

= Red @-@ capped robin =

The red @-@ capped robin (*Petroica goodenovii*) is a small passerine bird native to Australia . Found in drier regions across much of the continent , it inhabits scrub and open woodland . Like many brightly coloured robins of the family Petroicidae , it is sexually dimorphic . Measuring 10 @.@ 5 ? 12 @.@ 5 cm (4 ? 5 in) in length , the robin has a small thin black bill , and dark brown eyes and legs . The male has a distinctive red cap and red breast , black upperparts , and a black tail with white tips . The underparts and shoulders are white . The female is an undistinguished grey @-@ brown . This species uses a variety of songs , and males generally sing to advertise territories and attract females . Birds are encountered in pairs or small groups , but the social behaviour has been little studied .

The position of the red @-@ capped robin is unclear ; it and its relatives are unrelated to European or American robins but appear to be an early offshoot of the songbird infraorder Passerida . The red @-@ capped robin is a predominantly ground @-@ feeding bird and its prey consists of insects and spiders . Although widespread , it is uncommon in much of its range and has receded in some areas from human activity .

= = Taxonomy = =

The red @-@ capped robin was described by Nicholas Aylward Vigors and Thomas Horsfield in 1827 , having been collected in the northern Spencer Gulf in South Australia . They named it *Muscicapa goodenovii* , and placed it among the Old World flycatcher family Muscicapidae . The specific epithet *goodenovii* honours the Reverend Samuel Goodenough , Bishop of Carlisle and first treasurer of the Linnean Society .

The red @-@ capped robin was later moved to the genus *Petroica* ; the generic name is derived from the Ancient Greek words *petro-* " rock " and *oikos* " home " , from the bird 's habit of sitting on rocks . Within the genus , it is one of five red- or pink @-@ breasted species colloquially known as " red robins " as distinct from the " yellow robins " of the genus *Eopsaltria* . It is not closely related to the American robin or the European robin ; however , it is named after the European robin . Molecular research (and current consensus) places the Red @-@ capped robin and its relatives ? the Australian robin family Petroicidae ? as a very early offshoot of the Passerida , or " advanced " songbirds , within the songbird lineage .

No subspecies are recognised , and the only geographic variation recorded in plumage is a tendency for females from more arid regions to have paler plumage . Testing of the nuclear and mitochondrial DNA of Australian members of the genus *Petroica* suggests the red @-@ capped robin 's closest relative within the genus is the scarlet robin .

Officially known as the red @-@ capped robin , it has also been referred to as redhead , redcap , robin red @-@ breast or red @-@ throated robin . Kuburi is a name used in the Kimberley . Across southwestern Australia , it was known as *menekedang* by the local indigenous people .

= = Description = =

The smallest of the red robins , the red @-@ capped robin is 10 @.@ 5 ? 12 @.@ 5 cm (4 ? 5 in) long with a wingspan of 15 ? 19 @.@ 5 cm (6 ? 8 in) , and weighs around 7 ? 9 g (0 @.@ 25 ? 0 @.@ 31 oz) . Males and females are of similar size . It has longer legs than the other robins of the genus *Petroica* . The male has a distinctive scarlet cap and breast . Its upperparts are jet black with white shoulder bars , and its tail black with white tips . The underparts and shoulder are white . All colours are sharply delineated from one another . The female is an undistinguished grey @-@ brown above with a reddish tint to the crown , and paler underneath with dark brown wings and pale buff wing patch . Some females have a reddish tint to the breast . Both sexes have a small black bill , and dark brown eyes and legs . Immature birds initially resemble the female ; it is only with their second moult , which takes place at around or just over a year of age that males adopt their distinctive adult plumage . The red @-@ capped robin moults once a year , after the breeding

season which takes place between December and April .

Two red keto @-@ carotenoid pigments , canthaxanthin and adonirubin , are responsible for the redness in the red @-@ capped robin 's plumage . The birds are unable to synthesize these compounds themselves , and hence need to obtain them from their food . Carotenoids are costly to metabolise and are also required for use in immune function , hence birds need to be in good condition to have enough left for use in red feathers . This makes red plumage a good advertisement to prospective mates . A 2001 field study at Terrick Terrick National Park in Victoria found that males who had greater reproductive success and were in better condition moulted into a brighter plumage the following year . However , male age and condition at the time were more likely to predict mating success for the following breeding season . Adult males can breed at one year of age and may do so while yet in non @-@ breeding plumage , but they are less successful at reproducing at this age . The oldest recorded age is 5 years and 7 months for a bird banded near Beverley , Western Australia , in 1990 .

A variety of calls have been recorded , described as ' tinkle ' and ' blurt ' songs . These are similar across mainland Australia but distinct on Rottnest Island ; on the isolated island , birds rarely linked successive songs .

This species may be confused with the related flame robin (*P. phoenicea*) and scarlet robin (*P. boodang*) , but the male can be distinguished by its red crown (white in the other two species) and smaller size ; furthermore , the male flame robin has dark grey rather than black upperparts . Female and immature birds are harder to distinguish , but can be differentiated by the reddish tinge of the crown and whiter underparts .

= = Distribution and habitat = =

The red @-@ capped robin is found across Australia except for Tasmania , Cape York , the Top End and most of the Kimberley (there have been occasional sightings in the southernmost parts) . Offshore populations exist on Rottnest Island , as well as Greenly and Pearson Islands off the Eyre Peninsula , but it is not found on Kangaroo Island . Although widespread , it is uncommon in many areas ; it is rare east of the Great Dividing Range , in coastal regions in the south of the continent , and in the northern parts of its range ? it is seldom encountered north of 20 ° S. Its movements are generally poorly known , particularly outside the breeding season . It is sedentary in much the southern parts of its range , although the red @-@ capped robin is a spring and summer visitor to the Nullarbor Plain and Adelaide region in South Australia , and central Victoria . It is a winter visitor in the northern parts of its range .

The red @-@ capped robin prefers more arid habitat than its relatives , and inhabits dryer areas while the scarlet robin occupies wetter forests where they co @-@ occur . The red @-@ capped robin 's preferred habitat is dry Acacia , Callitris or mixed scrubland or woodland , dominated by such species as mulga (*Acacia aneura*) , Georgina gidgee (*Acacia georginae*) , raspberry jam (*Acacia acuminata*) , black cypress @-@ pine (*Callitris endlicheri*) , white cypress @-@ pine (*C. columellaris*) , and slender cypress @-@ pine (*C. preissii*) with understory shrubs such as Cassia , hop @-@ bush (*Dodonaea*) , emu bush (*Eremophila*) and spinifex (*Triodia*) .

= = = Threats = = =

The species has generally fared badly with human change to the landscape . Once common on the Cumberland Plain in Sydney 's western suburbs , it has now almost disappeared from the Sydney Basin . It has also disappeared from the vicinity of Rockhampton in Queensland , and declined on Rottnest Island , and in the Wheatbelt region of Western Australia . Field studies in small patches of remnant vegetation indicate reduced survival rates there .

The feral cat is known to prey on the red @-@ capped robin , and several bird species including the Australian raven (*Corvus coronoides*) , grey shrike @-@ thrush (*Colluricincla harmonica*) , grey butcherbird (*Cracticus torquatus*) and white @-@ browed babbler (*Pomatostomus superciliosus*) raid nests and take young . There is one record of a brown @-@ headed honeyeater (*Melithreptus*

brevirostris) feeding on an egg . Predation is the commonest cause of nest failure .

= = Behaviour = =

The red @-@ capped robin is generally encountered alone or in pairs , although groups of up to eight birds ? a mated pair and their young ? may be seen in autumn and winter . The species may join mixed @-@ species flocks with other small insectivorous passerines ; species recorded include the willie wagtail (*Rhipidura leucophrys*) , southern whiteface (*Aphelocephala leucopsis*) , rufous whistler (*Pachycephala rufiventris*) and black @-@ faced woodswallow (*Artamus cinereus*) in Queensland , and the chestnut @-@ rumped thornbill (*Acanthiza uropygialis*) , buff @-@ rumped thornbill (*A. reguloides*) or inland thornbill (*A. apicalis*) in Western Australia .

The red @-@ capped robin typically perches in a prominent location low to the ground , often flicking its wings and tail . It is very active and does not stay still for long . The female has been reported as being fairly tame , while the male is more wary of human contact .

The red @-@ capped robin is territorial during the breeding season ; the area occupied has been measured between 0 @.@ 25 and 1 @.@ 2 ha (0 @.@ 6 ? 3 acres) . A pair lives and forages within their territory before dispersing in autumn . The male proclaims ownership by singing loudly from a suitable perch at the territory boundary , and confronts other males with a harsh scolding call should they make an incursion . Two males have been seen to face one another 30 cm to 1 m (12 ? 40 in) apart , flicking wings and manoeuvring for position in a threat display while the female is incubating her eggs . Both sexes also react to the playback of song recordings . The male will also defend against incursions by male scarlet robins , and conversely avoid foraging in the latter species ' territories . Most juvenile red @-@ capped robins are unable to live in territories occupied by adult birds , and need to travel to find unoccupied land ; the furthest dispersal recorded to date has been 36 km (22 mi) , from Terrick Terrick National Park across farmland to Gunbower State Forest in northern Victoria .

= = = Feeding = = =

The diet consists of insects and other small arthropods . One study of red @-@ capped robin faeces conducted near Kambalda , Western Australia , revealed 96 % of their diet was made up of beetles , while ants made up the remainder . Other prey recorded include spiders , and insects such as grasshoppers including the Australian Plague Locust (*Chortoicetes terminifera*) , adult and larval butterflies and moths , including geometer moths , dragonflies and damselflies , mantises , antlions , true bugs , including chinch bugs of the family Lygaeidae and shield bugs , various types of beetles , earwigs , and flies such as blow @-@ flies and horse @-@ flies .

The red @-@ capped robin mostly pounces on prey on the ground , although it can swoop and catch creatures while airborne . Less often , it gleans (takes prey while perched) in low @-@ lying vegetation , almost always less than 3 m (10 ft) above the ground . The prey is most commonly on the ground when caught , although airborne insects are sometimes taken . A low branch may be used as a vantage point in hunting .

= = = Breeding = = =

The breeding season takes place over five months from August to January with up to three broods raised . The male proposes suitable nest sites to the female by rubbing his body over a suitable tree fork , all the while trilling continuously . He may indicate several sites before the female ultimately makes the decision where to build , at which point she constructs the nest alone . The nest is a neat , deep cup made of soft dry grass and bark . Spider webs , feathers and fur are used for binding or filling , and the nest is generally placed in a tree fork or even a mistletoe bush . It may be decorated with lichen and camouflaged to blend in with its surroundings . Two to three dull white eggs tinted bluish , greyish or brownish and splotched with dark grey @-@ brown are laid on consecutive days , measuring 16 mm x 13 mm (0 @.@ 6 x 0 @.@ 5 in) . Females alone develop brood patches and

incubate , although both sexes feed the young . The male will keep lookout either on the nest or perched on a nearby branch , rather than brood while the female is foraging , and parents will feed young and dart off quickly if there are predators in the vicinity . Extra @-@ pair mating and fertilisation is fairly common , with 23 % of nestlings and 37 % of broods having a different father to the one rearing them , and there is some evidence that extra @-@ pair couplings are more likely to produce male birds .

Like all passerines , the chicks are altricial ; they are born blind and covered only by a thin layer of down . By seven days , they are stretching wings and preening , and at two weeks they are able to fly . Parents feed young for at least three weeks after leaving the nest , and have been recorded giving them spiders , and insects such as flies and moths . Males take over feeding young when females begin reneating for the next brood . In a field study near Cooma in southern New South Wales , fledglings were observed to disperse from the natal territory after four to six weeks for a single brood year , and in less than a week on both occasions in a pair which raised two broods in the season . The long breeding season and multiple broods therein are an adaptation to mild climate and high levels of predation . Despite this , on average only two young are successfully fledged per year .

The brush cuckoo (*Cacomantis variolosus*) , pallid cuckoo (*C. pallidus*) , Horsfield 's bronze cuckoo (*Chrysococcyx basalis*) , and black @-@ eared cuckoo (*C. osculans*) have been recorded as brood parasites of the red @-@ capped robin ; female cuckoos lay their eggs in robin nests , which are then raised by the robins as their own . Red @-@ capped robins have been observed to be particularly aggressive in driving Horsfield 's bronze cuckoos from their territories in Terrick Terrick National Park in a field study , and no nests were found parasitised there .