

= Superb fairywren =

The superb fairy @-@ wren ( *Malurus cyaneus* ) , also known as the superb blue @-@ wren or colloquially as the blue wren , is a passerine bird of the family Maluridae , common and familiar across southeastern Australia . The species is sedentary and territorial , also exhibiting a high degree of sexual dimorphism ; the male in breeding plumage has a striking bright blue forehead , ear coverts , mantle , and tail , with a black mask and black or dark blue throat . Non @-@ breeding males , females and juveniles are predominantly grey @-@ brown in colour ; this gave the early impression that males were polygamous , as all dull @-@ coloured birds were taken for females . Six subspecies groups are recognized : three larger and darker forms from Tasmania , Flinders and King Island respectively , and three smaller and paler forms from mainland Australia and Kangaroo Island .

Like other fairy @-@ wrens , the superb fairy @-@ wren is notable for several peculiar behavioural characteristics ; the birds are socially monogamous and sexually promiscuous , meaning that although they form pairs between one male and one female , each partner will mate with other individuals and even assist in raising the young from such pairings . Male wrens pluck yellow petals and display them to females as part of a courtship display .

The superb fairy @-@ wren can be found in almost any area that has at least a little dense undergrowth for shelter , including grasslands with scattered shrubs , moderately thick forest , woodland , heaths , and domestic gardens . It has adapted well to the urban environment and is common in suburban Sydney , Canberra and Melbourne . The superb fairy @-@ wren eats mostly insects and supplements its diet with seeds .

= = Taxonomy = =

The superb fairy @-@ wren is one of 12 species of the genus *Malurus* , commonly known as fairy @-@ wrens , found in Australia and lowland New Guinea . Within the genus , the superb fairy @-@ wren 's closest relative is the splendid fairywren ; these two " blue wrens " are also related to the purple @-@ crowned fairywren of northwestern Australia .

William Anderson , surgeon and naturalist on Captain James Cook 's third voyage , collected the first superb fairywren specimen in 1777 while traveling off the coast of eastern Tasmania , in Bruny Island 's Adventure Bay . He named it *Motacilla cyanea* because its tail reminded him of the European wagtails of the genus *Motacilla* . Anderson did not live to publish his findings , although his assistant William Ellis described the bird in 1782 . The genus *Malurus* was later described by Louis Jean Pierre Vieillot in 1816 , giving the bird its current scientific name .

Shortly after the First Fleet 's arrival at Port Jackson , Sydney , the bird gained the common name superb warbler . In the 1920s came common names wren and wren @-@ warbler ? both from its similarity to the European wren ? and fairywren . The bird has also been called Mormon wren , a reference to observations of one blue @-@ plumaged bird accompanied by many brown @-@ plumaged birds , which were incorrectly assumed to be all female . The Ngarrindjeri people of the Murray River and Coorong regions called it *waatji pulyeri* , meaning " little one of the *waatji* ( *lignum* ) bush " , and the Gunai called it *deeydgun* , meaning " little bird with long tail " . Both it and the variegated fairywren were known as *muruduwin* to the local Eora and Darug inhabitants of the Sydney basin .

Like other fairywrens , the superb fairywren is unrelated to the true wren . It was previously classified as a member of the Old World flycatcher family Muscicapidae and later as a member of the warbler family Sylviidae before being placed in the newly recognised Maluridae in 1975 . More recently , DNA analysis has shown the Maluridae family to be related to the Meliphagidae ( honeyeaters ) , and the Pardalotidae ( pardalotes , scrubwrens , thornbills , gerygones and allies ) in the large superfamily Meliphagoidea .

= = = Subspecies = = =

Ornithologist Richard Schodde has reported that the subspecific classification of the superb fairy wren requires further review . In 1982 , he lumped all forms into two subspecies , the smaller and paler M. c. cyanochlamys of the mainland and larger and darker M. c. cyaneus of Tasmania and adjoining islands . However , zones of abrupt change led him to split these into more subspecies , and to note that the differences between New South Wales and Queensland populations needed investigation . Six subspecies are recognized :

M. c. cyaneus , the nominate subspecies described in 1782 , is found throughout Tasmania . Birds are larger and darker than the mainland subspecies , with males having a deeper azure blue coloration . Schodde in his 1982 review reclassified elizabethae and samueli under cyaneus .

M. c. elizabethae , endemic to King Island was described as a separate species elizabethae by Archibald James Campbell in 1901 . Males have a deeper blue colour than Tasmanian birds . King Island birds also have longer tarsi ( lower legs ) .

M. c. samueli , endemic to Flinders Island , has males that are of intermediate colour between the King Island and Tasmanian subspecies .

M. c. cyanochlamys , described by Richard Sharpe in 1881 , is found on mainland Australia ; in general , birds are smaller and paler than those of Tasmania , with Queensland male birds bearing a pale silvery blue crown , ear tufts and mantle .

M. c. leggei , described by Gregory Mathews in 1912 , is found in eastern South Australia . Males in breeding plumage differ from those of subspecies cyanochlamys by having blue tinges on their belly below the chest band and on their wing remiges .

M. c. ashbyi , described by Mathews in 1912 , is found on Kangaroo Island , and has been separated from the mainland subspecies for around 9000 years . Birds of this subspecies are larger , have narrower bills and darker plumage than birds on nearby mainland South Australia . Females from Kangaroo Island are more uniformly grey in plumage than mainland birds .

== Evolutionary history ==

In his 1982 monograph , Schodde proposed a southern origin for the common ancestor of the superb and splendid fairywrens . At some time in the past it was split into southwestern ( splendid ) and southeastern ( superb ) enclaves . As the southwest was dryer than the southeast , once conditions were more favourable , the splendid forms were more able to spread into inland areas . In the east , the superb fairywren spread into Tasmania during a glacial period when the sea level was low and the island was connected with the rest of the continent via a land bridge . What gave rise to subspecies cyaneus became isolated as the sea levels rose . The Bass Strait forms were isolated from Tasmania but more recently and so their subspecific status was not maintained . Further molecular studies may result in this hypothesis being modified .

== Description ==

The superb fairywren is 14 cm ( 5 1/2 in ) long and weighs 8 - 13 g ( 0.28 - 0.46 oz ) , with males on average slightly larger than females . The average tail length is 5 - 9 cm ( 2 1/4 - 3 1/2 in ) , among the shortest in the genus . Averaging 9 mm ( 3/4 in ) in subspecies cyaneus and 8 mm ( 5/8 in ) in subspecies cyanochlamys , the bill is relatively long , narrow and pointed and wider at the base . Wider than it is deep , the bill is similar in shape to those of other birds that feed by probing for or picking insects off their environs .

Like other fairywrens , the superb fairywren is notable for its marked sexual dimorphism , males adopting a highly visible breeding plumage of brilliant iridescent blue contrasting with black and grey - brown . The brightly coloured crown and ear tufts are prominently featured in breeding displays . The breeding male has a bright - blue forehead , ear coverts , mantle and tail , brown wings , and black throat , eye band , breast and bill . Females , immatures , and non - breeding males are a plain fawn colour with a lighter underbelly and a fawn ( females and immatures ) or dull greyish blue ( males ) tail . The bill is brown in females and juveniles and black in males after their first winter . Immature males moult into breeding plumage the first breeding season after hatching ,

though incomplete moulting sometimes leaves residual brownish plumage that takes another year or two to perfect . Both sexes moult in autumn after breeding , with males assuming an eclipse non @-@ breeding plumage . They moult again into nuptial plumage in winter or spring . Breeding males ' blue plumage , particularly the ear @-@ coverts , is highly iridescent because of the flattened and twisted surface of the barbules . The blue plumage also reflects ultraviolet light strongly , and so may be even more prominent to other fairywrens , whose colour vision extends into this part of the spectrum .

Vocal communication among superb fairywrens is used primarily for communication between birds in a social group and for advertising and mobbing , or defending a territory . The basic , or Type I , song is a 1 ? 4 second high @-@ pitched reel consisting of 10 ? 20 short elements per second ; it is sung by both males and females . Males also possess a peculiar song @-@ like Type II vocalization , which is given in response to the calls of predatory birds , commonly grey butcherbirds ( *Cracticus torquatus* ) . The purpose of this behaviour , which does not elicit a response from other nearby wrens , remains unknown . It is not a warning call , but in fact gives away the location of the vocalizing male to the predator . It may serve to announce male fitness , but this is far from certain . Superb fairywrens ' alarm call is a series of brief sharp chits , universally given and understood by small birds in response to predators . Females also emit a purr while incubating . Strangely , the bird appears to also use song as a password for its chicks to give it a chance to avoid cuckoo parasites .

= = Various views and plumages = =

= = Distribution and habitat = =

The superb fairywren is common throughout most of the relatively wet and fertile south @-@ eastern corner of the continent , from the south @-@ east of South Australia ( including Kangaroo Island and Adelaide ) and the tip of the Eyre Peninsula , through all of Victoria , Tasmania , coastal and sub @-@ coastal New South Wales and Queensland , through the Brisbane area and extending inland ? north to the Dawson River and west to Blackall ; it is a common bird in the suburbs of Sydney , Melbourne and Canberra . It is found in wooded areas , generally with plenty of undergrowth , and has also adapted to urban existence and can be found in gardens and urban parks as long as there is an undergrowth of native plants nearby . Lantana ( *Lantana camara* ) , a prolific weed in Australia , has also been beneficial in providing shelter in disturbed areas , as has the introduced and invasive blackberry ( *Rubus* spp . ) Unlike other fairywrens , it appears to benefit from the urban environment and has out @-@ competed the introduced house sparrow ( *Passer domesticus* ) in one study on the grounds of the Australian National University in Canberra . Colonies of wrens can be found in Hyde Park and the Royal Botanic Gardens in Sydney 's urbanized centre . It is not found in dense forest nor in alpine environments . Forestry plantations of pine ( *Pinus* spp . ) and eucalypts are also unsuitable as they lack undergrowth .

= = Behaviour = =

Like all fairywrens , the superb fairywren is an active and restless feeder , particularly on open ground near shelter , but also through the lower foliage . Movement is a series of jaunty hops and bounces , with its balance assisted by a proportionally large tail , which is usually held upright , and rarely still . The short , rounded wings provide good initial lift and are useful for short flights , though not for extended jaunts . During spring and summer , birds are active in bursts through the day and accompany their foraging with song . Insects are numerous and easy to catch , which allows the birds to rest between forays . The group often shelters and rests together during the heat of the day . Food is harder to find during winter and they are required to spend the day foraging continuously .

The superb fairywren is a cooperative breeding species , with pairs or groups of 3 ? 5 birds maintaining and defending small territories year @-@ round . The group consists of a social pair

with one or more male or female helper birds that were hatched in the territory , though they may not necessarily be the offspring of the main pair . These birds assist in defending the territory and feeding and rearing the young . Birds in a group roost side @-@ by @-@ side in dense cover as well as engaging in mutual preening .

Major nest predators include Australian magpies ( *Gymnorhina tibicen* ) , butcherbirds ( *Cracticus* spp . ) , laughing kookaburra ( *Dacelo novaeguineae* ) , currawongs ( *Strepera* spp . ) , crows and ravens ( *Corvus* spp . ) , shrike @-@ thrushes ( *Colluricincla* spp . ) as well as introduced mammals such as the red fox ( *Vulpes vulpes* ) , cat and black rat ( *Rattus rattus* ) . Superb fairywrens may utilise a ' rodent @-@ run display to distract predators from nests with young birds . The head , neck and tail are lowered , wings held out and feathers fluffed as the bird runs rapidly and voices a continuous alarm call . A field study in Canberra found that superb fairywrens that lived in areas frequented by noisy miners ( *Manorina melanocephala* ) recognised miner alarm calls and took flight , and had learnt to ignore their non @-@ alarm calls , while those that live in areas not frequented by noisy miners did not respond to miner alarm calls . This suggests the species has adapted and learned to discriminate and respond to another species ' vocalisations .

### == = Diet == =

Superb fairywrens are predominantly insectivorous . They eat a wide range of small creatures ( mostly insects such as ants , grasshoppers , shield bugs , flies , weevils and various larvae ) as well as small quantities of seeds , flowers , and fruit . Their foraging , termed ' hop @-@ searching ' , occurs on the ground or in shrubs that are less than two metres high . Because this foraging practice renders them vulnerable to predators , birds tend to stick fairly close to cover and forage in groups . During winter , when food may be scarce , ants are an important ' last resort ' food , constituting a much higher proportion of the diet . Nestlings , in contrast to adult birds , are fed a diet of larger items such as caterpillars and grasshoppers .

### == = Courtship == =

Several courtship displays by superb fairywren males have been recorded . The ' sea horse flight ' , named for its seahorse @-@ like undulations , is one such display . During this exaggerated flight , the male ? with his neck extended and his head feathers erect ? tilts his body from horizontal to vertical , and descends slowly and springs upwards by rapidly beating his wings after alighting on the ground . The ' face fan ' display may be seen as a part of aggressive or sexual display behaviours ; it involves the flaring of the blue ear tufts by erecting the feathers .

During the reproductive season , males of this and other fairywren species pluck yellow petals , which contrast with their plumage , and show them to female fairywrens . The petals often form part of a courtship display and are presented to a female in the male fairywren 's own or another territory . Males sometimes show petals to females in other territories even outside the breeding season , presumably to promote themselves . Fairywrens are socially monogamous and sexually promiscuous : pairs will bond for life , though both males and females will regularly mate with other individuals ; a proportion of young will have been fathered by males from outside the group . Young are often raised not by the pair alone , but with other males who also mated with the pair 's female assisting .

### == = Breeding == =

Breeding occurs from spring through to late summer ; the nest is a round or domed structure made of loosely woven grasses and spider webs , with an entrance in one side generally close to the ground , under 1 m ( 3 @.@ 3 ft ) , and in thick vegetation . Two or more broods may be laid in an extended breeding season . A clutch of three or four matte white eggs with reddish @-@ brown splotches and spots , measuring 12 mm × 16 mm ( 0 @.@ 47 in × 0 @.@ 63 in ) . The eggs are incubated for 14 days , after which they hatch within 24 hours . Newborn chicks are blind , red and

featherless , though quickly darken as feathers grow . Their eyes open by day five or six and are fully feathered by day 10 . All group members feed and remove fecal sacs for 10 ? 14 days . Fledglings are able to feed themselves by day 40 but remain in the family group as helpers for a year or more before moving to another group or assuming a dominant position in the original group . In this role they feed and care for subsequent broods and repel cuckoos or predators . Superb fairywrens also commonly play host to the brood parasite Horsfield 's bronze cuckoo ( *Chrysococcyx basalis* ) and , less commonly , the shining bronze cuckoo ( *C. lucidus* ) and fan @-@ tailed cuckoo ( *Cacomantis flabelliformis* ) .

= = Cultural depictions = =

The superb fairy @-@ wren breeding male is used as an emblem by the Bird Observation & Conservation Australia . On 12 August 1999 , a superb fairywren was mistakenly illustrated for an Australia Post 45c pre @-@ stamped envelope meant to depict a splendid fairywren . Called the blue wren as it was then known , it had previously featured on a 2s.5d. stamp , released in 1964 , which was discontinued with the advent of decimal currency .