*).

TAXONOMY

The Golden-shouldered Parrot has no subspecies.

DESCRIPTION

The Golden-shouldered Parrot is a long-tailed grass parrot about 26 centimetres in length. The male has a grey-brown back, blue-green belly, red and yellow barred undertail coverts, and a golden forehead and patch on his wing. The female is pale yellow-green with salmon-pink undertail coverts. Immature birds resemble the female.

HABITAT

Golden-shouldered Parrots inhabit open eucalypt and paperbark woodlands and native grasslands of southern and central Cape York, Queensland. They like to forage in areas that have been recently burnt. Their range has contracted significantly since European settlement and the contraction continues. These changes have caused the population to split into two subpopulations: a northern one inhabiting about 1,400 square kilometres and a southern one inhabiting 400 square kilometres.

They nest in termite mounds in savannas dominated by paperbark and Shiny-leaved Box (*Eucalyptus chlorophylla)* trees. After breeding, the birds disperse locally to woodlands comprising Darwin Stringybark (*E. tetrodonta).*

HABITS

Golden-shouldered Parrots are seen in pairs, trios (a pair with an additional male), small family groups or dry-season flocks of up to 30 young birds. When there is an auxiliary male, he feeds with the pair and calls near the nest, but does not involve himself in caring for the young.

Golden-shouldered Parrots feed in the morning on the ground, then spend the heat of the day resting in shady trees, sometimes returning to the same tree each day. In the early evening, they have a drink, approaching water very cautiously through the treetops.

They sometimes feed in association with Black-faced Woodswallows (*Artamus cinereus normani)*. This benefits the parrots, as the woodswallows always have a guard on duty to alert the flock to approaching predators. It is not clear whether or how the woodswallows benefit from the relationship.

VOICE

Golden-shouldered Parrots are silent while feeding on the ground. They call in flight and from the treetops. When disturbed, just before taking flight, they utter a very soft chirrup. Their contact call is musical, described as 'fweep-fweep' or sometimes 'few-weep, few-weep'.

DIET

Golden-shouldered Parrots eat the seeds of grasses and legumes, and supplement this when necessary with leaves, nectar and flowers. In the breeding season, they sometimes chew the bark of bloodwoods. They drink from water collected in leaves, especially pandanus, or in hollows in trees, as well as from pools and farm dams.

BREEDING

Golden-shouldered Parrots raise their young during the dry season when there are plenty of grass seeds to feed them. The cycle commences about March, at the end of the wet season, when the termite mounds they use for nesting holes are still damp enough to excavate.

Males defend their anthills aggressively. Nests never occur closer together than 150 metres, and are more likely a kilometre apart, despite the presence of suitable mounds in between. The female lays four to six round white eggs which she incubates for 19 to 21 days.

Both parents feed the young, the male going into the nest to do this. The young fledge at five weeks and their parents continue to feed them for a further eight weeks.

THREATS

There are estimated to be 2,500 adult Golden-shouldered Parrots and their population appears to be suffering an ongoing decline.

The Golden-shouldered Parrot once occupied a greater area of southern and central Cape York Peninsula than it does today. The species has not been seen near Normanton, where Gould's type specimen was collected, since 1856, and was last reported from near Aurukun in 1913. Breeding subpopulations near Coen, Port Stewart and Bulleringa were last seen in the 1950s and 1960s. Today, the parrot's range is limited to a strip 120 kilometres wide and 225 kilometres long, centred around Musgrave.

The habitat of the parrot has contracted because cattle farmers have altered the traditional fire regimes, stopping hot burns, thus allowing trees to invade grasslands. This and heavy grazing not only decreases the amount of grass seeds available for the parrots to eat, but also benefits the parrot's predators, particularly the Pied Butcherbird (*Cracticus nigrogularis*). Cattle and feral pigs also destroy the termite mounds the parrots need for nesting.

Paradise Parrot
Psephotus pulcherrimus

Beautiful Parrakeet
Psephotus pulcherrimus

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38. PARADISE PARROT

John Gilbert discovered the Paradise Parrot in May 1844 on Queensland's Darling Downs. He described it as 'without exception, the most beautiful of the whole tribe I have ever yet seen in Australia'. He wrote to Gould imploring him to name the parrot in his honour:

> *If you have not already honoured my poor name in your works, I know of no species that would delight me more to see Gilbertii attached to than this beautiful Bird.*

But Gould had already named a whistler after Gilbert, so he replied: 'I am delighted about the new *Platycercus* … As I have lately named a *Pachycephala Gilbertia* (Gilbert's Whistler), I cannot with propriety add your name to this new kind'. Besides, despite much evidence to the contrary, Gould asserted that he was averse to naming species after people: 'You know it is a mode of nomenclature which I very much set my face against and it is only in the most particular instances that I do it'.

Gould rushed to be first to name the new species, only having seen a male. Hence, he illustrated two males when his usual composition was a pair. He named the bird the Beautiful Parrakeet, *Platycercus pulcherrimus*, and described it with much enthusiasm:

> *The graceful form of this new Parrakeet, combined with the extreme brilliancy of its plumage, render it one of the most lovely of the Psittacidae* [parrots] *yet discovered; and in whatever light we regard it, whether as a beautiful ornament to our cabinets, or a desirable addition to our aviaries, it is still an object of no ordinary interest.*

In some ways, it was the kiss of death. The Paradise Parrot was taken to Europe in relatively large numbers and the brilliantly coloured male was much sought after as a stuffed specimen to display in drawing room cabinets and museum collections.

A little over a year after he discovered the beautiful new parrot, in June 1845 Gilbert was speared by Aboriginal people and died. Unfortunately, unknown to Gould, Gilbert's Whistler had already been given a scientific name. Hence, the worthy Gilbert, who did so much for Australian ornithology, was never honoured in the scientific name of a bird. Happily, the thickhead's common name remains 'Gilbert's Whistler' and Gilbert has been honoured in Gilbert's Dunnart (*Sminthopsis gilberti*) and Gilbert's Potoroo (*Potorous gilbertii*). As for his parrot, settlers and their cattle were already beginning to overtake its country by the time Gilbert arrived on the Downs. Less than a century later, the Paradise Parrot was extinct.

PARADISE PARROT
PSEPHOTUS PULCHERRIMUS

STATUS

There has been no confirmed sighting of a Paradise Parrot since 1927. The species is EXTINCT.

NAME

Gould described the Paradise Parrot in 1845, naming it *Platycercus pulcherrimus,* but soon realising it was a *Psephotus. Platycercus* is from the Greek for 'broad or flat-tailed'. *Psephotus* is Greek for 'inlaid with pebbles', as in mosaics, apparently a reference to the colourful wing patches of the five parrots in that genus. *Pulcherrimus* means 'very beautiful'.

TAXONOMY

There were no subspecies of the Paradise Parrot.

DESCRIPTION

The Paradise Parrot was a small, slender, long-tailed parrot about 28 centimetres in length. With his scarlet shoulder patch, forehead and lower belly, bright-green face and neck and turquoise chest and rump, the male must have been a gorgeous sight to behold. The female was duller and smaller than the male. Immature birds were pale imitations of their parents.

HABITAT

The Paradise Parrot frequented open grassy eucalypt woodland along river valleys where there were lots of low round termite mounds, dispersing into nearby woodlands in the non-breeding season. It occurred in central and southern Queensland, near Brisbane, to sites near Duaringa, on the Comet and Nogoa rivers, and west to St George. Records from New South Wales and Cape York do not stand close scrutiny.

HABITS

The Paradise Parrot was usually seen in pairs or small family groups. It fed quietly, mainly on the ground, in the early morning and late afternoon. When disturbed, it uttered an alarm call then flew a little way, landing in trees or on the ground. Its undulating flight was low and swift.

VOICE

The typical call of the Paradise Parrot was said to be a sweet 'kweeek'. Its alarm call was a short, sharp whistle uttered before taking flight. The male also had a musical song which he delivered while wagging his tail.

DIET

The Paradise Parrot fed on the ground on the seeds of native grasses. It is possible that occasionally it also ate other vegetable matter and insects, especially in the non-breeding season.

BREEDING

Most breeding records are from September to December but a few pairs may have nested in autumn. The Paradise Parrot excavated a cavity in a low, round, termite mound, possibly always a mound abandoned by termites. It constructed a narrow tunnel up to 90 centimetres long, leading to a wide nesting chamber, about 20 centimetres high and about twice as wide. The female laid from three to five white rounded eggs. The incubation and fledging periods are unknown but were probably similar to those of the Golden-shouldered Parrot.

THREATS

From the 1840s to the 1880s the parrots were not uncommon but by 1900 they had disappeared from most of their range. A few pairs were located in the 1920s, the last confirmed report dating from 1927. Although many Paradise Parrots were taken into captivity in the nineteenth century, they did not breed successfully. The jewel-like males were coveted as mounted display specimens.

Nevertheless, the main reason for the demise of the parrot appears to have been habitat change caused by overgrazing, particularly during drought. But altered fire and water regimes, invasion by Prickly Pear (*Opuntia* species), removal of termite mounds for tennis courts, ovens, floors and roads, increased predation and overexploitation for the European bird trade probably all played a part.

Orange-bellied Parrot
Neophema chrysogaster

Orange-bellied
Grass Parrakeet
Euphema aurantia

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39. ORANGE-BELLIED PARROT

English naturalist John Latham named the Orange-bellied Parrot in 1790, from a specimen thought to have been collected at Adventure Bay in Tasmania during Captain James Cook's third and last voyage, when his ships stopped there briefly in January 1777 on their way to New Zealand.

During Gould's stay in Tasmania in the summer of 1838 to 1839, he saw Orange-bellied Parrots 'sparingly dispersed in the neighbourhood of Hobart Town and New Norfolk'. But that December, on the small uninhabited Actaeon Island group, just off Tasmania's far south-eastern coast, Gould stated that they were 'almost the only land-bird that enlivens these solitary spots' and that they were in abundance:

> *I frequently flushed small flocks from among the grass, when they almost immediately alighted on the Barilla bushes around me, their sparkling orange bellies forming a striking contrast with the green of the other parts of their plumage and the silvery foliage of the plant upon which they rested.*

Gould based his illustration of the parrot in *The Birds of Australia* on this experience, labelling it 'a male and a female on a branch of the Barilla plant', but in fact it shows two males. Given that December is the breeding season, Gould was most likely viewing feeding flocks of males and perhaps non-breeders. The breeding females would have been in nest holes in eucalypts in the nearby mainland forest. Unaware of this, Gould puzzled about where the parrot might breed on the scrubby islands, surmising that it might lay its eggs in a hole in the ground or among stones on the shore.

The following winter, when Gould visited South Australia, he found the little parrot: 'equally abundant on the flat, marshy grounds bordering the coast, especially between the Port of Adelaide and Holdfast Bay'.

It is many years since the Orange-bellied Parrot has been called 'abundant'. Since early in the twentieth century, its range has contracted and its population has plummeted. In Gould's time it nested along the south-west coast of Tasmania, from Birch's Inlet south to Louisa Plains. Today, it breeds only at Melaleuca in the south-west.

ORANGE-BELLIED PARROT
NEOPHEMA CHRYSOGASTER

STATUS

The Orange-bellied Parrot is CRITICALLY ENDANGERED.

NAME

John Latham named this parrot *Psittacus chrysogaster* in 1790. *Psittacus* is Greek for 'parrot'; *chrysos* is Greek for 'golden' and *gaster* means 'belly'.

When Gould wrote about the bird in 1841, he was unaware of Latham's precedent and called it the Orange-bellied Grass Parrakeet (*Euphema aurantia*). *Euphema* is Greek for 'auspicious'; *aurantia* also refers to its golden belly. Today it is known as the Orange-bellied Parrot, *Neophema chrysogaster. Neophema* precedes Gould's *Euphema* with *neo*, which is Greek for 'new'.

TAXONOMY

The Orange-bellied Parrot has no subspecies.

DESCRIPTION

The Orange-bellied Parrot is a small, robust, green grass parrot, about 21 centimetres in length. The male is emerald green with a yellow chest and a bright orange patch on the lower belly. The female is duller all over, with a smaller, paler, orange mark on her belly. Immature birds are similar to adult females but lack the blue frontal band.

HABITAT

During winter, the Orange-bellied Parrot inhabits Victorian and south-eastern South Australian coastal grasslands, low scrub, beaches and saltmarsh, often on islands or peninsulas. It spends the breeding season in a mosaic of sedgeland plains and eucalypt forest in south-west Tasmania.

HABITS

The Orange-bellied Parrot roosts in dense stands of tea-tree and melaleuca close to feeding grounds. At first light, birds descend to feed before venturing further afield throughout the day. They forage in small flocks throughout their range, with pairs occupying loose territories around nest sites during the breeding season. The adults commence their northern winter migration in late February, and juvenile birds follow in March and April. The migration path is confined to the west coast of Tasmania and includes stopovers on western Bass Strait islands such as Robbins, Hunter and King. The parrot may flock with both Blue-winged Parrots (*N. Chrysostoma)* and Elegant Parrots (*N. Elegans)* during winter months.

VOICE

The flight call of the Orange-bellied Parrot is a metallic buzzing, repeated every few seconds. When disturbed the species emits a loud, buzzing 'zizizizizi' alarm call.

DIET

Orange-bellied Parrots feed on the ground or low in vegetation on the seeds and fruits of grasses, herbs and sedges and on the seeds of salt-tolerant plants. Occasionally they nibble on flowers and growing tips and are known to feed on a range of introduced species such as dandelions, thistles and wireweed, possibly in response to dwindling natural food sources.

BREEDING

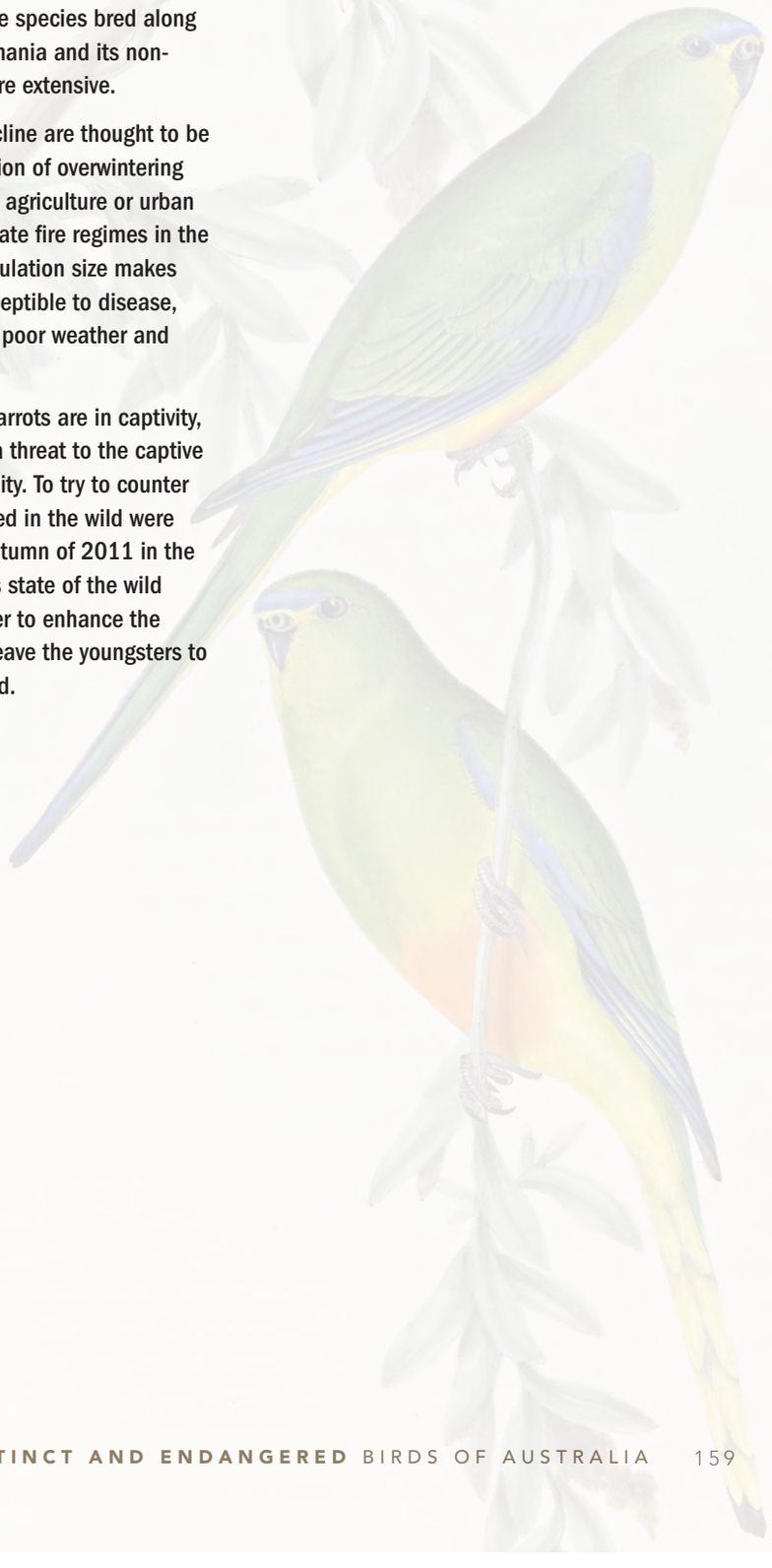
The breeding season of the Orange-bellied Parrot is short: November and December. The parrot nests in the hollow of a tree, usually a live eucalypt, most often Smithton Peppermint (*Eucalyptus nitida)* or Swamp Gum (*E. ovata)*. It lays from four to six white, rounded eggs on a bed of rotten wood. Incubation takes three weeks, a task the female undertakes alone, while being fed by her mate near the nest. She broods the chicks for two weeks, then both parents are kept busy feeding them. Fledging occurs at 30 to 35 days.

THREATS

In 2010, the wild population of Orange-bellied Parrots was only 50 birds. Today, in early 2012, the number has plummeted further to 21. The bird now breeds only at Melaleuca, in south-west Tasmania, and overwinters in coastal mainland Australia, primarily in coastal Victoria and south-eastern South Australia. Formerly, the species bred along the south-west coast of Tasmania and its non-breeding range was also more extensive.

Reasons for the species' decline are thought to be fragmentation and degradation of overwintering habitat by drainage, grazing, agriculture or urban development and inappropriate fire regimes in the breeding range. The low population size makes the species particularly susceptible to disease, windfarm deaths, predation, poor weather and other natural disasters.

About 160 Orange-bellied Parrots are in captivity, but low genetic variation is a threat to the captive population's long-term viability. To try to counter this, 21 of 27 young produced in the wild were taken into captivity in the autumn of 2011 in the belief that, given the parlous state of the wild population, it would be better to enhance the captive population than to leave the youngsters to take their chances in the wild.



Night Parrot
Pezoporus occidentalis

Nocturnal Ground-Parrakeet
Geopsittacus occidentalis

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40. NIGHT PARROT

Gould described the Night Parrot in 1861, giving it the name *occidentalis*, 'western', because his reference specimen was collected in 1854, 13 kilometres south-east of Mount Farmer, near the western end of Lake Austin in Western Australia. He had been in possession of the skin of this 'anomalous parrot' for some time but, given his enthusiasm to be the first to describe new species, he must have had doubts about it to have not yet given it a name. While he was writing up his account for publication, he heard that Ferdinand Mueller, Director of the Melbourne Botanical Gardens, had shipped a live specimen to the London Zoological Society. He was much relieved:

> *On visiting the Society's gardens for the purpose of inspecting it, I found, to my great delight, that it was an example of the bird under consideration, in good health, and in the finest state of plumage … However much I was pleased with the sight of the living bird, I was still more so when I found my views as to some of its habits confirmed by Dr. Mueller's letter … in which he states that the bird is a nocturnal one, living during the day in the rocky caves of the ranges and coming out at night for food.*

As Gould observed, although the bird came from the Gawler Ranges in South Australia, the fauna there was 'very nearly the same' as that of Western Australia. The most substantial information on the Night Parrot comes from the naturalist Frederick W. Andrews, who worked in that area for the South Australian Museum. Andrews was by far the most successful observer and collector of Night Parrots; perhaps three quarters of the two dozen or so specimens in museums were collected by him. He wrote in 1883 that:

> *During the day this bird lies concealed in the inside of a tussock or bunch of porcupine grass the inside being pulled out and a snug retreat formed for its protection. Here, also its rough nest is formed, and four white eggs laid. When the dark shades of evening have fairly set in, it comes out to feed, but generally flies direct to the nearest water, which is often a considerable distance from its nest; in some instances I have known them fly a distance of four or five miles.*

In the Gawler Ranges region, Andrews observed that Night Parrots:

> *come and go according to the nature of the season. When the early season is wet the porcupine grass flourishes and bears large quantities of seed, on which many birds feed; but if, on the contrary, the season is a dry one the grass does not seed, and no birds are to be seen.*

One hundred and thirty years later, Night Parrots are still coming and going and we know little more about these birds despite the most intense efforts to find them.

NIGHT PARROT
PEZOPORUS OCCIDENTALIS

STATUS

The Night Parrot is ENDANGERED.

NAME

Gould named the Night Parrot in 1861, calling it the Nocturnal Ground-Parrakeet, *Geopsittacus occidentalis*. *Geopsittacus* joins the Greek words for 'parrot' (*psittacus*) and 'earth' (*geo*), in reference to its terrestrial habits; *occidentalis* is Latin for 'western', as Gould's first specimen came from Western Australia.

Today it is known as *Pezoporus occidentalis*. *Pezoporus* is Greek for 'going on foot', again referring to the bird's terrestrial habits.

TAXONOMY

The Night Parrot has no subspecies.

DESCRIPTION

The Night Parrot is a dumpy, dull yellowish-green ground-living parrot, yellow below, and mottled with black. It has a short tail and a large head and eyes.

HABITAT

The Night Parrot is a bird of the arid and semi-arid interior. It lives in stony or sandy spinifex grasslands, samphire and saltbush shrublands, and along the edges of creeks, claypans and salt lakes.

HABITS

When flushed from cover, the Night Parrot flies low for about 25 metres before dropping back into cover. It walks and runs through the vegetation. During the day it may roost under a low shrub or in a tunnel made in the sand under a tussock. At dusk it flies out to drink before feeding.

Night Parrots may be sedentary unless conditions force them to move, or they may be nomadic, moving particularly in response to spinifex growth.

VOICE

The main call of the Night Parrot is thought to be a faint whistle, variously described as a sweet low two-note whistle and a loud drawn-out mournful whistle, audible at some distance, similar to the call of the Ground Parrot (*P. wallicus*).

DIET

Not much is known about the diet of the Night Parrot. It is granivorous, eating grass seeds, with an apparent preference for spinifex. It also eats the seeds of salt-tolerant bushes and possibly digs for roots or tubers, as soil has been found in the beaks of some specimens. It is said to visit water several times each night.

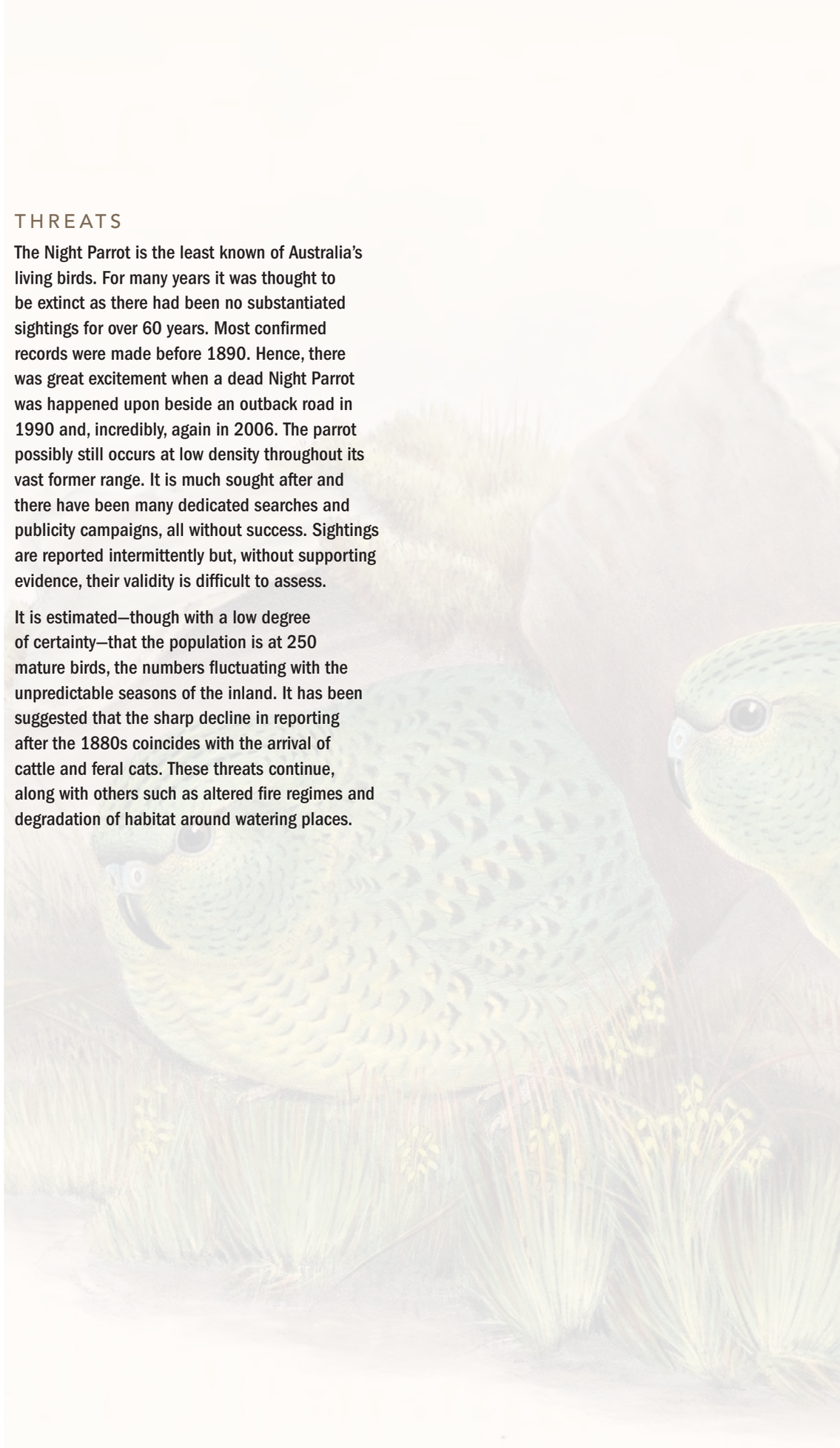
BREEDING

Night Parrots are believed to breed after rain and there are records of breeding in July and August. They nest in a tunnel under a clump of spinifex or samphire, where they construct a platform of small sticks. They lay about four to six rounded white eggs. There is a record of four young birds accompanied by their parents living in the mouth of a cave. Nothing further is known about their breeding habits.

THREATS

The Night Parrot is the least known of Australia's living birds. For many years it was thought to be extinct as there had been no substantiated sightings for over 60 years. Most confirmed records were made before 1890. Hence, there was great excitement when a dead Night Parrot was happened upon beside an outback road in 1990 and, incredibly, again in 2006. The parrot possibly still occurs at low density throughout its vast former range. It is much sought after and there have been many dedicated searches and publicity campaigns, all without success. Sightings are reported intermittently but, without supporting evidence, their validity is difficult to assess.

It is estimated—though with a low degree of certainty—that the population is at 250 mature birds, the numbers fluctuating with the unpredictable seasons of the inland. It has been suggested that the sharp decline in reporting after the 1880s coincides with the arrival of cattle and feral cats. These threats continue, along with others such as altered fire regimes and degradation of habitat around watering places.



Masked Owl
(Tasmanian subspecies)
Tyto novaehollandiae castanops

Chestnut-faced Owl
Strix castanops

nla.aus-f4773-1-s186

41.
MASKED OWL

(Tasmanian subspecies)

Gould was in Tasmania for just a few months in late 1838 and early 1839. He was busy collecting across the island and regretted that the brevity of his stay did not allow a more detailed study of the intriguing Masked Owl:

> *a species distinguished from all the other members of its genus by its great size and powerful form. Probably few of the Raptorial birds, with the exception of the Eagles, are more formidable or more sanguinary in disposition.*

This particularly applied to the female, which Gould observed was 'by far the larger, and in every way more powerful that the male'.

Gould was, however, able to learn something of the owl's lifestyle:

> *Forests of large but thinly scattered trees, skirting plains and open districts, constitute its natural habitat. Strictly nocturnal in its habits, as night approaches it sallies forth from the hollows of the large gum-trees, and flaps slowly and noiselessly over the plains and swamps in search of its prey, which consists of rats and small quadrupeds generally.*

Gould was especially puzzled by the variation in colour, for, while he named the bird the Chestnut-faced Owl, and illustrated a chestnut-plumaged bird, he was aware that there were both pale, whitish-faced birds and tawny birds. He wondered whether the plumage varied with age or season. But he did notice that 'the white variety [was] far less numerous than the other; and so much smaller in size, as almost to induce a belief that they were distinct'. This should have alerted him to the fact that the paler birds were males. The males of the mainland subspecies can be paler still.

MASKED OWL (TASMANIAN SUBSPECIES)
TYTO NOVAEHOLLANDIAE CASTANOPS

STATUS

The Tasmanian subspecies of the Masked Owl is ENDANGERED. The species as a whole is of Least Concern.

NAME

In 1826, James Francis Stephens described the Masked Owl and named it *Strix novae hollandiae. Strix* is Greek for 'owl'; *novaehollandiae* means from New Holland, which was the name given to Australia by the Dutch explorers. In ornithology, it generally refers to New South Wales.

Gould regarded the Tasmanian subspecies of the Masked Owl as a full species, in 1836 naming it the Chestnut-faced Owl, *Strix castanops. Castanops* joins the Greek words for 'chestnut' (*castanon*) with the Greek for 'face' (*ops*). Today it is regarded as a subspecies, *Tyto novaehollandiae castanops. Tyto* is Greek for 'night owl'.

TAXONOMY

There are five subspecies of Masked Owl in Australia. The Tasmanian *(T. n. castanops)* and Tiwi Island *(T. n. melvillensis)* subspecies are Endangered. *T. n. kimberli* of northern mainland Australia is Vulnerable and *T. n. novaehollandiae* of southern mainland Australia is of Least Concern. There are a further four subspecies in Papua New Guinea and adjacent islands.

DESCRIPTION

The Masked Owl is a large owl, with a wingspan of 90 to 120 centimetres. It has a heart-shaped facial disc outlined by a rim of dark feathers. Its legs are fully feathered. It is either a rich chestnut or whitish on the under surface, both forms being mottled chestnut on the upper surface, darker in the darker form. Females are much larger than males—up to twice as heavy—and darker in colour. The Tasmanian Masked Owl is larger than any of the mainland subspecies and tends to be the darkest. In fact it is the largest member of the barn owl family in the world.

HABITAT

In Tasmania the Masked Owl is found in open forests and woodlands and in farmlands with large old trees, across most of the island except the south-west. Occasionally it is found in denser forest and woodland and about the suburbs.

HABITS

Masked Owls roost by day in tree holes, in thick foliage, or in caves or cavities in cliffs. By night, they hunt over woodlands, plains and clearings. They are sedentary and territorial. They have a huge gape and disgorge enormous pellets which contain the indigestible parts of their prey. These pellets litter the floor and give away their roosting place.

VOICE

Masked Owls may call anytime through the night, most often at dusk, but typically they are silent. They are noisier in the months before breeding and do not call while incubating or while they have young in their nests. The best-known call is a loud harsh screech, the female's call being lower in pitch than the male's.

DIET

Masked Owls hunt mainly from a low perch, descending to take prey from the ground. Today, the main prey in agricultural areas is rabbits, rats and mice and, in more natural bush, the diet consists of marsupials, birds and insects. Masked Owls have been recorded taking bandicoots, sugar gliders, ringtail possums, bats, birds, beetles, moths and domestic poultry. Females, being larger and stronger, take larger prey.

BREEDING

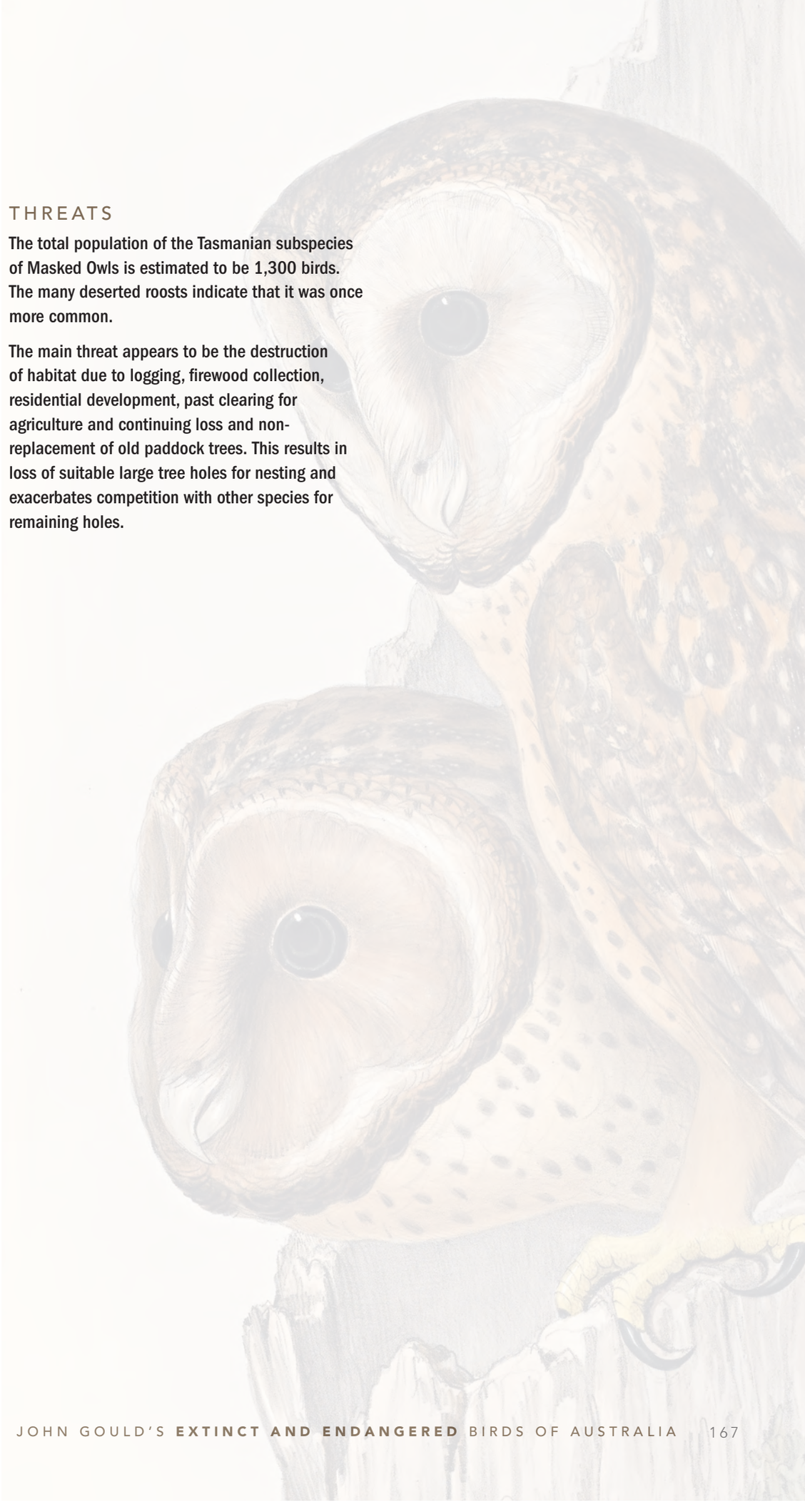
The Tasmanian subspecies of the Masked Owl nests in large hollows in old gum trees, most often in White Gums (*Eucalyptus viminalis*, also known as Manna Gums) that are over 150 years old. Nests are rarely less than 1.5 kilometres apart. The owl will nest at any time of year as long as food is abundant, most often in the autumn and winter.

The female lays two white oval eggs and incubates them for 35 days. During this time the male brings food to her. The chicks, initially covered in snow white down, look like enormous powder puffs until they fledge after about 12 weeks. They are fed by their parents for another month after that.

THREATS

The total population of the Tasmanian subspecies of Masked Owls is estimated to be 1,300 birds. The many deserted roosts indicate that it was once more common.

The main threat appears to be the destruction of habitat due to logging, firewood collection, residential development, past clearing for agriculture and continuing loss and non-replacement of old paddock trees. This results in loss of suitable large tree holes for nesting and exacerbates competition with other species for remaining holes.



Rufous Scrub-bird
(northern subspecies)
Atrichornis rufescens rufescens

Rufescent Scrub-bird
Atrichia rufescens

nla.aus-f4773-8-s62

42. RUFOUS SCRUB-BIRD

(northern subspecies)

In 1865, James Wilcox and John MacGillivray discovered a new bird on the Richmond River in New South Wales and managed to shoot two males. In December 1865, MacGillivray reported the discovery to Edward Pierson Ramsay, an ornithologist and newly qualified doctor, and enclosed one of the specimens. He told Ramsay that he and Wilcox had been:

> *drawn to the note of a bird I had never before heard, and I at once knew would prove a prize, should I be fortunate to procure it. The scrub being too thick to admit of my standing upright, I followed the sound on my hands and knees until it appeared to be almost at the muzzle of my gun.*

MacGillivray could not see the songster and lay there for half an hour, transfixed by the remarkable sound:

> *I was almost inclined to think some evil spirit was playing me a trick; for at one moment the bird would give out what seemed to be its own notes, apparently just in front of me, and the next minute mimic those of the Spine-tailed Orthonyx* [Logrunner] *in another direction; then the Scrub-Robin's notes would be imitated in some other place; sometimes its voice seemed to come from the ground, and at others from the trees above me.*

To be sure that he was the first to publish information about the new bird, Ramsay wrote to the local paper. The article appeared in the *Grafton Examiner* in June 1866—hardly an orthodox method of notifying a scientific discovery. He also notified Gould, to whom he might normally have sent such specimens. 'It is with great reluctance,' he explained, 'that I have described and named the bird myself.' He went on:

> *I would much rather have forwarded it to some one better able to do it justice. But the fact that a rival here will have received the other specimen, and I have no doubt will have forwarded it to Paris within a month after you receive this, of course left me no choice, unless we wish to see a figure of it in some foreign magazine of nat. hist.*

Ramsay went in search of the intriguing new bird along the Richmond and Clarence rivers. On the North Richmond River, he shot a dozen males, now known to be the main vocalists, but no females. Ramsay reported back to Gould, complaining, 'they are always among the logs and fallen trees overgrown with weeds, vines, nettles, &c., and are the most tiresome birds to procure imaginable'. The song was another matter: 'As to their ventriloqual powers, *they must be heard to be believed*'.

RUFOUS SCRUB-BIRD (NORTHERN SUBSPECIES)

ATRICHORNIS RUFESCENS RUFESCENS

STATUS

The northern subspecies of the Rufous Scrub-bird is ENDANGERED, as is the species as a whole.

NAME

Edard Pierson Ramsay named the Rufous Scrub-bird *Atrichia rufescens* in 1866. *Atrichia* is from the Greek for 'without hair' (referring to the lack of bristles around the beak); *rufescens* is Latin for 'reddish'. Evidently Ramsay was unaware that *Atrichia*, the generic name Gould had coined in 1844 for the Noisy Scrub-bird (*Atrichia clamosa*), had been changed by Leonhard Stejneger in 1885 because it was already in use for a genus of insects. Stejneger added the Greek word for 'bird' (*ornis*) to form *Atrichornis.*

Today the Rufous Scrub-bird is known as *Atrichornis rufescens.*

TAXONOMY

There are two subspecies of the Rufous Scrub-bird, both Endangered. The northern subspecies (*A. rufescens rufescens)* is found in far south-east Queensland and the southern subspecies (*A. r. ferrieri)* is found in far north-east New South Wales, centred on the Dorrigo Plateau, Hastings Range and Barrington Tops.

DESCRIPTION

The Rufous Scrub-bird is a small, dark rufous-brown bird, 19 centimetres long, with short, rounded wings and a long, broad tail, which is often cocked. It has large brown eyes and relatively long, powerful legs.

HABITAT

The northern subspecies of the Rufous Scrub-bird lives in high-rainfall mountain rainforest and eucalypt forest in far south-east Queensland and far north-east New South Wales. There are four subpopulations, centred on the Border Ranges, the Gibraltar Ranges, the northern part of the McPherson Range and the Main Range. The scrub-bird requires dense undergrowth a metre high, a moist microclimate and deep, moist leaf litter covering at least 80 per cent of the ground. Formerly it occurred in lowland habitat but that has now been cleared.

HABITS

The Rufous Scrub-bird is highly elusive, prefers to run through the undergrowth rather than fly, and is often described as 'mouse-like'. It forages on the ground, scratching among the deep leaf litter. It is secretive and difficult to see and, if seen at all, is usually seen alone. Its presence is usually revealed by the loud song of the male, which can carry for 400 metres through the dense foliage. The bird can be quite close, singing loudly in the dense undergrowth without being seen. Each male has a singing territory, where he selects a vantage point and sings loudly and powerfully, head back, chest puffed up and tail cocked. The singing territory is just over a hectare, usually long and narrow. Each female has her own territory which overlaps with the male's.

VOICE

The male Rufous Scrub-bird is a great ventriloquist and often tricks listeners into believing he is much closer than he is. His repertoire is large and includes mimicry. The female sometimes joins in a duet with the male—her song is softer and more complex.

DIET

The Rufous Scrub-bird forages in the leaf litter or on fallen logs. It lifts leaves with its head and scratches the ground with its powerful feet in search of small invertebrates, snails and insects.

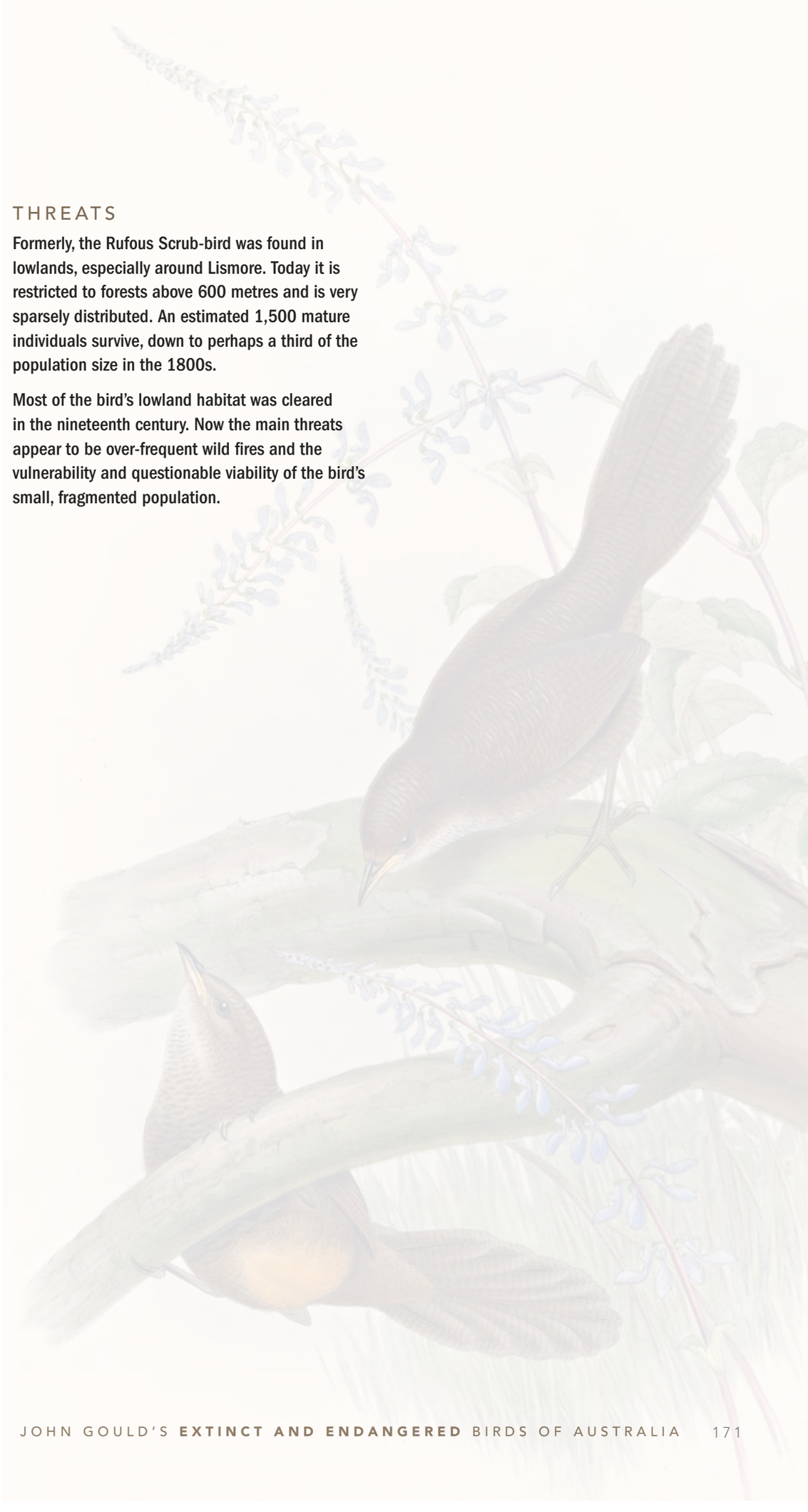
BREEDING

Because of its cryptic habits and dense habitat, the breeding behaviour of the Rufous Scub-bird is poorly understood. Breeding occurs between September and December. The male is believed to be polygamous, but this is by no means certain. The female alone builds the grass dome-shaped nest with a side entrance and lines it with chewed wood pulp, which dries into a firm cardboard. She lays two sparsely spotted, pale-pink eggs and incubates them by herself for 37 days. The chicks fledge after three or four weeks and she feeds them for at least another three weeks. The male does not seem to assist with incubation or care of the young.

THREATS

Formerly, the Rufous Scrub-bird was found in lowlands, especially around Lismore. Today it is restricted to forests above 600 metres and is very sparsely distributed. An estimated 1,500 mature individuals survive, down to perhaps a third of the population size in the 1800s.

Most of the bird's lowland habitat was cleared in the nineteenth century. Now the main threats appear to be over-frequent wild fires and the vulnerability and questionable viability of the bird's small, fragmented population.



Noisy Scrub-bird
Atrichornis clamosus

Noisy Brush-bird
Atrichia clamosa

nla.aus-f4773-3-s75

43. NOISY SCRUB-BIRD

John Gilbert discovered the Noisy Scrub-bird on 3 November 1842. Attracted by its call, he eventually found it among the dense scrub at Drakesbrook in south-western Western Australia. It took him many days of patient watching before he managed to collect specimens for Gould. It was a rare bird even then, with small isolated populations. The following January, Gilbert sent a package of specimens to Gould with a covering letter. Of the Noisy Scrub-bird, he wrote:

> *this is without exception the loudest of the Western Australian songsters I have yet heard. It inhabits the densest and rankest vegetation, on the sides of hills and thick swamp grass on the banks of small running streams or swamps, and is of all birds, the most difficult I have yet had to procure … as it runs with the utmost rapidity on the ground sheltered from view by the over-hanging vegetation, which renders it almost impossible to get a shot at.*

Gould replied, expressing great interest in the Noisy Scrub-bird and stating: 'Few of the novelties received from Australia more interested me'. But he did not pay proper attention to Gilbert's remarks. He illustrated the ground-dwelling species perched on a branch.

Gilbert shot four birds, but only two made 'tolerable specimens'. In his efforts to see the calling birds he had to creep so close that he 'almost blew them to pieces'. The four, all males, were collected between Perth and Augusta.

In the nineteenth century, the Noisy Scrub-bird was detected at three main areas: near Waroona, in the Augusta–Margaret River area, and in the Albany area. After 1889 there were no confirmed records, and the species was believed extinct.

Then, in 1961, a small population of fewer than 100 individuals was discovered at Mount Gardner, east of Albany. A planned residential development was quashed and Two Peoples Bay Nature Reserve was created to protect the birds. Since then natural recolonisation and active translocations have returned the scrub-bird to a handful of locations between Two Peoples Bay and Cheyne Beach.

The scrub-bird depends on long unburnt habitat. For extra security from bushfires, wild Noisy Scrub-birds were also translocated to Bald Island, where they have established a population. This proved wise. Between 2000 and 2004, intense fires destroyed over half of the bird's mainland habitat, and reduced the number of singing males from over 700 in 2001 to fewer than 300 in 2005. Again the population has begun to recover.

NOISY SCRUB-BIRD
ATRICHORNIS CLAMOSUS

STATUS

Believed extinct until 1961, the Noisy Scrub-bird is ENDANGERED. Conservation efforts were so successful that the classification was downgraded to Vulnerable in 2000. However, bushfires have since destroyed birds and habitat and the declining population once again warrants the higher classification.

NAME

In 1844, Gould described the Noisy Scrub-bird and named it the Noisy Brush-bird, *Atrichia clamosa. Atrichia* is from the Greek for 'without hair' (*atrichos*), referring to the lack of bristles around the beak, which Gould thought noteworthy in a bird apparently so closely related to the bristlebirds. *Clamosa* is from the Latin for 'noisy' (*clamosus*).

In 1855, Leonhard Stejneger realised that a genus of insects was already called *atrichia*, and added the Greek word for 'bird' (*ornis*) to give the genus a unique appellation, *Atrichornis*.

TAXONOMY

The Noisy Scrub-bird has no subspecies.

DESCRIPTION

The Noisy Scrub-bird is a small brown ground bird, about 21 centimetres in length. Its short wings allow only feeble flight, but it has strong legs and feet. Both sexes often cock their tail.

When he calls, the male points his bill upwards, displaying his throat, which has a black mark with white streaks on either side. He also lifts his tail high to show his bright rufous undertail coverts. The female lacks these colourful markings and is much smaller and shyer than the male. Immature birds are similar in colour to adult females.

HABITAT

The Noisy Scrub-bird lives in dense undergrowth in wet gullies along a short section of the south-west coast of Western Australia. It inhabits vegetation with a dense understorey and shrub layer, with clumps of sedge for nesting and deep leaf litter that harbours lots of invertebrates for feeding. In the past, it inhabited the boundary between swamps and tall eucalypt forest.

HABITS

The solitary Noisy Scrub-bird is seldom seen and more easily heard. It scurries through the undergrowth on the ground, rather than flying. Males are very territorial and sing to announce their claim to that territory. Females occupy a small area on the edge of the male's territory and never venture further into his domain.

The scrub-bird is sedentary. It will cross roads, but will not traverse large open areas, such as cleared paddocks.

VOICE

Like the call of the Rufous Scrub-bird, the male Noisy Scrub-bird's call is painfully loud. His territorial song carries for 1.5 kilometres. He appears to be ventriloquial, probably because he varies the loudness of the song. Its song includes loud piercing whistles, traces of mimicry and sometimes ends in a rifle crack.

The male has six calls: a territorial song, a short song, a three-note call and three single-note calls. His three-note call is described as 'zip da dee' and is often repeated. The female is generally silent, occasionally giving a single-note call or perhaps a three-note call and, very rarely, a short song.

DIET

The Noisy Scrub-bird sifts through litter—scratching with its strong legs and lifting litter with its bill—and searches on fallen logs for large insects, such as crickets and cockroaches, and other soft invertebrates.

BREEDING

The breeding season is from May to October. The female is left to raise the young by herself, which suggests that the male might be polygamous. However, there is no evidence for this and only one female and one active nest is associated with each male's territory.

The female builds a large domed nest in a clump of sedge which is very difficult to locate. It is made of leaves, grass and rushes, and has a side entrance. Rotting rushes make a lining like cardboard and the floor is referred to as 'plaster'. The female lays a single egg, which she alone incubates. Incubation takes 36 to 38 days and the young fledge after three or four weeks. The female continues to feed the young for at least a further three weeks after fledging.

THREATS

The total population of the Noisy Scrub-bird is estimated as 950 mature birds and is thought to be decreasing. Extensive high intensity bushfire is the major threat, as the scrub-bird depends on long unburnt habitat and has limited ability to disperse. Fire management and a series of translocations have increased the bird's chances of survival.

Purple-crowned Fairy-wren (western subspecies)
Malurus coronatus coronatus

Crowned Wren
Malurus coronatus

nla.aus-f4773-8-s50

44. PURPLE-CROWNED FAIRY-WREN

(western subspecies)

The Purple-crowned Fairy-wren is one of three new birds that surgeon Joseph R. Elsey discovered when he was on Augustus Charles Gregory's North Australian Exploring Expedition. (The others were the Golden-shouldered Parrot and the Buff-sided Robin). Elsey found the Purple-crowned Fairy-wren near Timber Creek on the Victoria River in northern Australia. He died from an illness less than a year after the expedition, at only 23 years of age.

Elsey sent all three birds to Gould in London, who named them all, including this fairy-wren in 1858. In *The Birds of Australia* Gould pays tribute to Elsey's skills but, curiously, neglected to include information that Elsey sent to him in a letter from Victoria River, where he collected a pair:

> *There is another beautiful Wren … it has a beautiful purple top to the head, with oval spot of glossy black in the centre, and black zone outside it; the body is greyish-brown; the tail is long, of a blue tint, and having a sort of water-mark, if I may so call it, on the surface, which gives various shades to the colour. There is also another Wren of the same size and form and with a similar tail, but with a plain grey head and a chestnut spot over the ear-coverts. This is a female.*

Elsey also described the nest and fresh eggs as 'a dome-shaped nest of grass, in a low bush or tuft of grass' in which the bird laid 'about February and March four white eggs, quite translucent: the yolk shining through gives them a rose tint'.

Gould was clearly delighted with the beauty of the bird he called the Crowned Superb Warbler in his 1865 *Handbook*:

> *Charming as are many of the smaller Australian birds, I think the present species is entitled to the palm for elegance and beauty, not only among the members of its own genus, numerous and beautiful as they really are, but among any other groups of birds yet discovered; the charm too is enhanced by the great novelty in the style of its colouring; for in how few birds do we find the lovely lilac tint which encircles and adorns the head of this bird!*

PURPLE-CROWNED FAIRY-WREN (WESTERN SUBSPECIES)

MALURUS CORONATUS CORONATUS

STATUS

The western subspecies of the Purple-crowned Fairy-wren is ENDANGERED. The species is of Least Concern.

NAME

Gould described this bird in 1858, naming it the Crowned Wren, *Malurus coronatus. Malurus* is from the Greek for 'soft' (*malacos*) and 'tail' (*oura*), which refers to the soft tail feathers; *coronatus* is Latin for 'crowned', a reference to the male's purple crown.

TAXONOMY

There are two subspecies of the Purple-crowned Fairy-wren. *Malurus coronatus coronatus* in the west and *M. c. macgillivrayi*, west of Cape York but east of Arnhem Land, which is Near Threatened.

DESCRIPTION

The size of a sparrow, the Purple-crowned Fairy-wren is the largest and most robust of all the fairy-wrens. It is about 15 centimetres in length, which is mostly tail. It is warm brown on the back and white beneath, with a long, dark upright tail. The male does not retain his lilac crown all year round but dons it for the breeding season. The female has large chestnut ear coverts. She is easily confused with a non-breeding male, although his ear coverts are not such a bright chestnut and his crown is greyer. Juvenile birds resemble the adult female and non-breeding male but have noticeably longer tails.

HABITAT

The habitat of the Purple-crowned Fairy-wren is restricted to between 5 and 10 metres each side of permanent rivers, in the far north of the continent, between latitudes 14° and 19° South. It inhabits pandanus, canegrass, mangroves and any dense vegetation that gives good protection from predators. Its preferred habitat is well-developed mid-storey shrubs under a dense canopy of eucalyptus and melaleuca trees. Along the Victoria River, however, it is usually associated with areas of dense river grass.

HABITS

Purple-crowned Fairy-wrens live in pairs or family groups, often seen high in trees. Pairs or groups occupy a territory of about 200 to 300 metres along a river and defend it all year round. They forage through all levels of the vegetation and on the ground, hopping from point to point. Their flight is low and direct, with rapid wing beats. Little is known about their behaviour during the wet season (December to March).

VOICE

The main call of the Purple-crowned Fairy-wren is a succession of high-pitched shrill notes, 'cheepa, cheepa, cheepa', which may be performed by a pair as a duet. The contact call is a short 'drrt'.

DIET

Purple-crowned Fairy-wrens forage in the shade in the early morning and late afternoon, either on the ground or low in vegetation. They eat insects, mainly beetles and ants, and take flying insects on the wing. In wet years, they eat more beetles and, in dry years, more ants. They also eat a few small seeds.

BREEDING

The Purple-crowned Fairy-wren can breed several times a year, usually from August to January and from April to May. It is territorial and breeds in pairs or as a pair with one to five adult helpers, often the young from previous years. The alpha female constructs the nest alone, often in the crown of a pandanus in water, facing the water. The nest is a dome made of paperbark, pandanus leaves and grasses, and lined with fine rootlets and grass. It has a side entrance and a large entrance platform.

The female lays three white eggs speckled with brown at their larger ends. She incubates them for 14 days. The young fledge at ten days, but they can hardly fly and remain in dense vegetation for another week. The group feeds them for about another three weeks. They remain in the home territory for at least a year.

THREATS

The population size of the western Purple-crowned Fairy-wren is estimated to be 7,300 and decreasing because the fairy-wren's riverside habitat is contracting and deteriorating in quality. Livestock and feral herbivores eat and trample the vegetation, and more frequent and/or more intense fires, as well as weed invasion, can make habitat unsuitable and increase the risk of predation. Removal of livestock results in an increased density of fairy-wrens, but there is some evidence that the fairy-wren's dispersal ability is poor, so that in areas where they have become locally extinct, restored habitat may not be recolonised.

Eastern Bristlebird
Dasyornis brachypterus

Bristle-bird
Dasyornis australis

nla.aus-f4773-3-s71

45. EASTERN BRISTLEBIRD

John Latham, the leading ornithologist of the time, named the Eastern Bristlebird *Dasyornis australis* in 1802, two years before Gould was born. Latham based his description on a painting, part of a collection of natural history illustration probably taken back to London by John White, surgeon on the First Fleet. The artist is unknown but may have been convicted forger Thomas Watling who was assigned to White in Port Jackson. It is annotated: 'This is a ground Bird with very small wings and of very short flight'.

Gould would have agreed. He must have observed the bristlebird himself, presumably when he was in the Illawarra region, just south of Sydney, in 1839, because he wrote that:

> *Its powers of flight are very limited, but it threads the thickets and runs over the ground with the greatest facility … I had no opportunity of ascertaining whether or not it is migratory; but my own impression is that it is stationary, since its powers of flight are inadequate to enable it to pass over much extent of country, and the thick brushes near the coast afford it ample shelter in winter.*

Noting that the bristlebird 'inhabits reed-beds and thickets, particularly such as are overgrown with creepers and rank vegetation', Gould stated that he believed that it was found wherever habitat was suitable throughout New South Wales, which at that time included Queensland. The fact that not many people had seen it, 'even of those who have been long resident in the colony', Gould put down to the 'recluse nature of its disposition'.

No one knows the size of the population of Eastern Bristlebirds in Gould's day. However, both its population and geographical range have decreased alarmingly. The historical range of the southern population was from Myall Lakes, about 250 kilometres north of Sydney, to west Gippsland. Now it extends patchily from Barren Grounds, 120 kilometres south of Sydney, to east Gippsland. With only 50 or fewer mature birds estimated to survive in small pockets at the Conondale Range and in and around Lamington and Border Ranges national parks in Queensland, the northern population seems unlikely to persist.

EASTERN BRISTLEBIRD
DASYORNIS BRACHYPTERUS

STATUS

The Eastern Bristlebird is ENDANGERED.

NAME

John Latham described the Eastern Bristlebird in 1802, calling it *Turdus brachypterus*. *Turdus* is Latin for 'thrush'; *brachypterus* joins the Greek for 'short' (*brachys*) and 'wing' (*pteron*). Gould called it the Bristle-bird, *Dasyornis australis. Dasyornis* joins the Greek for 'hairy' (*dasys*) and 'bird' (*ornis*); *australis* is Latin for 'southern'.

TAXONOMY

Currently, two subspecies of the Eastern Bristlebird are recognised, now widely separated geographically. The southern subspecies, *D. b. brachypterus*, of eastern Victoria and southern and central coastal New South Wales, is Endangered. The northern subspecies, *T. b. monoides,* of coastal and subcoastal north-eastern New South Wales and south-eastern Queensland, east of the Great Dividing Range between the Dorrigo Plateau and the Conondale Range, is Critically Endangered.

DESCRIPTION

The Eastern Bristlebird has short, rounded wings and a long, slightly wedge-shaped tail. Its body is olive brown, darker and unmarked on its back, paler and streaked with white below. Its upperwing is washed with chestnut. It has red eyes and pale eyebrows. It holds its tail horizontally but cocks it when excited. The sexes are similar, although the female is slightly smaller. Immature birds are probably plainer than adults.

HABITAT

The Eastern Bristlebird inhabits eucalypt woodlands and forests—often near rainforest—with a dense understorey of tussock grasses in the north, and bracken, shrubs or grasses in the south. The southern subspecies is found mainly in heathland, sedgeland and swamp communities.

HABITS

The bristlebird is more often heard than seen. It runs furtively and quietly through the undergrowth and flies only for short distances, skimming over the vegetation. Most often it is solitary or in pairs, rarely in a small group. It is sedentary, living in a territory year round and advertising its presence by calling.

VOICE

The main call of the Eastern Bristlebird is sweet and melodious, described as a repeated 'sweet, bijou', but it can be very loud and ends in a whipcrack. The alarm call is a sharp 'zwip'. It also makes squeaky chattering notes and softer contact calls.

DIET

The Eastern Bristlebird feeds on or near the ground, tossing aside leaf litter with its bill, pecking up items and probing the soil for small invertebrates and fruits as well as seeds.

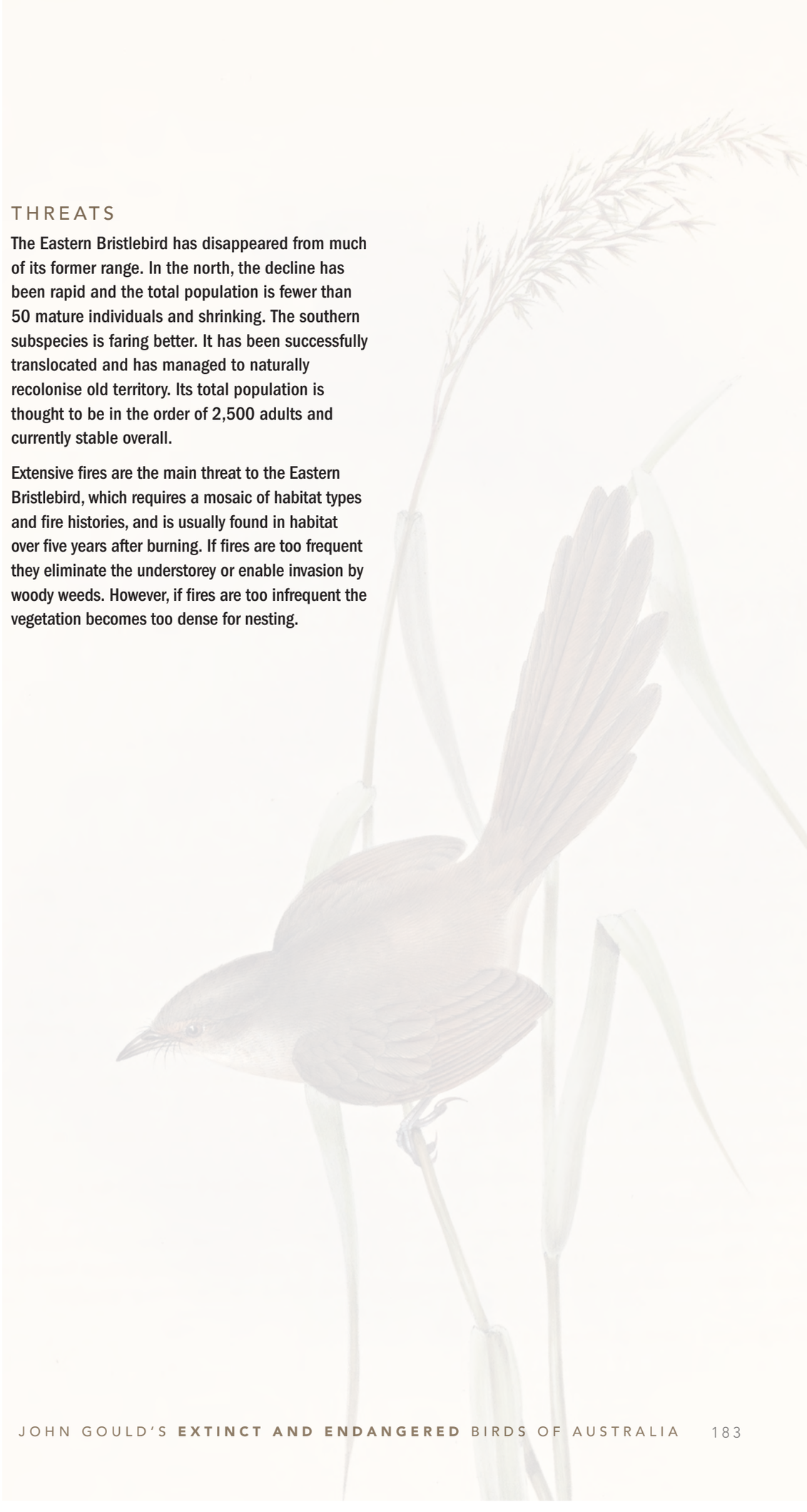
BREEDING

The breeding season is July to December. The nest is a domed structure with a side entrance. It is made of grass, bark and sticks and lined with soft grass. It is well hidden inside a grass tussock. The female lays two buff-coloured eggs with brown splotches. She incubates the clutch for 21 days. Both parents feed the chick or chicks. Fledging takes between 18 and 22 days. Usually, only one chick fledges.

THREATS

The Eastern Bristlebird has disappeared from much of its former range. In the north, the decline has been rapid and the total population is fewer than 50 mature individuals and shrinking. The southern subspecies is faring better. It has been successfully translocated and has managed to naturally recolonise old territory. Its total population is thought to be in the order of 2,500 adults and currently stable overall.

Extensive fires are the main threat to the Eastern Bristlebird, which requires a mosaic of habitat types and fire histories, and is usually found in habitat over five years after burning. If fires are too frequent they eliminate the understorey or enable invasion by woody weeds. However, if fires are too infrequent the vegetation becomes too dense for nesting.



Western Bristlebird
Dasyornis longirostris

Long-billed Bristle-bird
Dasyornis longirostris

nla.aus-f4773-3-s73

46. WESTERN BRISTLEBIRD

Gould described and named the Western Bristlebird in 1840, from a specimen that his collector John Gilbert procured near Perth and shipped to him in London. Gilbert's letter of 3 September 1839 lists the new addition to the known Australian fauna as 'a large Reed wren'. Gilbert reported that the bird was 'very generally distributed over the colony of Swan River, where it inhabits reed-beds and long grasses, and is occasionally seen in scrubby places'. Gould announced the new find at a meeting of the Zoological Society of London in December 1840.

It took patience for Gilbert to collect specimens of Western Bristlebirds for, as he explained to Gould:

> *It is so remarkably shy that it is extremely difficult to get even a glimpse of it … the only time when it can be seen with a chance of procuring specimens, is when it ascends to a small branch or the top of a scrub to sing.*

Gilbert attempted to describe its distinctive song: 'its notes are extremely varied, some being very loud and clear, and so much lengthened as to approach a song; but no two birds sing alike'. He also passed on his few observations of its habits:

> *from the little I could observe of the bird in a state of nature, it appeared to me to feed on the ground, where its actions are extremely quick, running over the surface with its tail erect … but when perched the tail is either carried horizontally, or hanging down … Its flight is extremely heavy and very low; in fact the bird appears incapable of rising more than a few yards above the scrub or long grass it inhabits.*

Remarkably, he was successful in finding an active nest, which he detailed to his employer:

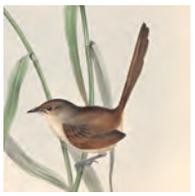
> [the nest was] *formed of dry wiry grass without any lining, more globular than those of the Maluri* [fairy-wrens], *but, like them, with an opening in the side; it is of rather a large size, and the only one I met with was built in a clump of coarse grass, sheltered by an overhanging dead bush, at about seven inches from the ground. It contained two eggs, the ground-colour of which is dull brownish white, blotched and freckled with purplish brown, some of the blotches appearing as if beneath the surface, particularly at the larger end, where they are most numerous.*

Gilbert was unsure what the new species might be but thought it was like the European Reed-warblers. Gould recognised that it was very like the Eastern Bristlebird:

> *the present species assimilates very closely in the character and colouring of its plumage to its eastern analogue, the Dasyornis Australis; but differs from that bird in being of a smaller size and in having a longer bill.*

Presumably quoting Gilbert, Gould wrote that: 'The sexes so closely resemble each other, that a representation and description of one will suffice for both'. Nevertheless, he illustrated two birds, incorrectly labelled *Dasyornis tenuirostris*.

In Gould's day, the Western Bristlebird was widespread in low dense heath around the coast from Perth to east of the Fitzgerald River National Park. Today, it hangs on at just a few scattered locations east of Albany and at Fitzgerald River National Park.



WESTERN BRISTLEBIRD
DASYORNIS LONGIROSTRIS

STATUS

The Western Bristlebird is ENDANGERED.

NAME

Gould described this bird in 1841, naming it the Long-billed Bristle-bird, *Dasyornis longirostris. Dasyornis* joins the Greek for 'hairy' (*dasys*) and 'bird' (*ornis*); *longirostris* joins the Latin for 'long' (*longus*) and 'bill' (*rostrum*).

TAXONOMY

The Western Bristlebird has no subspecies.

DESCRIPTION

The Western Bristlebird is 17 to 20 centimetres long with a grey-brown body scalloped and mottled with white. It has a long, dark chestnut-brown tail and its short, rounded wings are washed with brighter chestnut. Its eye is red, topped by a pale eyebrow, and from close range bristles are evident around its bill. Immature birds are plain olive brown without the mottling of the adult.

HABITAT

The Western Bristlebird occurs at just a few places in south-western Western Australia: at Two Peoples Bay Nature Reserve, Bettys Beach, Mount Manypeaks to Bluff Creek, and near Fitzgerald River National Park. It inhabits dense coastal thickets and scrub, with a preference for dense low heath.

HABITS

Western Bristlebirds are shy and elusive. They are sedentary. Males hold a territory of about seven hectares. Pairs usually stay together, making contact calls to each other as they move about, walking, hopping and making short dashes through the dense undergrowth. They are very active, particularly in the early morning and late afternoon. They fly mainly when disturbed and then only for about 10 to 20 metres, low over the vegetation.

VOICE

The male's territorial song is a variable melodious whistle of five to eight notes. The female replies with a harsh three or four note whistle, transcribed as 'quick more beer'. The bristlebird can also make a shrill whistle, some soft contact calls and a harsh abrupt 'zeep'.

DIET

Western Bristlebirds forage mainly on the ground among litter, sweeping it aside and probing with their bill. They also glean tasty morsels from low foliage. They eat insects, larvae, earthworms, seeds, fruit and small land snails.

BREEDING

Knowledge of breeding details is poor. The Western Bristlebird lays two eggs in August or September. The nest is domed, with a side entrance, and built in sedge, close to the ground.

THREATS

The population of Western Bristlebirds is fragmented and is estimated to total 1,000 mature birds. The bird's range has also contracted greatly, in the past due mainly to land clearance and today because of the increasing frequency and intensity of bushfires. Western Bristlebirds will inhabit areas recently burnt, but will abandon them when the vegetation increases in height. Fire management is critical to the bristlebird's survival, which is difficult when it inhabits the same area as other endangered species, with different fire requirements.

Forty-spotted Pardalote
Pardalotus quadragintus

Forty-spotted Pardalote
Pardalotus quadragintus

nla.aus-f4773-2-s82

47. FORTY-SPOTTED PARDALOTE

In 1838, from a specimen sent to him, Gould made the first scientific description of the Forty-spotted Pardalote in the fourth part of *A Synopsis of the Birds of Australia and the Adjacent Islands.* He picked up the local name: 'This is the Forty-spot of the colonists of Van Diemen's Land, so called from the numerous white spots with which it is adorned'.

Gould was set on producing the definitive work on Australia's birds, but quickly realised that he did not have enough material. He abandoned the *Synopsis* and set sail for Australia in May.

When Gould arrived in Tasmania, he had ample opportunity to observe this little bird, which he found 'very abundant in the gulleys under Mount Wellington'. He thought the Forty-spot was tit-like in its behaviour: 'creeping and clinging among the branches in every direction', making 'a simple piping kind of note of two syllables'.

In October 1838, at the base of Mount Wellington, Gould 'observed it breeding in a hole in one of the loftiest trees, at about forty feet from the ground'. It seems that he killed the nesting female and 'afterwards took a perfectly developed white egg' from her body. He noted that she looked so like the male in plumage 'that a second description is unnecessary'. The sexes are also alike in weight—10 or 11 grams—so tiny that Gould gave it special mention: 'the weight of this little bird was rather more than a quarter of an ounce'.

Gould observed that:

> *This species is, I believe, peculiar to Van Diemen's Land, where it inhabits the almost impenetrable forests which cover that island, particularly those of its southern portion.*

The historical record suggests that the Forty-spotted Pardalote was never generally common and was probably restricted to coastal eastern Tasmania—particularly from St Helens to Southport—Maria and Bruny islands, and King and Flinders islands. Today, most of the surviving population is on Maria Island. Small colonies remain on Flinders and Bruny islands and on the nearby mainland.

FORTY-SPOTTED PARDALOTE
PARDALOTUS QUADRAGINTUS

STATUS

The Forty-spotted Pardalote is ENDANGERED.

NAME

Gould named the Forty-spotted Pardalote *Pardalotus quadragintus* in 1838. *Pardalotus* is Greek for 'spotted' and *quadragintus* is from the Latin for 'forty'.

TAXONOMY

The Forty-spotted Pardalote has no subspecies.

DESCRIPTION

This tiny short-billed bird, just 8 to 10 centimetres long, has subtle, unmarked olive plumage, paler on the belly. The dark upper surface of each of its wings features 20 white spots. It has a yellow face and yellow undertail coverts. The sexes are alike and there is no seasonal variation. Immature birds have duller colours than adults.

HABITAT

The Forty-spotted Pardalote inhabits White Gum (*Eucalyptus viminalis*, also known as Manna Gum) forests and woodlands of coastal south-east Tasmania. It is also found on islands off the south-east coast of Tasmania and on the Furneaux group off the north-east tip of Tasmania, which includes Flinders Island.

HABITS

The Forty-spotted Pardalote feeds mainly in the canopy of tall gum trees, where it can be difficult to see, and often hangs upside down as it forages. It lives singly, in pairs or in parties that form loose colonies. It occupies permanent sites year round. In the non-breeding season it flocks, sometimes with other species.

VOICE

The Forty-spotted Pardalote has a simple piping note of two syllables. In the breeding season, birds utter a different, louder note, described as a nasal 'twnnt'.

DIET

The Forty-spotted Pardalote forages in the canopy of White Gums, eating mainly lerps: the sugary substance produced by sap-sucking insects called psyllids. In summer, the manna exuded by White Gums constitutes the bird's main diet. They also eat spiders, beetles, moths, flies, wasps and other insects.

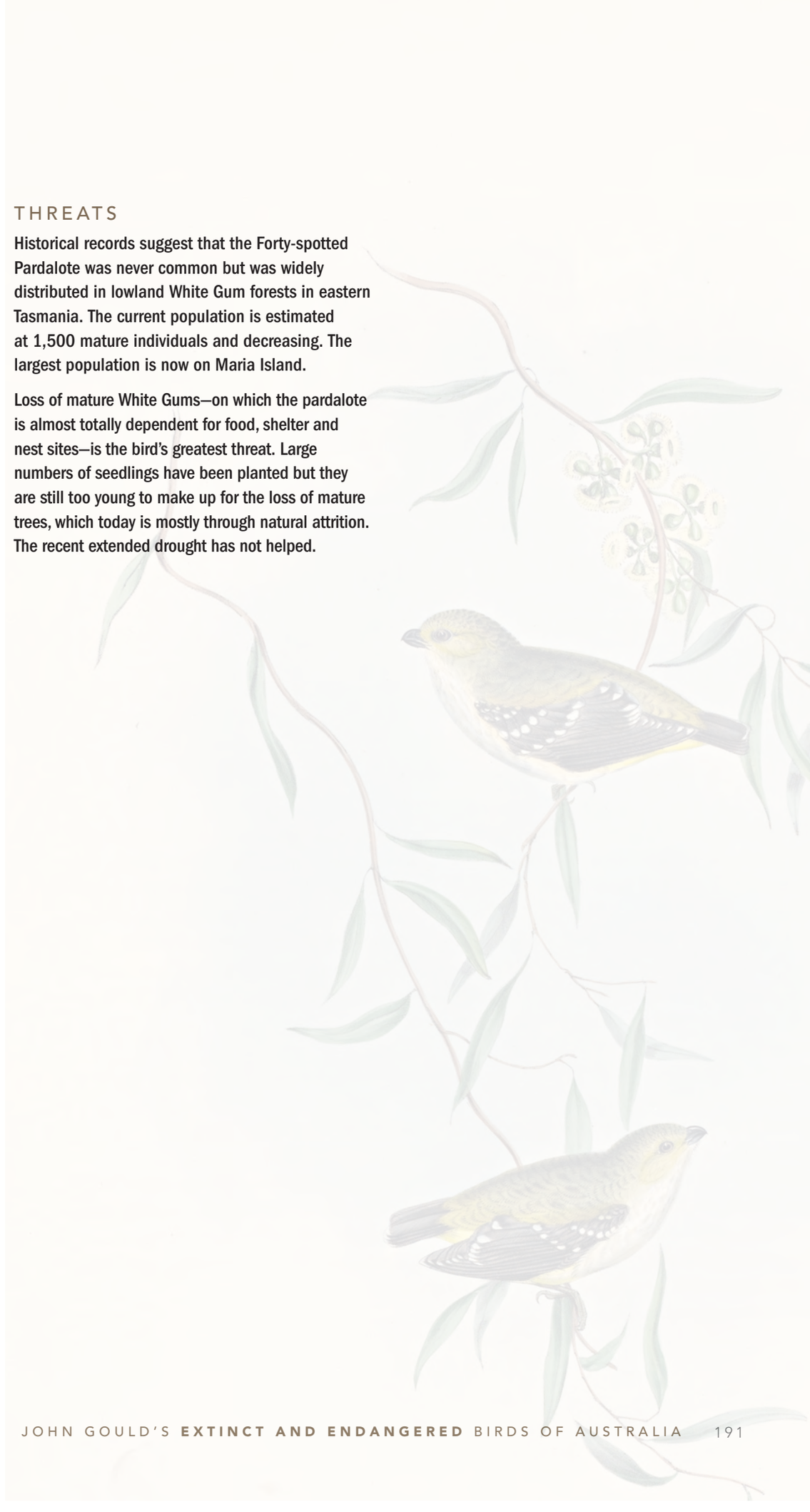
BREEDING

The Forty-spotted Pardalote nests in small colonies for protection, nests being less than 10 metres apart. The breeding season is August to December, during which two broods may be raised. Nests are in a tree hollow—from 1 to 20 metres above the ground, and usually 30 centimetres deep—or, occasionally, in a hole in the ground. Both sexes are involved in all stages of breeding. They build a nest of grass, twigs and bark, which, if there is sufficient room, is a domed structure. They incubate the four or five white eggs for 16 to 20 days, and feed the nestlings for 25 days. Several other individuals may join in to help to feed the young.

THREATS

Historical records suggest that the Forty-spotted Pardalote was never common but was widely distributed in lowland White Gum forests in eastern Tasmania. The current population is estimated at 1,500 mature individuals and decreasing. The largest population is now on Maria Island.

Loss of mature White Gums—on which the pardalote is almost totally dependent for food, shelter and nest sites—is the bird's greatest threat. Large numbers of seedlings have been planted but they are still too young to make up for the loss of mature trees, which today is mostly through natural attrition. The recent extended drought has not helped.



Yellow-tufted Honeyeater (helmeted subspecies)
Lichenostomus melanops cassidix

Helmeted Honey-eater
Ptilotis cassidix

nla.aus-f4773-8-s88

48. YELLOW-TUFTED HONEYEATER

(helmeted subspecies)

Gould was in Scotland in the autumn of 1866, when his friend, Scottish naturalist Sir William Jardine, sent him a drawing made by his daughter 'of a bird which he believed to be new to science'. Jardine had found the specimen among a collection of 'ordinary Australian species' that he had obtained in Edinburgh. Jardine himself described many new species, but in this case he sought Gould's advice. Gould could only agree that it appeared to be new.

Jardine sent the specimen to Gould who named it the Helmeted Honey-eater, for its plush golden 'helmet', and he exhibited it at the December meeting of the Zoological Society of London. 'Almost simultaneously' another specimen was unearthed in Edinburgh and more arrived in London from Western Port Bay, Victoria, confirming his view that it differed from the very similar Yellow-tufted Honeyeater:

> *in its much larger size, in the dark olive-black colouring of its upper surface, wings, and tail, in the greater amount of black surrounding the eye, in the erect tuft of wax-yellow feathers on the forehead, in all but the four central tail-feathers being tipped with white, and in the chin and centre of the throat being black or black interspersed with light yellow.*

He placed it in the genus *Ptilotus* (now *Lichenostomus):*

> *the members of which are nearly as numerous as the various Eucalypti, upon the flowers of which they mainly subsist, and with which their yellow ear-tufts vie in beauty of colouring.*

Having no details of its habitat or habits, he concluded: 'This I am sorry to say is all I have to communicate'.

Today, the striking honeyeater has been relegated to subspecific status. It is Victoria's avifaunal emblem. The hapless bird has been nicknamed the 'Helmeted Moneyeater' because so much has been spent on captive breeding programs in an attempt to fend-off extinction.

YELLOW-TUFTED HONEYEATER (HELMETED SUBSPECIES)
LICHENOSTOMUS MELANOPS CASSIDIX

STATUS

The subspecies of the Yellow-tufted Honeyeater from western Gippsland, known as the Helmeted Honeyeater, is CRITICALLY ENDANGERED. The species as a whole is of Least Concern.

NAME

Gould described the Helmeted Honey-eater, *Ptilotis cassidix*, in 1867. *Ptilotis* is from the Greek for 'feather' (*ptilon*) and *cassidix* is Latin for 'helmeted'. It was subsequently called *Meliphaga cassidix. Meliphaga* is from the Greek for 'honey' (*meli*) and 'to eat' (*phagein*).

Today the Helmeted Honeyeater is regarded as a subspecies of the Yellow-tufted Honeyeater, *Lichenostomus melanops. Lichenostomus* joins the Greek words for 'lichen' and 'mouth': that is, an eruption of the skin near the mouth. This odd generic name occurred because the first named member of the genus was the Purple-gaped Honeyeater (*L. cratitius)*. *Melanops* joins the Greek for 'black' (*melanos*) and for 'face' (*ops*).

TAXONOMY

There are three subspecies of Yellow-tufted Honeyeater in south-eastern Australia: one east of the Great Divide, one west of the Divide and the third, the Helmeted Honeyeater, in western Gippsland.

DESCRIPTION

The Yellow-tufted Honeyeater is a strikingly coloured bird, with a broad, glossy black mask surrounding its eyes, ending in bright golden pointed ear tufts. It has an olive-brown back, and a golden-yellow throat stripe and golden feathers on the forehead. The Helmeted Honeyeater is larger than the other two subspecies and has a longer tail. Whereas the forehead feathers of the other subspecies are erectile, those of the Helmeted Honeyeater are permanently raised to form a 'helmet'.

HABITAT

Never far from water, the Helmeted Honeyeater inhabits streamside eucalypts with an understorey of paperbarks and tea-trees in Yellingbo, Victoria. In winter, some birds move into open eucalypt forest with a dense heath understorey.

HABITS

Gregarious, active and noisy, Helmeted Honeyeaters sometimes sit side by side on a branch. They are seen in pairs or small groups of four to ten birds but usually live in discrete colonies.

The Helmeted Honeyeater is mostly sedentary, but in winter, young birds and birds without breeding territories disperse looking for food. Adult males defend their territories throughout the year, but more aggressively in the breeding season. Territories are close to each other and all members of the colony join together to defend them.

VOICE

Helmeted Honeyeaters make a variety of calls, none very musical. They trill and make calls that have been described as 'tooey-t-tooey-t' and a scolding 'churl, churl'.

DIET

The Helmeted Honeyeater eats insects, spiders, sap, nectar and fruit gleaned from foliage and branches of eucalypts and tall shrubs.

BREEDING

Helmeted Honeyeaters are monogamous. The breeding season is long, from July to March, and several broods are raised, usually three. Both parents together choose the site of the nest in low dense shrubbery. The cup-shaped nest is made from bark, grass and leaves, bound together firmly with spiders' webs.

The two eggs are pink with purple blotches and the female usually incubates them. The incubation period is 14 days, the nestling period ten to 14 days, with the chicks becoming independent about 40 days after hatching. Both parents tend the nestlings, helped by young birds from the previous brood.

THREATS

The Helmeted Honeyeater now inhabits Yellingbo Nature Conservation Reserve and there are small, reintroduced colonies 30 kilometres south-east of Yellingbo at Tonimbuk on the edge of Bunyip State Park. Formerly, it occurred along the mid-Yarra River, and in other riverside habitats in adjacent Western Port catchments and in nearby south Gippsland. Habitat loss to clearing and development has been the greatest cause of the decreasing population. Two of the last three natural colonies were destroyed by fire in 1983. This points to the main current threat: a small population (just 58 adults in 2011) in a tiny, concentrated area of occupancy (8 square kilometres), which makes the honeyeater extremely vulnerable.

Regent Honeyeater
Anthochaera phrygia

Warty-faced Honey-eater
Zanthomyza phrygia

nla.aus-f4773-4-s106

49. REGENT HONEYEATER

In 1794, George Shaw named the Regent Honeyeater, then abundant about the new settlement at Port Jackson. Shaw was a professional naturalist who named several of the novelties discovered in the new colony. He described the distinctive honeyeater from a painting among a set thought to have been taken back to London by surgeon John White. The illustration is labelled 'Black and Yellow Bee eater', but clearly shows the brush tongue of a honeyeater.

Gould certainly recognised the bird as a honeyeater, naming it the Warty-faced Honey-eater for the 'warty excrescences covering the face' that were a 'dirty whitish yellow'. Despite the unpromising name, Gould declared:

> *This is not only one of the handsomest of the Honey-eaters but is also one of the most beautiful birds inhabiting Australia, the strongly contrasted tints of its black and yellow plumage rendering it a most conspicuous and pleasing object, particularly during flight.*

The colonists called it the 'Mock Regent Bird' because it resembled the male Regent Bowerbird in having rich black and gold plumage like the uniform of the Prince Regent.

Gould was aware that the honeyeater's range extended from South Australia through New South Wales nearly to Moreton Bay in Queensland. He commented on the bird's active and aggressive nature:

> *Although it is very generally distributed, its presence appears to be dependent upon the state of the Eucalypti, upon whose blossoms it mainly depends for subsistence; it is consequently only to be found in any particular locality during the season that those trees are in blossom. It generally resorts to the loftiest and most fully-flowered tree, where it frequently reigns supreme, buffeting and driving every other bird away from the immediate neighbourhood; it is, in fact, the most pugnacious bird I ever saw.*

During his travels in south-eastern Australia, Gould found the honeyeater plentiful, as he recorded in *The Birds of Australia*:

> *I met with it in great abundance among the brushes of New South Wales … I have occasionally seen flocks of from fifty to a hundred in number, passing from tree to tree as if engaged in a partial migration from one part of the country to another, or in search of a more abundant supply of food.*

Today the population of the lively, once-abundant honeyeater has dwindled to some 350 adults in total, barely enough to form half a dozen small flocks.

REGENT HONEYEATER
ANTHOCHAERA PHRYGIA

STATUS

The Regent Honeyeater is CRITICALLY ENDANGERED.

NAME

George Shaw described this bird in 1794, naming it the Embroidered Merops, *Merops phrygia. Merops* is Greek for 'bee eater', a mistaken interpretation of the bird's feeding habits. The gold-edged feathers of the back, wings and tail were the inspiration for *phrygia*, the name of a country in Asia Minor renowned for the skill of its inhabitants in embroidering with gold.

Gould called it the Warty-faced Honey-eater, *Zanthomyza phrygia. Zanthomyza* joins the Greek words for 'yellow' (*zanthos*) and 'to suck' (*myzein*). It has recently been reclassified with the wattlebirds and is now known as *Anthochaera phrygia. Anthochaera* joins the Greek words for 'flower' (*anthos*) and 'enjoy' (*chairein*).

TAXONOMY

The Regent Honeyeater has no subspecies.

DESCRIPTION

The Regent Honeyeater is a striking, glossy black and gold patterned honeyeater about 23 centimetres in length. It has bare cream or pink facial skin around the eye. The female is sightly duller and has slightly less black on the breast than the male. Immature birds are browner than adults.

HABITAT

Regent Honeyeaters are patchily distributed through box-ironbark forests and woodlands, from south-east Queensland to central Victoria, always preferring large old trees in more fertile areas. Riverside forests of River Oak (*Casuarina cunninghamiana)*, with Needle-leaf Mistletoe (*Amyema cambagei)*, are also important for feeding and breeding.

HABITS

The Regent Honeyeater once occurred in large flocks, but is now seen singly, in pairs or small groups. Highly mobile, it may be found in heavily flowering eucalypts, where it forages noisily in the outer canopy.

It is an active, aggressive bird that defends nectar trees, taking on other honey-eating birds and potential predators sometimes bigger than itself. In the non-breeding season, it roosts at night in dense foliage, in flocks.

VOICE

The Regent Honeyeater's main call is a bell-like, metallic 'clink, clink'. During flight, it makes a clattering contact call and it can also mimic the calls of other birds.

DIET

Regent Honeyeaters feed in the canopy taking mainly nectar, but also taking some lerps, honeydew, insects and fruit.

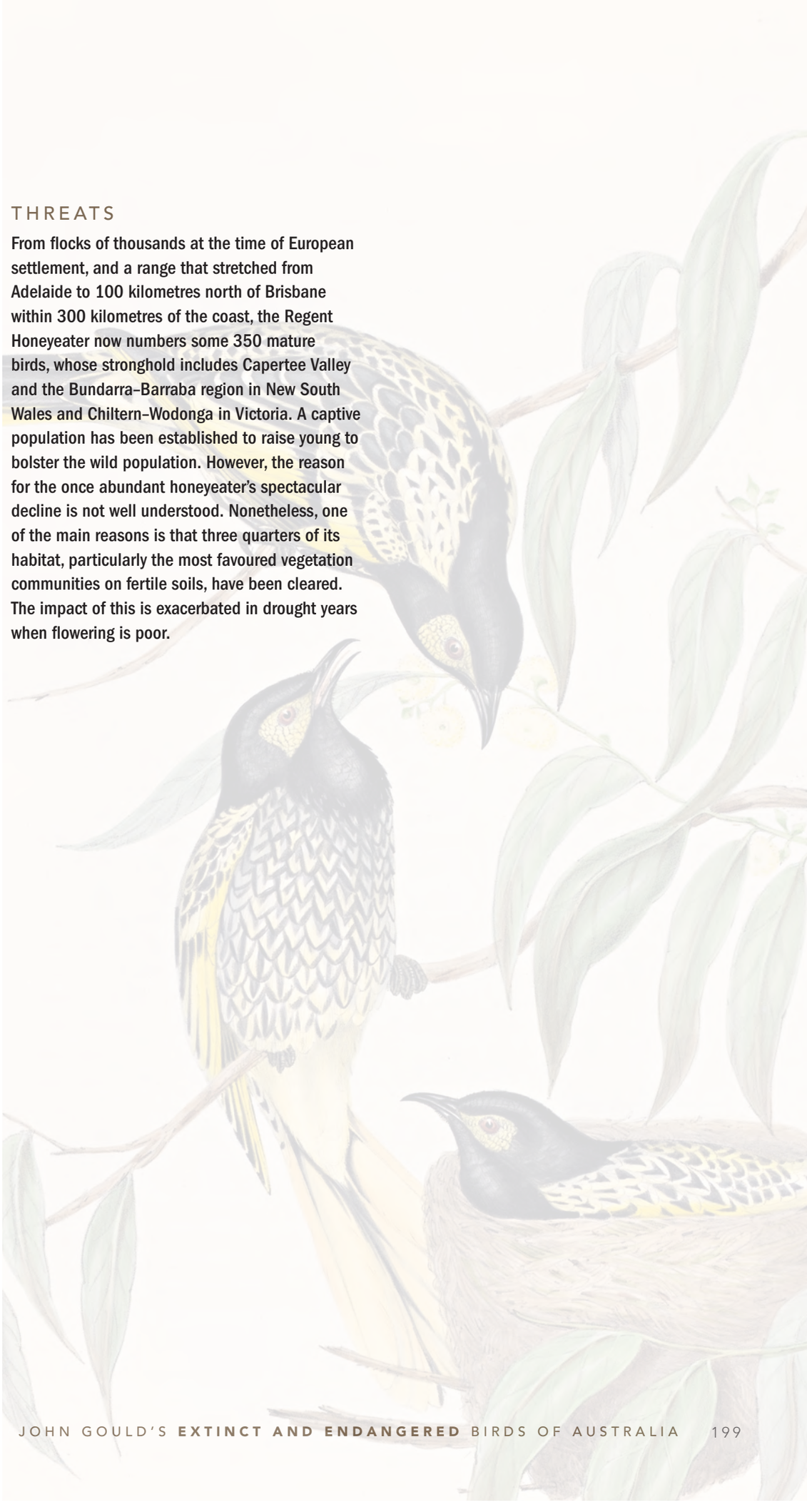
BREEDING

Regent Honeyeaters breed mainly between August and January, but nests have been reported in every month except April. They may nest alone or in small colonies. Usually the female builds the nest, while the male defends the territory, but sometimes he also helps with the construction. The cup-shaped nest is built from grass and bark strips and lined with hair and plant down. It is placed in the fork of a tree, usually high up in the canopy, but occasionally just 1 metre from the ground.

Only the female incubates the two or three salmon-buff oval eggs. The incubation period is 15 to 17 days. The chicks stay in the nest for 16 days and are independent about three weeks after they fledge. Both parents care for the young.

THREATS

From flocks of thousands at the time of European settlement, and a range that stretched from Adelaide to 100 kilometres north of Brisbane within 300 kilometres of the coast, the Regent Honeyeater now numbers some 350 mature birds, whose stronghold includes Capertee Valley and the Bundarra–Barraba region in New South Wales and Chiltern–Wodonga in Victoria. A captive population has been established to raise young to bolster the wild population. However, the reason for the once abundant honeyeater's spectacular decline is not well understood. Nonetheless, one of the main reasons is that three quarters of its habitat, particularly the most favoured vegetation communities on fertile soils, have been cleared. The impact of this is exacerbated in drought years when flowering is poor.



Painted Honeyeater
Grantiella picta

Painted Honey-eater
Entomophila picta

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50. PAINTED HONEYEATER

Gould described the Painted Honeyeater in 1838, not long before he sailed for Australia. When he saw the bird in life, he was delighted not only with its beauty but also that he had been correct in his assumptions about its behaviour:

> *This beautiful little Honey-eater is an inhabitant of the interior of New South Wales, where it frequents the myalls* [Acacia pendula] *and other trees bordering the extensive plains of that part of Australia. On a comparison of skins of this species with those of the other Meliphagidæ* [honeyeaters], *prior to my visit to the country, I had been led to suspect that its actions and economy would be found to differ materially from those of the other members of its family, and such proved to be the case, for it is much more active among the branches, captures insects on the wing, and darts forth and returns to the same spot much after the manner of the Flycatchers … During flight they repeatedly spread their tails, when the white portion of the feathers shows very conspicuously, the yellow colouring of the wing also contributes to the beauty of their appearance.*

While in Sydney in 1839, he found a pair nesting in a Weeping Myall:

> *I found the nest of this bird with two nearly fledged young on the 5th of September; the nest was the frailest structure possible, round, of small size, most ingeniously suspended by the rim to the thick drooping leaves of the Acacia pendula, and entirely composed of very fine fibrous roots.*

A few years later, Gould had his illustrator Henry Constantine Richter paint a pair attending its nest, the male at top. He would be unlikely to find a pair nesting near Sydney today. Painted Honeyeaters have been rare there since the 1960s.

PAINTED HONEYEATER
GRANTIELLA PICTA

STATUS

The Painted Honeyeater is VULNERABLE.

NAME

Gould described the Painted Honeyeater in 1838, naming it *Entomophila picta*. *Entomophila* joins the Greek words for 'insects' (*entoma*) and 'fond of' (*philos*); *picta* is Latin for 'painted', referring to the yellow marks on the bird's wings.

In 1911, Mathews created the genus *Grantiella*, which honours Robert Grant, a Scot who emigrated to Australia in 1879 and was employed as a collector and taxidermist by the Australian Museum. Today the Painted Honeyeater is known as *Grantiella picta.*

TAXONOMY

No subspecies of the Painted Honeyeater is currently recognised, although it has been suggested that the population in the Northern Territory may be a separate subspecies. The Painted Honeyeater is the only member of the genus.

DESCRIPTION

The Painted Honeyeater is a small black and white honeyeater with occasional black spots on its white sides and flanks. It is just 16 centimetres in length and is more often heard than seen. If it is seen, the pink bill stands out, as does the yellow on the wing.

The female is smaller and slightly browner than the male. There is no seasonal variation in plumage. Juvenile birds are duller than adult females.

HABITAT

The Painted Honeyeater is sparsely distributed from south-eastern Australia to north-western Queensland and the eastern area of the Northern Territory. It inhabits dry open forests and woodlands and tree-lined watercourses, anywhere where there is mistletoe. It has a preference for mistletoe-infested Blakely's Red Gum (*Eucalyptus blakelyi)* and Red Ironbark (*E. sideroxylon)*. The most specialised of the honeyeaters, the Painted Honeyeater depends for breeding primarily on Needle-leaved Mistletoe (*Amyema cambagei)* and Grey Mistletoe (*A. quandang)*, both of which grow in acacia-dominated woodlands.

HABITS

The Painted Honeyeater is seen singly, in pairs, or in parties of up to 30 birds. It is the only honeyeater with a regular annual migration. It travels south to breed in the spring, the males arriving a fortnight before the females, and performing dramatic aerial display flights, while they await the arrival of the females. The north to south movements are determined principally by the fruiting of mistletoe. After breeding, many of the birds move to semi-arid regions.

VOICE

The Painted Honeyeater is easily identified by its loud 'georgie' call frequently given in flight. The call is often repeated, sometimes reversed and begins and ends with either syllable, such as 'ee, george-ee, george-ee, george-ee, george'. The bird also makes a siren-like variation of this call.

DIET

The Painted Honeyeater is the only honeyeater to have a substantially fruit-based diet, its main item of food being the sticky berries of several species of mistletoe. It also consumes the nectar of mistletoe and eucalypt flowers, and some insects and spiders, especially in the non-breeding season.

BREEDING

Nearly all breeding records come from south of latitude 26° South, from the inland slopes of the Great Dividing Range between the Grampians, Victoria, and Roma, Queensland. The honeyeater breeds between October and March, earlier in the north. Pairs breed as single pairs or in colonies and can raise two broods each year, building a new nest for the second brood.

Both parents build the nest, incubate the eggs and tend the young; however, the female undertakes by far the majority of the work. The nest is a flimsy grass basket, suspended in the outer foliage of eucalypts or casuarinas, often in a clump of mistletoe, from 3 to 20 metres above the ground.

The two to three pale-pink eggs are heavily speckled with dark brown. Incubation takes about 15 days, the nestling period is about 18 days, and the fledging period is three weeks. Young birds are fed mainly on carefully peeled mistletoe berries, but also on some insects.

THREATS

Painted Honeyeaters have declined throughout their range and their population is estimated at 10,000 mature birds. Much of the area where they breed has been cleared, particularly the brigalow and box-ironbark woodlands. A large proportion of their remaining habitat is on private land and continues to be degraded by overgrazing, which also limits regeneration. In degraded landscapes, natural events, such as drought stress and predation, can become a threat.

Western Whipbird (western heath subspecies)
Psophodes nigrogularis nigrogularis

Black-throated Psophodes
Psophodes nigrogularis

nla.aus-f4773-3-s38

51. WESTERN WHIPBIRD

(western heath subspecies)

John Gilbert returned to Australia to continue collecting for Gould in 1842. He wrote to Gould from Perth in October. While he had been at the beach looking for the mounds of Malleefowl, which were of great interest to naturalists at the time, he had found what he thought might be a new *Psophodes* (whipbird).

Alerted by the bird's unforgettable song, Gilbert told Gould, he had found the bird in the thickets that grow along the sandhills that run parallel to the beach:

> *It utters a peculiar harsh and grating song which it is quite impossible to describe, and which is so different from that of every other bird I ever heard or am acquainted with, that I shall have no difficulty in recognizing it again wherever I may hear it. I heard it for the first time … in the vicinity of the Wongan Hills a few weeks back, but could not then obtain a sight of the bird, although I knew that it was only a few yards from me.*

Apparently unable to procure a specimen, Gilbert wrote to Gould somewhat bashfully:

> *I enclose a Sketch (I daresay you will smile at this my first attempt, but you must make allowances for want of Education) which will perhaps give you some little idea of this interesting addition to this curious form.*

Gilbert eventually sent specimens to London. Gould named the new species the Western Whipbird and acknowledged that: 'It is to Gilbert's perseverance that science is indebted for the knowledge of this new bird'. In January 1844, the discovery was announced to the Zoological Society of London in a paper entitled: 'On New Species of Western Australian Birds'. The other bird described was the Gouldian Finch, named 'in tribute to … the late Mrs Gould', and also collected by Gilbert. In May, Gould wrote to thank Gilbert, telling him that: 'I was much pleased particularly with the new Psophodes'.

The Eastern Whipbird had been discovered quite early and described in 1802. To find another whipbird on the western coast 40 years later was exciting if not unexpected. As Gould wrote in *The Birds of Australia*:

> *The addition of a second species to the genus Psophodes will be hailed with pleasure by every one who makes the science of ornithology a matter of study; nor will its discovery be a subject of surprise to us, as it is only another illustration of that beautiful law of representation which is conspicuously carried out in Australia. The habitat of the present bird will doubtless be hereafter found to be as strictly confined to the western part of the continent as that of the P. crepitans* [Eastern Whipbird] *is to the eastern.*

In Gould's day, the species of the Western Whipbird occupying western heath, where Gilbert encountered it, was found in south-western Western Australia, on the west coast from Perth to Augusta, and on the south coast from Albany to Two Peoples Bay. Today Gilbert certainly would not find it on a beach anywhere between Perth and Albany, nor in the Wongan Hills to the city's north-east.

WESTERN WHIPBIRD (WESTERN HEATH SUBSPECIES)

PSOPHODES NIGROGULARIS NIGROGULARIS

STATUS

The Western Whipbird of the western heath is ENDANGERED. The species as a whole is of Least Concern.

NAME

Gould described the Western Whipbird in 1844, calling it the Black-throated Psophodes, *Psophodes nigrogularis. Psophodes* is Greek for 'noisy'; *nigrogularis* is from the Latin for 'black' (*niger*) and 'throated' (*gularis*).

TAXONOMY

Four subspecies of the Western Whipbird are recognised: *Psophodes nigrogularis nigrogularis* (in the western heath of Western Australia); *P. n. leucogaster* (in eastern South Australia and western Victoria), which is Vulnerable; *P. n. lashmari* (on Kangaroo Island, South Australia), which is Near Threatened; and *P. n. oberon* (from the Stirling Ranges to Ravensthorpe, Western Australia), which is of Least Concern.

DESCRIPTION

The Western Whipbird is a long-tailed ground-dwelling bird about 24 centimetres in length, with a slight crest. It is olive green above and olive grey below. The belly is dull white and adults have a white 'moustache' edged in black.

The sexes are alike, but the male is a little larger. Immature birds have no throat markings.

HABITAT

This subspecies of the Western Whipbird occurs in dense coastal shrub with an open canopy. It requires heath for nesting. It is restricted to two small areas east of Albany, Western Australia—namely Two Peoples Bay Nature Reserve and Mount Manypeaks, where it has been observed in dense shrubland with an open overstorey and dense low mallee.

HABITS

Western Whipbirds live as singles or pairs. They are shy and elusive and run away through the undergrowth before they are observed. They are usually only located by their song, which is ventriloquial and almost impossible to pinpoint. Furthermore, they only sing in mid-winter at the beginning of the breeding season.

The birds are highly territorial and a pair requires an area of somewhere between 3 and 6 hectares. They are sedentary, fly very low and only short distances, and are poor dispersers.

VOICE

Pairs of Western Whipbirds utter antiphonal calls to keep in touch in the dense undergrowth. The male calls first and the female answers immediately, leading the listener to believe that the call is from one bird. The male's call is described as a grating four-note 'It's for TEACH-er', and the female responds with: 'Pick it up'. Unlike the Eastern Whipbird, the Western Whipbird does not have a whipcrack-like component to its calls.

DIET

The Western Whipbird eats insects and other invertebrates, which it usually takes from or near the ground.

BREEDING

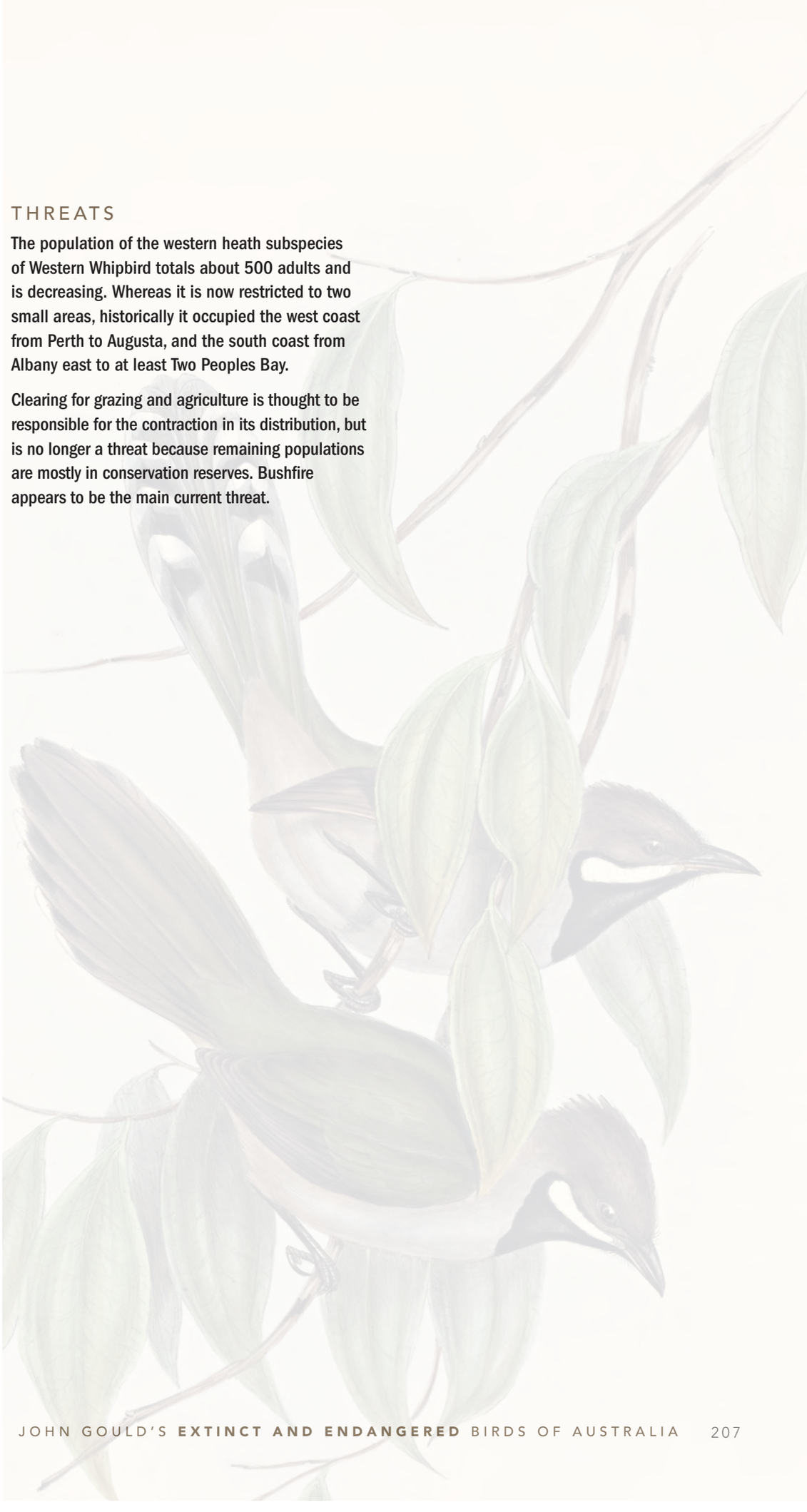
The Western Whipbird breeds between July and November. The nest is an untidy bowl of bark, grass and twigs, built in heath close to the ground. Both parents help to incubate the eggs for 21 days. The clutch size is two and the eggs are pale blue with black markings.

The young leave the nest before they can fly at 14 days. Chicks are fed by both parents and the family probably remain together until the following breeding season.

THREATS

The population of the western heath subspecies of Western Whipbird totals about 500 adults and is decreasing. Whereas it is now restricted to two small areas, historically it occupied the west coast from Perth to Augusta, and the south coast from Albany east to at least Two Peoples Bay.

Clearing for grazing and agriculture is thought to be responsible for the contraction in its distribution, but is no longer a threat because remaining populations are mostly in conservation reserves. Bushfire appears to be the main current threat.



Red-lored Whistler
Pachycephala rufogularis

Red-throated Pachycephala
Pachycephala rufogularis

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52. RED-LORED WHISTLER

Gould himself collected the Red-lored Whistler, in early 1839, just 3 kilometres from Adelaide. He was not able to learn much about the uncommon bird, but knew it belonged to the inland:

> *All the examples of this species of* Pachycephala *I have yet seen, were obtained by myself during my explorations in South Australia, where I found it anything but abundant; in fact many days frequently elapsed without my procuring a specimen. Its stronghold, probably a part of the vast interior, has yet to be discovered.*

Nor did he find it attractive or interesting, unusual for Gould who usually enthused about most new birds:

> *From the little I saw of it, I am induced to believe that it is a very solitary bird, for I always encountered it singly, and mostly hopping about on the ground in the thinly-timbered forest which surrounds the city of Adelaide. Its actions were so particularly quiet, and its plumage so unattractive, that had not my attention been directed to birds of a sombre hue as well as to those of gay attire, I might have easily overlooked it.*

Gould recognised that it was a thickhead (genus *Pachycephala*)—one of the group of birds today known as whistlers—so named for their relatively large head, noting that 'the rusty colouring of the throat and face distinguishes this species from every other member of the genus'.

Of his Red-throated Pachycephala Gould stated: 'I never heard it utter any note, nor did I observe anything in its habits and economy worthy of remark'. Had he heard its most unusual voice, his opinion may well have softened. Today, bird lovers will go to a great deal of trouble to sight this rare bird and a sighting is truly 'worthy of remark'.

RED-LORED WHISTLER
PACHYCEPHALA RUFOGULARIS

STATUS

The Red-lored Whistler is VULNERABLE.

NAME

Gould described this bird in 1841, naming it the Red-throated Pachycephala, *Pachycephala rufogularis. Pachycephala* joins the Greek words for 'thick' (*pachys*) and 'head' (*cephale*); *rufogularis* joins the Latin words for 'red' (*rufus*) and 'throat' (*gula*).

Gould's scientific name stands today, but the common name is now the Red-lored Whistler, which is a more attractive name than 'thickhead', but still inappropriate as the lores (the areas between the eyes and the bill) are orange, not red.

TAXONOMY

The Red-lored Whistler has no subspecies.

DESCRIPTION

The Red-lored Whistler is a stocky grey bird 19 to 22 centimetres in length. Males have a pretty orange face and throat, a grey breast-band and an orange-buff belly. The female is much duller and lacks the male's rufous belly and face. Adults have a red eye. Immature birds are like adult females but with brown eyes and a slightly rufous brow.

HABITAT

The Red-lored Whistler occurs in semi-arid regions of New South Wales, Victoria and South Australia, inhabiting spinifex grasslands, tall open heath and dry mallee where eucalypts grow no taller than 8 metres and there is spinifex and, often, native pines. It will not inhabit areas recently burnt, waiting at least five years after a fire before reinhabiting an area. In the non-breeding season it can occupy a variety of other woodland habitats.

HABITS

Red-lored Whistlers are quiet and unobtrusive. They are seen mainly singly or in pairs, and pairs occupy a territory all year round. The whistler spends a lot of time on or near the ground, but it is a rapid flier and apparently dispersing birds sometimes turn up far outside the usual range.

VOICE

The Red-lored Whistler has a distinctive, rich call. It sounds like a slow 'see-saw', or sometimes 'see-saw-sik' rising on the last syllable. It also gives a loud, clear whistle, followed by an unusual breathy noise, which sounds as if it were inhaling with a head cold. It is also reported to make a call similar to the 'chop, chop' of Gilbert's Whistler.

DIET

The whistler forages on and close to the ground, often in the litter, capturing insects and other invertebrates by gleaning or sallying. It takes spiders, grasshoppers, beetles and larvae, and sometimes berries and fruit.

BREEDING

The Red-lored Whistler breeds between September and December and both parents share incubation and care of the young. The nest is a cup made from twigs, bark and dried grass, lined with fine rootlets and vine tendrils, and placed near the ground, either in a sheltered clump of porcupine grass or in the low fork of a tree. The clutch is two or three eggs, usually two. The eggs are cream with dark-brown spots. The incubation and nestling periods are each about two weeks.

THREATS

The population is estimated at 2,000 adults and decreasing. Historically, the major reason for population reductions was extensive clearance of mallee. The Red-lored Whistler prefers long unburnt habitat, hence the current main threat is extensive wildfire. Other threats include degradation of habitat by grazing stock, feral goats and rabbits.

Scarlet Robin
(Norfolk Island subspecies)
Petroica multicolor multicolor

Norfolk Island Robin
Petroica erythrogaster

nla.aus-f4773-3-s13

53. SCARLET ROBIN

(Norfolk Island subspecies)

In 1789, Gmelin described the Scarlet Robin, making it one of a handful of Australian birds that were named in the eighteenth century. In October 1774, Captain James Cook, on his second great voyage of discovery, came upon the tiny Norfolk Island group, now an Australian territory, in the Pacific Ocean. The voyage's naturalists were a talented father and son team, Johann and Georg Forster. The first scientific description of the robin of Norfolk Island was taken from the journals of the Forsters.

The Scarlet Robin is a widespread species with some 17 subspecies in Australia and the islands of the Pacific. Today the island forms are sometimes separated as the Pacific Robin, which retains Gmelin's scientific name *Petroica multicolor*, because the Norfolk Island bird was the first of these robins to be recognised by science. Gould would have agreed that they were distinct species, although he had initially thought that they were 'identical'. He gave his reasons as follows:

> *The P. erythrogastra* [Norfolk Island Robin] *may be distinguished then from its near ally* [P. multicolor: the Australian mainland robin] *by the greater size of the bill; by the greater extent and more silvery hue of the white feathers on the forehead; by the tail being wholly black … the females of the two birds also differ from each other, the tail of the P. erythrogastra being wholly brown, while that of the P. multicolor has the lateral tail-feathers marked with white.*

Gould wished to resurrect Latham's 1790 name *Muscicapa erythrogastra* for the Norfolk Island Robin, but both men failed to realise that Gmelin had already described the robin as *Muscicapa multicolor.* In the scrabble to name new species in the late eighteenth and early nineteenth centuries, there was much confusion. Today, with greater communication and more refined techniques, there are still some contentious groups, including these red-breasted robins.

Names aside, some eight of Norfolk Island's 15 endemic landbirds have been driven to extinction since Cook's brief stop at the then uninhabited isle. The robin is hanging on, despite a multitude of environmental challenges that include invasion of its habitat by woody weeds, and predation by the Black Rat and possibly cats. No one can be confident about its future.

SCARLET ROBIN (NORFOLK ISLAND SUBSPECIES)

PETROICA MULTICOLOR MULTICOLOR

STATUS

The Norfolk Island Scarlet Robin is ENDANGERED. The species is of Least Concern.

NAME

Gmelin named this bird *Muscicapa multicolor* in 1789. *Muscicapa* means 'flycatcher' (from the Latin—*musca* meaning 'fly', and *capere* meaning 'to catch'); *multicolor* is Latin for 'many coloured'. Gould called it the Norfolk Island Robin, *Petroica erythrogastra. Petroica* joins the Greek words for 'rock' (*petros*) and 'house' (*oicos*); *erythrogastra* joins the Greek words for 'red' (*erythros*) and 'belly' (*gaster*).

TAXONOMY

There are 17 subspecies of Scarlet Robin: *Petroica multicolor multicolor* (on Norfolk Island); *P. m. boodang*, *P. m. campbelli* and *P. m. leggii* (on mainland Australia) which are all of Least Concern; and 13 subspecies outside Australia. The Norfolk Island Scarlet Robin and those from Melanesia and Polynesia are sometimes separated from the mainland Australian species, as the Pacific Robin.

DESCRIPTION

The Norfolk Island Scarlet Robin is a tiny bird about 13 centimetres in length. The male is black and white, with a brilliant red breast and white cap. The female is grey brown, with a salmon-pink wash on her breast. Immature birds are grey brown.

HABITAT

The Norfolk Island Scarlet Robin is confined to Norfolk Island National Park and adjacent private land on Norfolk Island. It prefers rainforest with a shaded middle and upper canopy, and a relatively open ground layer to provide visibility for foraging. It also requires many perches close to the ground and a deep, moist layer of litter.

HABITS

The Scarlet Robin often turns over ground litter in search of food, something never done by its mainland cousins. The Norfolk Island bird spends 90 per cent of its time foraging on the ground, compared with 20 per cent for the mainland bird.

VOICE

The song of the Pacific Robin is said to be quite different from the song of the mainland bird, which is described as a cheery tinkling warble. Both sexes sing although males sing more than females, and birds are more vocal from August to January.

DIET

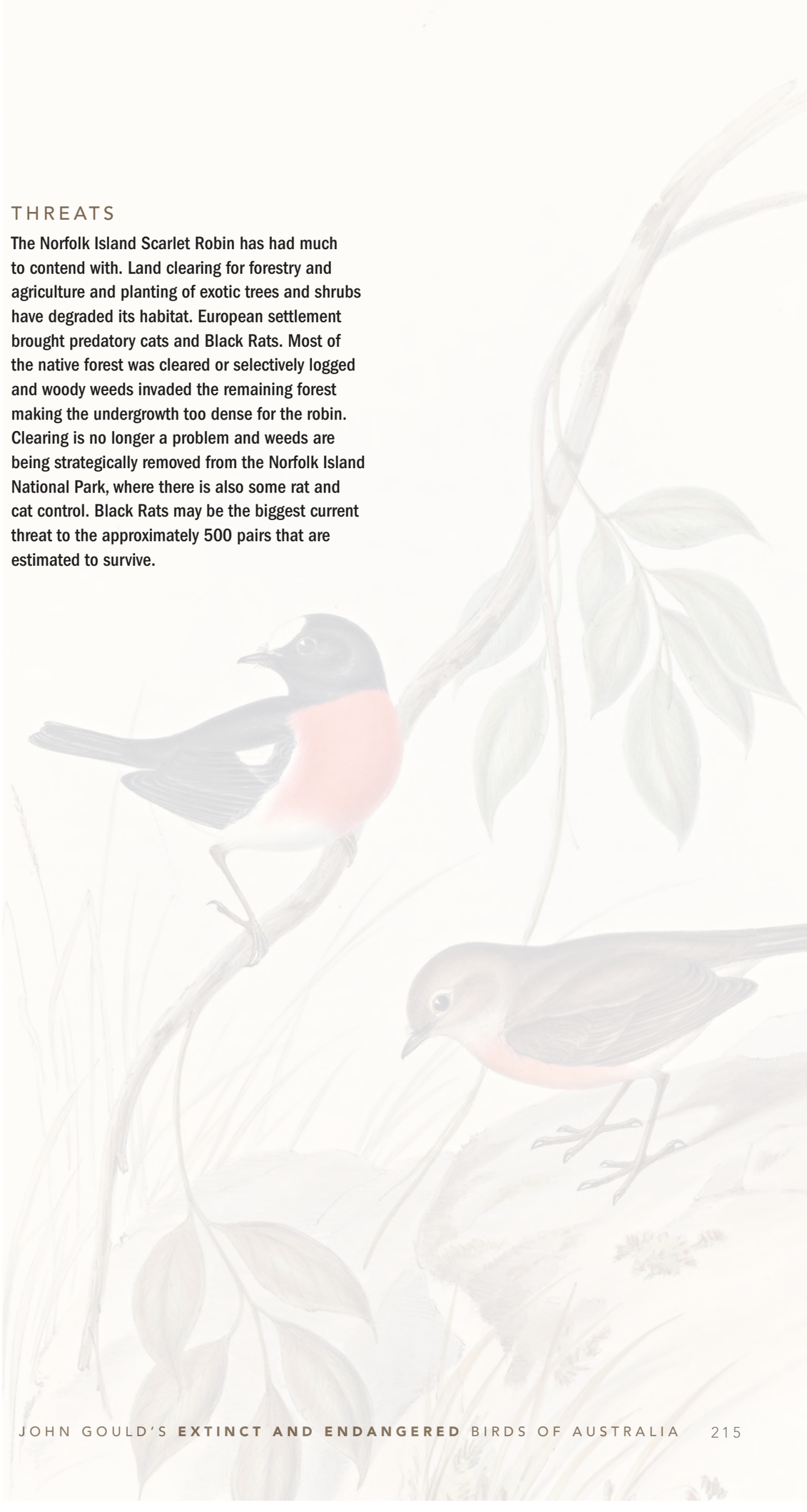
The Norfolk Island Scarlet Robin eats invertebrates, mainly insects, including beetles, springtails, flies, bugs, grasshoppers, moth larvae and ants, and also spiders. Most prey is captured on the ground. The bird hops along gleaning and probing in the litter, as well as pouncing from low horizontal branches.

BREEDING

The Norfolk Island subspecies of the Scarlet Robin breeds between late September and March. Egg laying is between late October and mid-November. The nest is a tiny deep cup of shredded bark, grass and spiders' webs in the fork of a tree or shrub. Two or three clutches are laid per season, each usually of two greenish eggs.

THREATS

The Norfolk Island Scarlet Robin has had much to contend with. Land clearing for forestry and agriculture and planting of exotic trees and shrubs have degraded its habitat. European settlement brought predatory cats and Black Rats. Most of the native forest was cleared or selectively logged and woody weeds invaded the remaining forest making the undergrowth too dense for the robin. Clearing is no longer a problem and weeds are being strategically removed from the Norfolk Island National Park, where there is also some rat and cat control. Black Rats may be the biggest current threat to the approximately 500 pairs that are estimated to survive.



Robust White-eye
Zosterops strenuus

Robust Zosterops
Zosterops strenuus

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54. ROBUST WHITE-EYE

Gould's ambition to document the birds of Australia saw most specimens of newly discovered species collected between the 1830s and his death in 1881 pass through his hands. The Robust White-eye of Lord Howe Island was sent to him by his colleague, naturalist John MacGillivray, who stopped at the island in September 1853 on the survey ship HMS *Herald*. Lord Howe Island had been visited many times since its discovery in 1788 and inhabited since 1834, yet the white-eyes, which MacGillivray found were 'the most common birds upon the island', had never been described.

Gould described the Robust White-eye in 1855 as being 5 ¾ inches (14.6 centimetres) long, 'the largest Zosterops so far'. He wrote:

> *Its prominent characters consist in its comparatively great size, robust body and powerful bill; at the same time, in the general style of its colouring, in its snow-white eye-ring, and in all other essential points, it closely agrees with the other species of the genus of which it is a member.*

MacGillivray sent Gould two specimens. The other was the Lord Howe Island Silvereye, which Gould described as the Grey-breasted Zosterops (*Zosterops tephropleurus*), now regarded as a subspecies of the widespread Silvereye, *Z. lateralis*. The two new Zosterops prompted a touch of nostalgia in Gould, who wrote: 'among the many pleasing recollections connected with my explorations in Australia, none are more grateful than those pertaining to this little group of birds'. He particularly enjoyed their 'pretty cup-shaped nests and spotless blue eggs'.

Both Zosterops were still abundant in the 1850s, so much so that they were regarded as pests in orchards. Alas, in 1918, Black Rats were accidentally introduced to Lord Howe and that was the end of the unique Robust White-eye. It was declared extinct in 1928, when concerted efforts failed to find it. Its cousin the Silvereye survived.

Authorities had tried hard to keep the island rat free. Ships were required to anchor offshore and transfer cargo by small boats. However, when the captain of the SS *Makambo* collapsed, the crew was distracted and the ship ran aground. One passenger was killed. The ship remained beached for nine days, and the rats made the most of the opportunity.

ROBUST WHITE-EYE
ZOSTEROPS STRENUUS

STATUS

The Robust White-eye is EXTINCT. It has not been sighted since Black Rats arrived on Lord Howe Island in June 1918.

NAME

In 1855 Gould described the Robust White-eye, naming it the Robust Zosterops, *Zosterops strenuus. Zosterops* joins the Greek words for 'belt' (*zoster*) and 'face' (*ops*); *strenuus* is Latin for 'powerful'.

TAXONOMY

The Robust White-eye is sometimes considered to be a subspecies of the Slender-billed White-eye (*Z. tenuiostris)* of Norfolk Island.

DESCRIPTION

The Robust White-eye was a small olive-brown bird, with a wingspan of about 70 centimetres, an olive head, yellow throat and characteristic white eye-ring. The male and female looked the same.

HABITAT

Robust White-eyes were reportedly seen in a variety of habitats across Lord Howe Island: palm glades, wooded hillsides, lowland forests and open habitats including settlements.

HABITS

Robust White-eyes congregated in small flocks, keeping in touch with each other with a constant twittering as they travelled through the trees. They also occasionally flocked together with the smaller Silvereye (*Z. lateralis)*. The Robust White-eye was almost certainly sedentary.

VOICE

Unknown.

DIET

Robust White-eyes ate insects and fruit, including cultivated fruit. They probably foraged mostly by gleaning and probing in trees and shrubs. They may also have raided the nests of other birds.

BREEDING

The one recorded date for a clutch of eggs was November. The nest was cup-shaped and suspended, loosely constructed with a combination of palm fibre, grass and rootlets and lined with finer similar material placed in the crown of an introduced Kentia Palm (*Howea forsteriana).* Nests were also built in vine-laden shrubs. The clutch was two to three blue, oval eggs.

THREATS

The Robust White-eye was considered very common and widely distributed over the island in 1908. It was treated as a pest by famers, but predation by Black Rats, introduced by a 1918 shipwreck, is the mostly likely cause of its rapid extinction.

White-chested White-eye
Zosterops albogularis

White-breasted Zosterops
Zosterops albogularis

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55. WHITE-CHESTED WHITE-EYE

When Gould named the White-chested White-eye in 1837, it was common and widespread throughout Norfolk Island, living in the rainforest that once covered the tiny island. No doubt it was among the 'small birds' mentioned in James Cook's log, written when he discovered the remote island in 1774.

Much of the forest was cleared during the two periods of use as a penal settlement, mostly during the second between 1825 and 1855. Hence, by 1900, White-chested White-eyes were more or less restricted to the largest remaining patches of undisturbed rainforest around Mount Pitt (now in Norfolk Island National Park), but still in good numbers.

When Gould wrote about the White-chested White-eye in the supplement to *The Birds of Australia*, published in 1869, he had little to say, except that it was one of the widespread Zosterops family and came from Norfolk Island:

> *whence specimens have been sent from time to time ever since it was formed into a penal settlement. As is the case with the other members of the genus, there appears to be but little difference in the outward characters of the sexes, all the specimens that have reached this country being very similar.*

As in many other places, there were two Zosterops of the Norfolk Island group; the other is the Slender-billed White-eye (*Z. tenuirostris*). The White-chested White-eye was the larger of the two, rivalling Lord Howe's Robust White-eye for the title of largest white-eye in the Australasian region. Like its Lord Howe cousin, it is probably extinct, despite a handful of unconfirmed sightings until 2009. On both islands, only the smaller Zosterops persists.

WHITE-CHESTED WHITE-EYE
ZOSTEROPS ALBOGULARIS

STATUS

The White-chested White-eye is CRITICALLY ENDANGERED, Possibly EXTINCT.

NAME

Gould described this bird in 1837, naming it the White-breasted Zosterops, *Zosterops albogularis. Zosterops* joins the Greek words for 'belt' (*zoster*) and 'face' (*ops*); *albogularis* joins the Latin words for 'white' (*albus*) and 'throated' (*gularis*).

Today, its scientific name remains the same but its common name is now the White-chested White-eye. The only apparent reason for this change is that an African white-eye, *Z. abyssinica,* is commonly known as the White-breasted White-eye.

TAXONOMY

There are no recognised subspecies of the White-chested White-eye.

DESCRIPTION

At 13 to 14 centimetres in length, this is the largest white-eye, second only to the extinct Robust White-eye of Lord Howe Island. It has an olive-green back, rufous flanks, black lores, and, distinctively, a pure white throat and belly.

HABITAT

If it still exists, the White-chested White-eye lives in remnant forest on Norfolk Island, confined to the Norfolk Island National Park and neighbouring vegetation. It occurs in the upper canopy, mainly in weed-free indigenous forest. In the past it was found feeding and breeding in settled areas and orchards.

HABITS

Almost nothing is known about the life history and ecology of the White-chested White-eye. The birds are quiet and do not form flocks (but this may be a function of their rarity). They occur singly or in pairs and occasionally join flocks of the Slender-billed White-eye and self-introduced Silvereye (which arrived about 1904).

VOICE

The White-chested White-eye is quieter than other members of the genus. One report is that it softly mimics other birds, including the introduced species, the Common Blackbird (*Turdus merula)* and the Song Thrush (*T. philomelos)*.

DIET

White-chested White-eyes feed in the tree canopy, eating insects and fruits, and have been observed feeding on olives and caterpillars. Insects are gleaned from the foliage.

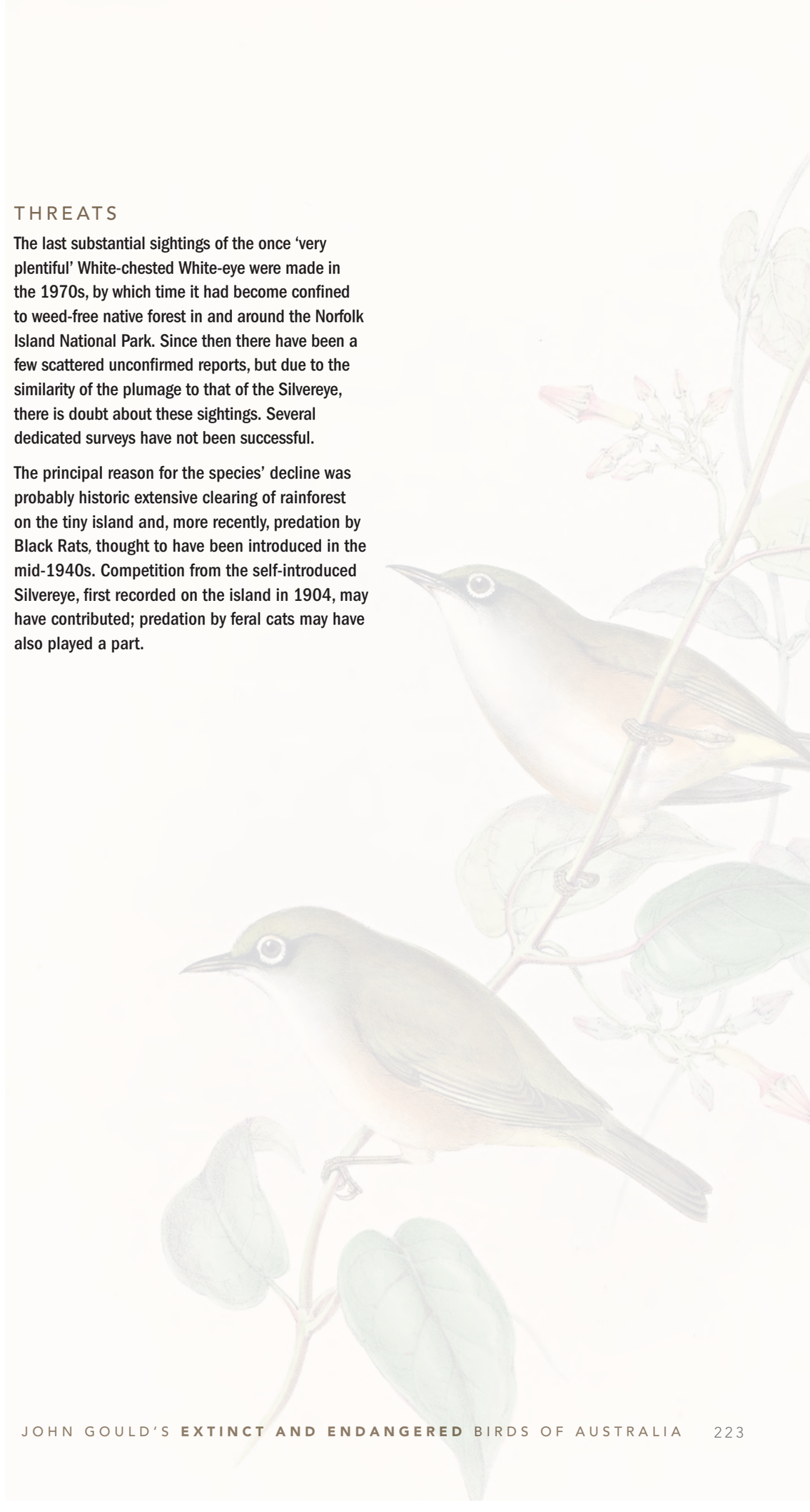
BREEDING

The White-chested White-eye breeds between October and December. Pairs indulge in mutual preening which tends to indicate a strong bond. The nest is cup shaped and suspended by the rim. It is made of dry grass and rootlets, and lined with fine grass and other soft material. The bird nests in rainforest and in red guava trees in orchards. The clutch size is probably two.

THREATS

The last substantial sightings of the once 'very plentiful' White-chested White-eye were made in the 1970s, by which time it had become confined to weed-free native forest in and around the Norfolk Island National Park. Since then there have been a few scattered unconfirmed reports, but due to the similarity of the plumage to that of the Silvereye, there is doubt about these sightings. Several dedicated surveys have not been successful.

The principal reason for the species' decline was probably historic extensive clearing of rainforest on the tiny island and, more recently, predation by Black Rats, thought to have been introduced in the mid-1940s. Competition from the self-introduced Silvereye, first recorded on the island in 1904, may have contributed; predation by feral cats may have also played a part.



Island Thrush
(Norfolk Island subspecies)
Turdus poliocephalus poliocephalus

Grey-headed Blackbird
Merula poliocephala

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56.
ISLAND THRUSH

(Norfolk Island subspecies)

British ornithologist John Latham, who described many Australian birds, named the Island Thrush from Norfolk Island in 1802. He used as his reference a painting brought back to London in 1795 by John White, who had been surgeon on the First Fleet and engaged several convict artists to record the natural history of the new colony. A 'Sooty Thrush' among the extant paintings, now in the British Museum of Natural History, depicts the distinctive Norfolk Island bird but is not thought to have been his reference.

Latham named the Grey-headed Thrush *Turdus poliocephalus* in 1802. *Turdus* is Latin for 'thrush' and *poliocephalus* is Greek for 'grey-headed'. Later, in *The Birds of Australia*, unaware of Latham's precedent, Gould called it the Grey-headed Blackbird, *Merula poliocephala*. *Merula* comes from the specific name for the European Blackbird *Turdus merula*. Gould made the correction in his 1865 *Handbook:*

> *The present species appears to have been known for a much longer period than I had supposed; indeed I was not aware that Latham had given a good description of the bird under the name of Turdus poliocephalus.*

Gould regretted that he still knew nothing of its habits, noting only that unlike the European blackbird the female was little different in plumage from the male. He also made the observation that:

> *When Norfolk Island was first made a penal settlement, this bird was doubtless very common there, but I have reason to believe it has now become scarce, having been partially extirpated by the Government officers and convicts who lived on this beautiful island for many years.*

Nevertheless, the thrush remained reasonably common until the 1940s, which, perhaps not coincidentally, was when Black Rats arrived on Norfolk Island. When the Lord Howe Island subspecies of the Island Thrush became extinct, two attempts were made to introduce birds from Norfolk Island. Sixty birds were taken to Lord Howe in May 1925 and more in November 1935, suggesting that there were still reasonable numbers on Norfolk Island at that time. The attempted translocation was not a success.

As recently as 1968, two Island Thrushes were caught in mist nets in the Norfolk Island National Park. The last sighting was in 1975.

ISLAND THRUSH (NORFOLK ISLAND SUBSPECIES)

TURDUS POLIOCEPHALUS POLIOCEPHALUS

STATUS

The Norfolk Island subspecies of the Island Thrush is EXTINCT. The last confirmed sighting was in 1975. The species is of Least Concern.

NAME

Latham described *Turdus poliocephalus*. Unaware that it was already named, Gould called it the Grey-headed Blackbird, *Merula poliocephala*.

Turdus is Latin for 'thrush'. *Poliocephalus* is Greek for 'grey head'. *Merula* was the specific name for the Common Blackbird (*T. merula)*.

TAXONOMY

Island Thrushes are widespread on islands throughout south and south-east Asia and the south-west Pacific. There are about 52 recognised subspecies, three in Australia: *Turdus poliocephalus poliocephalus* (Norfolk Island); *T. p. erythropleurus* (Christmas Island), which is Near Threatened; and *T. p. vinitinctus* (Lord Howe Island), which is Extinct.

DESCRIPTION

On Norfolk Island the Island Thrush looked like a Common Blackbird, sooty black, but with an ashy-grey head. It was about 21 centimetres in length and 55 grams in weight. Females were slightly smaller and duller than males. The bill and legs of adults were yellow.

HABITAT

The thrush was a forest bird, originally occurring throughout the Norfolk Island group, coming into gardens in settled areas.

HABITS

The thrush was often seen turning leaves over on the ground. It was usually solitary, tame, quiet and unobtrusive.

VOICE

The song was said to be similar to that of the Common Blackbird.

DIET

The thrush foraged mainly on the ground, in leaf litter, for small invertebrates—including insects, worms and snails—and for seeds and fallen fruit.

BREEDING

On Norfolk Island, the Island Thrush bred in spring and then again in autumn. The large, deep, bowl-shaped nest was made of grass, leaves, stalks, fibres, moss and lichens. It was placed in the fork of a tree from 2 to 5 metres off the ground. There were from two to four pale greenish-blue eggs with grey and red markings, which were incubated by the female alone.

THREATS

The Island Thrush was last seen on Norfolk Island in the 1970s. Despite extensive clearing of the island's forests, it remained common until the 1940s, when Black Rats were accidentally introduced. Immature Common Blackbirds on Norfolk Island have a lighter head than adults and a substantial proportion of the population is pied, leading to speculation that hybridisation with the blackbird hastened the thrush's extinction.

Island Thrush
(Lord Howe Island subspecies also known as the Vinous-tinted Thrush)
Turdus poliocephalus vinitinctus

Vinous-tinted Blackbird
Merula vinitincta

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57.
ISLAND THRUSH

(Lord Howe Island subspecies)

In 1853 John MacGillivray visited Lord Howe Island on HMS *Herald* and collected several specimens for Gould, including 'two fine examples' of the Island Thrush, known at the time as the Doctor Bird. Nearly two years later, in July 1855, Gould made a presentation to the Zoological Society of London entitled: 'On Some New Species of Birds Collected by Mr M'Gillivray', which also included the two Zosterops (silvereyes or white-eyes).

Gould named the new bird the Vinous-tinted Blackbird *Merula vinitincta*, in acknowledgement of its wine-like colour. He regretted that:

> *no account of their habits accompanied the specimens, for it would be most interesting to know the character of the vegetation and other circumstances favourable to their existence.*

Previously uninhabited, Lord Howe Island was settled in 1834. In 1844 Dr John Foulis and his wife moved to Lord Howe hoping to obtain a lease to develop the island, having formed a syndicate to buy out the few residents. They obtained the land but not the lease and returned to Sydney in 1847. Settlers brought to the island to work for Dr Foulis and his associates decided to stay on and farm the land. Presumably these more humble settlers gave the Island Thrush the name Doctor Bird, after Dr Foulis, who was fond of wearing a long, reddish-brown coat.

Gould noted the Doctor Bird's resemblance to the Lord Howe Island blackbird that he had also described, and puzzled over their occurrence so far from the blackbirds of Europe and Asia. Today, they are known as Island Thrushes, with various subspecies spread from Taiwan to Australia, still part of the wider blackbird family. Unknown to Gould, a third Australian form is found on Christmas Island (*Turdus poliocephalus erythropleurus*). Two of the three—the Lord Howe and Norfolk Island thrushes—are extinct and the Christmas Island form is Near Threatened.

ISLAND THRUSH (LORD HOWE ISLAND SUBSPECIES)

TURDUS POLIOCEPHALUS VINITINCTUS

STATUS

The subspecies of Island Thrush on Lord Howe Island is EXTINCT. The last confirmed sighting was in 1913. The species is of Least Concern.

NAME

Latham described the Island Thrush in 1801, giving it the scientific name *Turdus poliocephalus*. Gould called it the Lord Howe Vinous-tinted Blackbird, *Merula vinitinctus,* because he thought its dark reddish-brown colour was reminiscent of red wine. Today it is regarded as a subspecies of the Island Thrush: *Turdus poliocephalus vinitinctus,* and is called the Vinous-tinted Thrush. *Turdus* is Latin for 'thrush', *poliocephalus* is from the Greek for 'grey head', and *vinitinctus* means 'wine-coloured'.

TAXONOMY

There are at least 50 subspecies of the Island Thrush, spread throughout south-east Asia and the south-west Pacific. There were two other subspecies in Australian territories: *T. p. erythropleurus* on Christmas Island, which is Near Threatened, and *T. p. poliocephalus* on Norfolk Island, which is Extinct.

DESCRIPTION

The Vinous-tinted Thrush was about 23 centimetres in length. It was brownish-chestnut above and burgundy-chestnut below, with a dark-grey head and a bright-yellow bill. The sexes were similar.

HABITAT

The Lord Howe Island subspecies of the Island Thrush inhabited the more secluded forested hillsides, mainly on the north of the island and around Mount Lidgbird.

HABITS

The thrush was quiet and unobtrusive and foraged on the ground. It was quite tame and could be quietly approached to within a few feet. There are reports of flocks gathering at sunset and turning over leaves looking for worms and insects.

VOICE

The thrush's song was similar to that of the Common Blackbird, but more monotonous. The alarm call was two sharp knocks.

DIET

The diet consisted of small invertebrates, including insects, worms and molluscs, and seeds and fruit, taken mostly from the ground.

BREEDING

The thrush nested in November and December. The nest was a large bowl, constructed mainly of palm fronds, but also of grass, moss, leaves and bark. It was placed on or near the ground.

There were usually two eggs, rarely three. They were pale greenish blue, splotched with grey and red markings. The female alone incubated the eggs.

THREATS

The Island Thrush was still quite common on Lord Howe Island in 1906. It is presumed to have been driven to extinction by predatory Black Rats which escaped from a beached steamship in 1918.

Black-throated Finch
(southern subspecies)
Poephila cincta cincta

Banded Grass Finch
Poephila cincta

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58. BLACK-THROATED FINCH

(southern subspecies)

Gould's name for the Black-throated Finch was published in 1837: *Amadina cincta*. By the time he profiled the species in *The Birds of Australia* in 1848, he had given it the common name of the Banded Grass Finch and placed it in the genus *Poephila*, a name 'proposed for a number of Grass-Finches distinguished for the beauty of their plumage and the elegance of their form'.

Gould happened upon the finch only once in the wild, in the summer of 1838 to 1839, on the Liverpool Plains:

> *This species is tolerably abundant on the Liverpool Plains and the open country to the northward towards the interior. It occurs so rarely on the sea side of the ranges, that I only once met with it during my sojourn in New South Wales. It is doubtless a native of the great basin of the interior, where … it frequents those parts of the open plains which abound in grasses, upon the seeds of which and other plants it mostly subsists. The range of this species is entirely unknown; I have never seen a specimen except from the localities above mentioned.*

In Gould's day, the southern subspecies of the Black-throated Finch ranged from about Inverell in north-eastern New South Wales to the Atherton Tablelands in central Queensland, where it interbred with the northern subspecies. Its abundance and range began to noticeably contract in about 1900. It was last seen around Brisbane in the 1940s, had all but disappeared from New South Wales and Rockhampton by the 1970s, and was gone from the New England Tableland region by the 1990s. Most of the population now survives in the Townsville region.

BLACK-THROATED FINCH (SOUTHERN SUBSPECIES)

POEPHILA CINCTA CINCTA

STATUS

The southern subspecies of the Black-throated Finch is VULNERABLE. The species as a whole is of Least Concern.

NAME

Gould described the Black-throated Finch in 1837 naming it the Banded Grass-finch, *Amadina cincta.* His specimen came from New South Wales, which then included Queensland. It is believed that *Amadina* is derived from 'amadis', an embroidered edging on a bodice. *Cincta* is Latin for 'banded'. Today, the finch is known as *Poephila cincta*. *Poephila* joins the Greek for 'grass' (*poë*) with the Greek for 'fond of' (*philos*).

TAXONOMY

There are two subspecies of Black-throated Finch, both now only in northern Queensland: the southern subspecies *Poephila cincta cincta* (south of Townsville), and the northern subspecies *P. c. atropygialis* (north of Townsville).

DESCRIPTION

The southern Black-throated Finch is a small, short-tailed finch about 10 centimetres in length. It has a cinnamon body, a pale blue-grey head with a striking black throat, a white rump and black tail. There is no seasonal variation.

HABITAT

The southern Black-throated Finch lives in dry open grassy woodlands and forests with seeding grasses, never far from water. It now has a small range, from Rockhampton to Townsville, inland to Barcaldine.

HABITS

Black-throated Finches forage on the ground in flocks of up to 30 birds. They are basically sedentary, but will move if forced to by drought. Very sociable little finches, they gather together in the top branches of a dead tree and each bird communicates with others, bobbing and bowing and singing. Outside the breeding season, they build special nests to roost in overnight.

VOICE

The Black-throated Finch makes a soft contact call in flight. It can also whistle. The adult male has a soft, musical song.

DIET

Black-throated Finches eat grass seeds all year round. They also eat spiders and ants, and add termites to their diet during the wet season.

BREEDING

The breeding season of the southern Black-throated Finch is from September to January. One or two broods may be raised each year. The nest is a domed structure with an entrance spout, woven by the pair from dried grasses, and lined with feathers. It is placed high in a eucalypt, occasionally in a tree hollow. Four to six matte white oval eggs are laid. Both parents incubate, brood and feed the young. Incubation takes about a fortnight; fledging takes about three weeks.

THREATS

Historically the southern Black-throated Finch occurred from Inverell in north-eastern New South Wales, through eastern Queensland to the Burdekin–Lynd Divide, near Townsville. For several decades, the population has declined rapidly. Much of the remaining population is in the Townsville region and is estimated to number only about 1,400 adults. The main reason is probably habitat loss and degradation due to overgrazing, in concert with drought and changes in fire regimes.

Star Finch
(southern subspecies)
Neochmia ruficauda ruficauda

Red-tailed Finch
Estrelda ruficauda

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59.
STAR FINCH

(southern subspecies)

At the October 1836 forum of the Zoological Society of London 'Mr Gould brought under notice of the Meeting several species of Birds from New South Wales, which he considered to be new to science'. Among them were four species of finch: the Star Black-throated Finch, the Plum-headed Finch, and the Australian subspecies of the Zebra Finch. Unfortunately, because Queensland was then part of New South Wales, the collection localities of these birds are not known.

Gould's description of the Star Finch was published in 1837. A couple of years later Gould was in Australia and saw the bird himself. Between December 1838 and January 1839, he travelled with his brother-in-law Charles Coxen across the Liverpool Plains, down the Mokai to the Namoi River, where he saw the finch just once, as he reported in volume three of *The Birds of Australia*:

> *I observed this beautiful Finch rather thinly dispersed on the sides of the river Namoi, particularly along the sloping banks covered with herbage, where it appeared to be feeding upon such grasses and other annuals as afforded seeds congenial to its taste; I also frequently observed it among the rushes which grow in the beds of the mud along the sides of the water.*

He named it the Red-tailed Finch even though its tail is a rather dull shade of red. He had little else to report, noting only that few specimens were in collections because of its inland distribution, and that 'the only parts of Australia whence I have received or in which I have killed it, are the Liverpool Plains, and the banks of the rivers Mokai and Namoi'.

In 1865, Gould established a new genus (*Bathilda*) especially for this 'delicately coloured bird, rendered conspicuously different from other Finches by the spotted markings of the chest'. Today, ornithologists place the Star Finch in the genus *Neochmia*, with five other species, including the Crimson Finch, which has spotted flanks.

Gould's Red-tailed Finch is now regarded as a subspecies of the Star Finch: the southern Star Finch. It is poorly known and may never have been common, possibly also retreating early from the first wave of European pastoral use of its habitat. It is a long time since it was seen in New South Wales. Altogether, there have been only 25 unequivocal records since 1835, the last made in 1990, and most of them from the Rockhampton area in Queensland—a very long way from where Gould observed it.

STAR FINCH (SOUTHERN SUBSPECIES)
NEOCHMIA RUFICAUDA RUFICAUDA

STATUS

The southern Star Finch is CRITICALLY ENDANGERED, Possibly EXTINCT. The species as a whole is of Least Concern.

NAME

Gould described the Star Finch in 1837, naming it the Red-tailed Finch, *Amadina ruficauda*. *Ruficauda* joins the Latin words for 'red' (*rufus*) and 'tail' (*cauda*). Its generic name has been through a few changes—one permutation being *Estrelda*, as used by Gould in *The Birds of Australia*—but the bird is now known as *Neochmia ruficauda. Neochmia* is Greek for 'change'.

TAXONOMY

There are three subspecies of the Star Finch: *Neochmia ruficauda ruficauda* (in eastern Queensland); *N. r. clarescens* (on Cape York Peninsula), which is Near Threatened; and *N. r. subclarescens* (in north Western Australia and Northern Territory), which is of Least Concern.

DESCRIPTION

The Star Finch is a small olive-coloured grass finch about 11 to 12 centimetres in length. The adults have a bright red facial 'mask', a bright orange-red bill, and bright orange iris. Immature birds are pale brown with a dark bill and eye. The southern Star Finch has much paler underparts than either of the northern subspecies.

HABITAT

The southern Star Finch occurs (if at all) in central eastern Queensland. The Star Finch inhabits tall grasses and reeds near rivers or swamps, and grassy woodlands, always near water.

HABITS

The southern Star Finch is gregarious. It once occurred in pairs and in small flocks of up to 20 (or, rarely, 50) birds. A flock flies fast and straight, sometimes making sharp turns as if with one mind. An individual bird, flying a short distance, flies with undulations.

The southern Star Finch is thought to be largely sedentary. Pairs remain together all year. There may be some local seasonal movement.

VOICE

When in flight, the Star Finch keeps in touch constantly with a loud, high-pitched 'sseet' call. When feeding among the grass, they have a low-pitched communication call, described as 'pslit' or 'tlit'.

DIET

The Star Finch eats ripe and semi-ripe seeds of grasses and sedge, preferably taken from grass stems. The bird only resorts to taking seeds from the ground at the end of the season. During the breeding season, it adds protein-rich insects to its diet.

BREEDING

The southern Star Finch breeds after good rains. It has been recorded nesting in November. Like other subspecies of the Star Finch, it probably nests in pairs within loose colonies and can raise two broods a year. The bottle-shaped nest is built in a tree, or in rank riverside vegetation. Other aspects of the breeding biology are likely to be similar to those for the other subspecies: the female lays three to seven white eggs that are incubated by both sexes for a period of approximately 13 days; the nestlings are fed and brooded by both parents and remain in the nest for approximately 17 days.

THREATS

Possibly, the southern Star Finch was never common. There are very few records: between 1835 and 1990 only 25 records seem unequivocal, mostly from the Rockhampton area. Formerly its range extended from southern Cape York Peninsula into inland north-east New South Wales. The finch's habitat along rivers would have been highly vulnerable to overgrazing and trampling by livestock, particularly during drought.

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EXTINCT AUSTRALIAN BIRDS ILLUSTRATED BY GOULD

CRITICALLY ENDANGERED AUSTRALIAN BIRDS ILLUSTRATED BY GOULD

ENDANGERED AUSTRALIAN BIRDS ILLUSTRATED BY GOULD

VULNERABLE AUSTRALIAN BIRDS ILLUSTRATED BY GOULD

INDEX OF BIRD NAMES

Note: Only current common and scientific names have been indexed.

Johnson, George Randall (1833–1919): English-born lawyer and cricketer who lived in New Zealand for a time where he was a member of the Legislative Council; presented to the Australian Museum the first Australian specimen of the Southern Cassowary which he collected in September 1866 on a visit to Rockingham Bay, Queensland. **6**

Kuhl, Heinrich (1797–1821): German naturalist and zoologist; published the first monograph on petrels **17, 18**

Latham, John (1740–1837) English naturalist who has been called the 'grandfather' of Australian ornithology; examined specimens of Australian birds that reached England in the last 20 years of the eighteenth century, and was responsible for naming many of them **46, 114, 134, 146, 157, 158, 181, 182, 225, 226, 230**

Leadbeater, Benjamin (1760–1837): renowned London taxidermist, ornithologist and trader in natural history specimens **137**

Lear, Edward (1812–1888): accomplished artist employed occasionally by the Zoological Society and by John Gould; more famous today for his nonsense verse **137, 138**

Lesson, René Primevère (1794–1849): French naturalist who was particularly famous for his work on hummingbirds **65, 66, 82**

Lewin, John William (1770–1819): naturalist and Australia's first free-settler professional artist; author of the first work on the birds of Australia, *Birds of New Holland with Their Natural History* (1808) **82**

Linnaeus, Carl (1707–1778): Swedish botanist, physician and zoologist, known for his system of binomial nomenclature **5, 26, 102, 106**

MacGillivray, John (1821–1867): naturalist on the survey ship HMS *Rattlesnake*; made large collections of specimens of plants and all kinds of animals, especially birds and mollusc shells **57, 101, 129, 130, 169, 217, 229**

Mathews, Gregory Macalister (1876–1949): Australian-born ornithologist whose main interest lay in taxonomy; published the 12-volume *The Birds of Australia* between 1910 and 1927 **18, 41, 42, 129, 130, 202**

Menzbier, Mikhail Aleksandrovich (1855–1935): Russian ornithologist based in Moscow, where he was a founding member of the Kessler Ornithological Society, Russia's first ornithological body; a professor of comparative anatomy at Moscow University, one of his major areas of work was on the taxonomy of birds of prey **102**

Mueller, Ferdinand (1825–1896): German-born botanist and explorer; Victorian Government Botanist, 1853–1896, and Director of the Botanical Gardens in Melbourne, 1857–1873; became Ferdinand von Mueller in 1867 **5, 6, 161**

North, Alfred John (1855–1917): Melbourne-born ornithologist and egg collector associated with the Australian Museum, Sydney; noted for his book *Nests and Eggs of Birds Found Breeding in Australia and Tasmania* **89**

Pallas, Peter Simon (1741–1811): German zoologist, botanist and explorer who worked in Russia, he developed a new system of animal classification; described a number of animals which include his surname in their common names; the meteor rock, pallasite, is named after him **86**

Ramsay, Edward Pierson (also Pearson) (1842–1916): ornithologist and zoologist; first Australian-born curator of the Australian Museum, 1874–1894, and consulting ornithologist to the Australian museum, 1895–1909; published works on ornithology and icthyology **169, 170**

Richter, Henry Constantine (1821–1892): zoological illustrator and lithographer; after Elizabeth Gould's death, Richter was employed by John Gould to work *on The Birds of Australia*; also responsible for all the plates in Gould's *A Monograph of the Macropodidae or Family of Kangaroos* (1841–1842) and *The Mammals of Australia* (1863) **41, 137, 201**

Selby, Prideaux John (1788–1867): English ornithologist, botanist and artist who published *Illustrations of Ornithology* (1826–1843) with William Jardine, describing many new Australian genera and species **13, 14**

Shaw, George (1751–1813): English botanist and zoologist; assistant-keeper of Natural History at the British Museum from 1807 until his death; made several first descriptions of Australian animals in his publications **145, 146, 197, 198**

Smith, James Edward (1759–1828): English botanist and the founding president of the Linnean Society of London; prolific contributor to English botanical literature **14**

Stejneger, Leonhard (1851–1943): Norwegian-born American ornithologist, herpetologist and zoologist; curator of birds at Museum of Washington **170, 174**

Stephens, James Francis (1792–1853): English entomologist who continued George Shaw's *General Zoology* after Shaw's death **166**

Strange, Frederick (1826–1854): English-born; set up a business in Sydney as a natural history specimen collector; collected for explorer Charles Sturt and sometimes for John Gould **93**

Swainson, William (1789–1855): English-born zoologist who migrated to New Zealand in 1841 and worked in Australia in 1855; the first illustrator and naturalist to use lithography; many birds have his surname as part of their common names **82**

Temminck, Coenraad Jacob (1778–1858): Dutch zoologist and aristocrat who was an authority on European birds, a subject on which he published; first director of the National Natural History Museum at Leiden from 1820 until his death **29, 30**

Wagler, Johann Georg (1800–1832): German herpetologist, Director of the Zoological Museum at the University of Munich **73, 74**

Watling, Thomas (1762–c. 1814): convicted forger and artist assigned to John White in Port Jackson; well known for his natural history drawings, portraits of Aboriginal people and landscapes **181**

White, John (1757–1832): amateur naturalist; principal surgeon on the First Fleet and in the infant colony of New South Wales **145, 181, 197, 225**

Wilcox, James Fowler (1832–1881): English collector who sailed on the expedition of the HMS *Rattlesnake* (1846–1850) to Torres Strait before settling in Australia where he established himself as a dealer in natural history items **169**

Wilson, Alexander (1766–1813): Scotsman who migrated to America where he became one of the pioneers of American ornithology; his *American Ornithology* (1808–1814) described and illustrated 268 species of North American birds **18**