

= Turquoise parrot =

The turquoise parrot ( *Neophema pulchella* ) is a species of parrot in the genus *Neophema* native to Eastern Australia , from southeastern Queensland , through New South Wales and into north @-@ eastern Victoria . It was described by George Shaw in 1792 . A small lightly @-@ built parrot at around 20 cm ( 8 in ) long and 40 g ( 1 1 ? 2 oz ) in weight , it exhibits sexual dimorphism . The male is predominantly green with more yellowish underparts and a bright turquoise blue face . Its wings are predominantly blue with red shoulders . The female is generally duller and paler , with a pale green breast and yellow belly , and lacks the red wing patch .

Found in grasslands and open woodlands dominated by *Eucalyptus* and *Callitris* species , the turquoise parrot feeds mainly on grasses and seeds and occasionally flowers , fruit and scale insects . It nests in hollows of gum trees . Much of its habitat has been altered and potential nesting sites lost . Predominantly sedentary , the turquoise parrot can be locally nomadic . Populations appear to be recovering from a crash in the early 20th century . The turquoise parrot has been kept in captivity since the 19th century , and several colour variants exist .

= = Taxonomy and naming = =

Well known around the Sydney district at the time of European settlement in 1788 , the turquoise parrot was described by George Shaw as *Psittacus pulchellus* in 1792 , the species name *pulchellus* being Latin for " very pretty " and referring to its plumage . He called it the Turquoise after its turquoise face patch . The holotype likely ended up in the Leverian collection in England , and was lost when the collection was broken up and sold . German naturalist Johann Matthäus Bechstein gave it the scientific name *Psittacus edwardsii* in 1811 , based on François Levaillant 's description of the species as la Perruche Edwards in his 1805 work *Histoire Naturelle des Perroquets* . Levaillant named it in honour of the English naturalist George Edwards . William Swainson used Shaw 's name in 1823 in his work *Zoological Illustrations* , noting that it was " impossible to represent this superb little creature in its full beauty " . Drawing on the previous works , René Primevère Lesson described it as *Lathamus azureus* in 1830 , the species name being the Medieval Latin word *azureus* " blue " .

Italian ornithologist Tommaso Salvadori defined the new genus *Neophema* in 1891 , placing the turquoise parrot within it and giving it its current scientific name . There is little geographical variation , with some minor local differences in the amount of orange on the belly . In 1915 , Gregory Mathews described a subspecies *dombrainii* from Victoria on the basis of more prominent red on the scapulars ; however , this distinction was not confirmed on review with New South Wales specimens , and hence no subspecies are recognised . One of six species of grass parrot in the genus *Neophema* , it is most closely related to the scarlet @-@ chested parrot . The two are an allopatric species pair , and are the only two species in the genus to exhibit marked sexual dimorphism ? namely the male and female being different in appearance .

The English common name of the turquoise parrot has varied between chestnut @-@ shouldered parakeet , chestnut @-@ shouldered grass @-@ parakeet , chestnut @-@ shouldered grass @-@ parrot , chestnut @-@ winged grass @-@ parakeet , chestnut @-@ winged grass @-@ parrot , and turquoise grass parrot , this last name commonly used in aviculture . The name red @-@ shouldered parakeet was incorrectly applied to this species , as it was an alternative name for the paradise parrot .

= = Description = =

Ranging from 20 to 22 cm ( 8 ? 83 ? 4 in ) long with a 32 cm ( 12 1 ? 2 in ) wingspan , the turquoise parrot is a small and slightly @-@ built parrot weighing around 40 g ( 1 1 ? 2 oz ) Both sexes have predominantly green upperparts and yellow underparts . The male has a bright turquoise @-@ blue face which is darkest on the crown and slightly paler on the lores , cheeks and ear coverts . The neck and upperparts are grass @-@ green , and the tail is grass @-@ green with yellow borders .

The wing appears bright blue with a darker leading edge when folded , with a band of red on the shoulder . The underparts are bright yellow , slightly greenish on the breast and neck . Some males have orange patches on the belly , which may extend to the breast . When extended , the wing is dark blue with red on the trailing edge on the upper surface , and black with dark blue leading coverts underneath . The upper mandible of the bill is black and may or may not fade to grey at the base , while the lower mandible is cream with a grey border in the mouth . The cere and orbital eye @-@ ring are grey and the iris is dark brown . The legs and feet are grey .

Generally duller and paler , the female has a more uniform and paler blue face , with highly contrasting cream bare skin around the eye . It lacks the red shoulder band , and the blue shoulder markings are darker and less distinct . The throat and chest are pale green and the belly is yellow . The upper mandible is paler brown @-@ grey with a darker tip , and has been recorded as black while nesting . The lower mandible is pale grey to almost white . When flying , the female has a broad white bar visible on the underwing .

Juvenile birds of both sexes have less extensive blue on their faces , the coloration not extending past the eye . The upperparts resemble those of the adult female . Both sexes have the white wing @-@ stripe , which disappears with maturity in males . The immature male has a red patch on the wing and may also have an orange wash on the belly .

= = Distribution and habitat = =

The turquoise parrot is found in the foothills of the Great Dividing Range and surrounding areas . The northern limit of its range is 26 ° south in southeastern Queensland , around Cooloola , Blackbutt and Chinchilla , extending westwards to the vicinity of St George . Before 1945 , it had been recorded as far north as the Suttor River and Mackay . In New South Wales , it is found in a broad band across the central and eastern parts of the state , with its western limits delineated by Moree , Quambone , Hillston , Narrandera and Deniliquin . There have been unconfirmed sightings in the far west of the state . In Victoria it is found in the vicinity of Wangaratta as well as East Gippsland and around Mallacoota . Sightings in South Australia are likely to have been the scarlet @-@ chested parrot , the similar appearance of the females leading to confusion and misidentification .

The turquoise parrot inhabits open woodland and savanna woodland composed either of native cypress ( *Callitris* species ) or eucalypts , particularly white box ( *Eucalyptus albens* ) , yellow box ( *E. melliodora* ) , Blakely 's red gum ( *E. blakelyi* ) , red box ( *E. polyanthemos* ) , red stringybark ( *E. macrorhyncha* ) , bumble box ( *E. populnea* ) , or mugga ironbark ( *E. sideroxylon* ) , and less commonly *Angophora* near Sydney , silvertop ash forest ( *E. sieberi* ) in Nadgee Nature Reserve , and stands of river red gum ( *E. camaldulensis* ) , mountain swamp gum ( *E. camphora* ) or western grey box ( *E. microcarpa* ) in flatter more open areas . Within this habitat , it prefers rocky ridges or gullies , or transitional areas between different habitats , such as between woodland and grassland or fields in cultivated areas .

The turquoise parrot is considered sedentary and does not migrate , though its movements are not well known . Birds are present in some areas all year , though in northern Victoria they are thought to move into more open areas outside the breeding season . Some populations may be locally nomadic , following availability of water .

= = Conservation status = =

Around 90 % of the turquoise parrot population resides in New South Wales . The species is not listed as threatened on the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 , though a status of near threatened was proposed by Stephen Garnett and Gabriel Crowley in their 2000 work *The Action Plan for Australian Birds* on account of the significant reduction in distribution . Its population and range have varied wildly ; widely distributed across eastern Australia from Mackay to Melbourne up to the 1880s , it vanished from much of its range to the extent that it was presumed extinct in 1915 . It was not recorded from Queensland between

1923 and 1950 , and Victoria between the mid 1880s and 1949 . However , numbers in New South Wales began increasing in the 1930s and the species had repopulated East Gippsland by the 1960s . Tentatively estimated at 20 000 breeding birds in 2000 , the population is thought to be still rising .

== New South Wales ==

The turquoise parrot was once common across the Sydney region , and particularly abundant between the localities of Parramatta and Penrith . It dramatically declined in numbers between 1875 and 1895 , although rare sightings in western Sydney and the Blue Mountains were recorded in the mid twentieth century . The turquoise parrot was trapped for the aviary trade and used as pie filling . Almost all of its preferred habitat , the Cumberland Plain , across western Sydney , had disappeared with development . Over half the woodland in New South Wales , and 80 % across Australia has been cleared , and the remaining habitat is fragmented . A key issue is removal of mature eucalypts with resulting loss of hollows available for nesting . The species is thus listed as a Vulnerable species under Schedule 2 of the New South Wales Threatened Species Conservation Act , 1995 because of habitat destruction ( TSC Act ) . Fire burning regimes may be resulting in the regeneration favouring shrubs rather than grasses , which are the preferred food source for the species . Feral cats and foxes are a threat , particularly to nesting birds and young .

== Victoria ==

Although formerly common in its range , the species was on the brink of extinction in Victoria by 1917 . However , numbers have built up again since the 1930 ? 40s as it reestablishes in its former territory . On the 2007 advisory list of threatened vertebrate fauna in Victoria , this species is listed as near threatened .

== Behaviour ==

Turquoise parrots are encountered in pairs or small groups consisting of parents and several offspring , though they may congregate into larger flocks of up to 50 to 75 predominantly juvenile birds outside the breeding season . As the breeding season nears , pairs separate out from these flocks . Turquoise parrots roost together communally in autumn and winter . At night they roost among the foliage of trees such as gums or wattles , anywhere from 1 to 8 m ( 3 ? 25 ft ) above the ground . They retreat to trees near their feeding areas during the day . The calls of the turquoise parrot have been little studied ; birds give a high pitched soft contact call when feeding or in flight , while the alarm call has been described as a high pitched zitting call . Turquoise parrots also chatter when settling to roost in the evening .

== Feeding ==

The turquoise parrot is a predominantly ground based seed eater , foraging in clearings in open woodland , forest margins , and near trees in more open areas such as pastures . It occasionally feeds along road verges and rarely ventures onto lawns . Birds forage in pairs or small troops of up to thirty or even fifty individuals . Observations at Chiltern in Victoria indicated seasonal variation in flock size , with turquoise parrots foraging in groups of 5 ? 30 in winter and 6 ? 8 in spring and summer . Foraging takes place from early in the morning till late afternoon , with a break between midday and mid afternoon . Birds prefer to feed in shaded areas , where they are better camouflaged in the grass .

Grass and shrub seeds form the bulk of the diet , and leaves , flowers , fruit and scale insects are also eaten . The turquoise parrot has been recorded feeding on seeds of various plant species ; more commonly consumed items include the fruit of common fringe myrtle ( *Calytrix tetragona* ) , seeds and fruit of erect guinea flower ( *Hibbertia riparia* ) , daphne heath ( *Brachyloma*

daphnoides ) , seeds of common raspwort ( *Gonocarpus tetragynus* ) , *Geranium* species , black anther flax lily ( *Dianella revoluta* ) and grass species such as the introduced big quaking grass ( *Briza maxima* ) and little quaking grass ( *B. minor* ) and members of the genus *Danthonia* , members of the pea genus *Dillwynia* , and small leaved beard heath ( *Leucopogon microphyllus* ) . Seed of the introduced common chickweed ( *Stellaria media* ) and capeweed ( *Arctotheca calendula* ) are also consumed . Nectar of *Grevillea alpina* , and spores from moss have been recorded as food items .

A female was observed placing leaves of the flaky barked tea tree ( *Leptospermum trinervium* ) underneath its feathers , leading the observers to wonder whether they were being used to deter or kill insects .

#### = = = Breeding = = =

The turquoise parrot is monogamous . The male perches upright on a tree stump and extends its wings to show off its red and blue markings when courting a female . Once paired , both sexes look for a nesting site , which is ultimately chosen by the female . Breeding has been reported from Girraween National Park on the New South Wales - Queensland border in the north to Wangaratta and Mallacoota in Victoria . Birds use vertical or nearly vertical hollows of live and dead trees , generally eucalypts , as nesting sites . Occasionally old fence posts have been used . The turquoise parrot competes with ? and may be ousted by ? the eastern rosella ( *Platycercus eximius* ) , red rumped parrot ( *Psephotus haematonotus* ) and brown treecreeper ( *Climacteris picumnus* ) for suitable breeding sites . The tree containing the hollow is often located in open woodland , and the hollow itself is generally at least 1 m ( 3 ft ) above the ground . Fieldwork in northern Victoria yielded average dimensions of 10 by 6 cm ( 4 by 3 in ) for the hollow entrance , and a depth of around 50 cm ( 20 in ) for the depth of the hole . Elsewhere the average depth is around 76 cm ( 30 in ) .

Breeding takes place over the warmer months with eggs laid from August to January . The clutch is laid on a bed of wood dust or leaves and consists of two to five ( or rarely up to eight ) round or oval glossy white eggs , each of which is generally 21 to 22 mm long by 18 mm ( 0 . 8 by 0 . 7 in ) wide . Clutches tend to have more eggs in earlier rather than later clutches , and in nests located further from cleared land . Eggs are laid at an interval of two to three days . Incubation takes 18 to 21 days . The female incubates the eggs and broods the young , and feeds them for their first few days before the male begins helping . She leaves to feed and drink twice a day , once in the morning and once in the afternoon . Both parents take part in feeding the young , on a diet predominantly of seeds with some fruit . The chicks are altricial and nidicolous ; that is , they are born helpless and blind and remain in the nest for an extended period . Covered in silvery white down , they have pink skin and darker blue grey skin around the eye . By seven days they open their eyes , and are well covered in grey down with pin feathers emerging from their wings on day six . They are almost covered in feathers by day 21 , and fledge ( leave the nest ) at around 23 days of age in the wild and up to 30 days of age in captivity .

Around 56 % of eggs lead to successful fledging of young , with fieldwork in northeastern Victoria yielding an average of 2 . 77 young leaving the nest . The lace monitor ( *Varanus varius* ) and red fox ( *Vulpes vulpes* ) are nest predators . Baby birds may perish by overheating in very hot weather , or by being drowned in the hollows after heavy rain .

#### = = Pathogens = =

In 1966 , a paramyxovirus with some antigenic similarity to Newcastle disease was isolated from the brain of a turquoise parrot in the Netherlands . That year , many aviary species including several species of Australian parrot and members of the genus *Neophema* had exhibited neurological symptoms reminiscent of Newcastle disease . Like other members of the genus , the turquoise parrot is highly sensitive to avian paramyxovirus infection . It is one of many species of parrot that can host the nematode *Ascaridia platyceri* .

= = Aviculture = =

Initially popular as a caged bird in the 19th century , the turquoise parrot was rarely seen in captivity between 1928 and 1956 , the main problem being the high rate of infertile eggs . It has become more common since , and has adapted readily to aviculture . A quiet species , it likes to bathe in captivity . There is a possibility of interbreeding with other members of the genus *Neophema* if caged together . Specimens with more prominent orange bellies have been bred , sourced from wild birds in New South Wales and not from breeding with scarlet @-@ chested parrots . A yellow form , where the blue pigment is lost and yellow and red pigments are conserved , first appeared in the 1950s in aviculture . It is a recessive mutation . Other colour forms seen are a red @-@ fronted and pied form ( both recessive ) , and jade and olive ( dominant ) .