

THE GENUS MALURUS

5 THE WHITE-WINGED WREN



ADULT MALE IN
BREEDING PLUMAGE
Photo: "Matncathy"

The White-winged Wren, *Malurus leucopterus*, lives in the drier parts of central Australia. Like other Australian wrens, this species displays marked sexual dimorphism. A troop of White-winged Wrens in spring and summer consists of a brightly coloured older male accompanied by a number of small, inconspicuous brown birds, many of which are also male.

Like other members of the *Malurus* genus, it is a cooperative breeding species. Small groups of birds maintain and defend territories year-round, and usually consist of a socially monogamous pair with several helper birds who assist in raising the young. These

helpers are progeny that have attained sexual maturity but remain with the family group for one or more years after fledging. Although not yet confirmed genetically, the White-winged Wren may be promiscuous and assist in raising the young from other pairings. As part of a courtship display, the male often plucks flower petals and displays them to females.

The first specimen of the White-winged Wren was collected by the French naturalists Jean René Constant Quoy and Joseph Paul Gaimard in September 1818, on Louis de Freycinet's voyage around the Southern Hemisphere. Although the specimen was lost in a shipwreck, a painting entitled *Méridion leucoptère*, by Jacques Arago, was saved and used in 1824 by the French ornithologist Charles Dumont de Sainte-Croix to describe the species. Ironically, this, the type specimen, was of the black-plumaged subspecies from Dirk Hartog Island, which was not recorded again for eighty years. The widespread blue-plumaged mainland subspecies was discovered by John Gould in 1865 and described as two separate species. He called a specimen collected from inland New South Wales the White-winged Superb Warbler, *M. cyanotus*, and another, which appeared to have a white back and wings, was described as the White-backed Superb Warbler, *M. leuconotus*. It was not until early in the 20th century that these two blue-plumaged forms were found to be of the same species. In 1934 George Mack, an ornithologist at the National Museum of Victoria, revised the genus and gave precedence to the specific name *leuconotus*, a practice followed by more recent studies. The area of the back between the shoulders is bare, while the feathers that arise from



Joseph Paul Gaimard
1796–1858

Lithograph: Emile Lassalle

the shoulder (scapular) region sweep inwards and cover this area. It was this feather configuration that confused the early naturalists, and caused them to describe both a white-backed and blue-backed species.

Early observers, like Norman Favaloro of Victoria, often referred to the species as the Blue-and-white Wren. However, like the other malurid wrens, the White-winged Wren is unrelated to the true wren (family Troglodytidae). The most closely related member of the genus is the Red-backed Wren, followed by the White-shouldered Wren of New Guinea as



White-shouldered Wren
Malurus alboscapulatus
Photo: Steve Young

the next closest relative. These three species have been termed the *bicoloured wrens* by ornithologist Richard Schodde, and are notable for their lack of head patterns and ear tufts and for their uniform black or blue plumage with contrasting shoulder or wing colour; they replace each other geographically across northern Australia and New Guinea.



Red-backed Wren
Malurus melanocephalus
Photo: Nevil Lazaru

There are three recognised subspecies of the White-shouldered Wren:

- *M. l. leuconotus* is confined to mainland Australia and is the only subspecies to have nuptial males that show prominent blue-and-white plumage. The name is derived from the ancient Greek *leukos* “white” and *notos* “back”. Birds from the southern parts of the range tend to be smaller than those in the north.
- *M. l. leucopterus* is restricted to Dirk Hartog Island, off the western coast of Australia, and nuptial males display black-and-white plumage. This subspecies is the smallest of the three and bears a proportionally longer tail. It was collected again in 1916 by Tom Carter, 98 years after de Freycinet's expedition collected the type specimen.
- *M. l. edouardi*, like *M. l. leucopterus*, has black-and-white coloured males, and is found only on Barrow Island, also off the western coast of Australia. Birds of this subspecies are larger than those of *M. l. leucopterus* but have a shorter tail. The female has a more cinnamon tinge to her plumage than the grey-brown of the other two subspecies. This subspecies was described by A.J. Campbell in 1901.

Both the island subspecies are generally smaller than their mainland relatives, and usually have smaller family groups of only one male and one



Dirk Hartog Black & White Wren

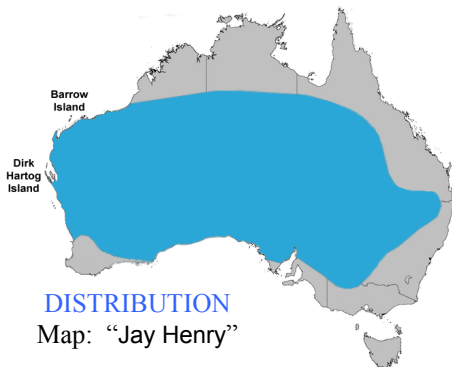
female, and just an occasional helper bird. While both the island and mainland subspecies have been found to have a similar social structure, breeding pairs on both islands have, on average, smaller clutches, longer incubation times, and fledge fewer young. The mainland subspecies is considered of “Least Concern” by the IUCN due to its widespread occurrence, but both island subspecies are considered vulnerable as their nesting sites are easily disturbed by human construction and habitation.

Measuring 11-13.5cm (4 $\frac{1}{3}$ -5 $\frac{1}{3}$ inches) in length, the White-winged Wrens are one of the two smallest members of the *Malurus* genus. Males typically weigh between 7.2g (0.25oz) and 10.9g (0.38oz), while females weigh between 6.8g (0.24oz) and 11g (0.39oz). The beak is relatively long, averaging 8.5mm (0.3”) in males and 8.4mm (0.3”) in females, and is narrow and pointed but wider at the base. It is finer and more pointed in this species than in other Malurid wrens.

Mature birds are sexually dimorphic, the male is larger and of a different colour to the female. The adult female is sandy-brown with a light blueish wash to the tail; the beak is pinkish-buff. When in breeding plumage the male has a black bill, white wings and shoulders, and a cobalt blue or black body (depending on subspecies). The contrasting white feathers are especially conspicuous in flight and during nuptial displays. In eclipse plumage the male resembles the female, but can be distinguished by the darker beak. Both sexes have long, slender tails that are about 6.25cm (2 $\frac{1}{2}$ ”) in length, and are held at an upright angle to the body. The tail feathers have a white fringe, which disappears with wear.

Nestlings, fledglings, and juveniles have light brown plumage and pinkish-brown beaks, and shorter tails than adults. Young males bred in the spring or summer develop blue tail feathers and darker beaks by late summer or autumn. Young females develop light blue tails. By the next spring, all males are fertile and have developed cloacal protuberances. At the same time fertile females develop brood patches, which are bare areas on their bellies. At two or three years of age males may develop patchy blue and white plumage during the breeding season, and by their fourth year, will have attained full nuptial plumage. The scapulars, secondary wing-coverts, and secondary flight feathers will be white while the rest of their bodies assume a vibrant cobalt blue. All sexually mature males moult twice a year, once before the breeding season in winter or spring, and again in autumn. A very mature male may stay in nuptial plumage all year round.

A breeding male's blue plumage, particularly the ear-coverts, are highly iridescent due to light refraction from the flattened and twisted surface of the barbules. The blue plumage also strongly reflects ultraviolet light, and is probably even more intense to other wrens than what we perceive, as the birds' colour vision extends further into this part of the spectrum than ours.



The White-winged Wren is well adapted to dry environments, and is found throughout arid and semi-arid areas between latitudes 19° and 32° on mainland Australia. It occurs in coastal Western Australia from around Port Hedland south to Perth, and stretches eastwards to Mount Isa in Queensland, and along the western parts of the Great Dividing Range through central

Queensland and central western New South Wales, into the north-western corner of Victoria, through to Eyre Peninsula, and then across the Nullarbor. In various parts of its range it coexists with other wren species. Including the Purple-backed Wren, *M. lamberti assimilis*, and the electric-blue Turquoise Wren, *M. splendens musgravei*. Typical White-winged Wren habitat includes heath-lands or treeless shrub-lands dominated by saltbush (*Atriplex*) and small shrubs of the genus *Maireana*, or tussock grass (*Triodia*), cane-grass (*Zygochloa*), as well as floodplain areas vegetated with lignum (*Muehlenbeckia*). The island subspecies inhabit similar habitats on Dirk Hartog and Barrow islands. To the north of its range the White-winged Wren is replaced, on mainland Australia, by the Red-backed Wren.



Turquoise Wren
Photo: Rob Drummond

When on the ground the White-winged Wren usually hops, However, they may run when alarmed or are performing the predator distracting *rodent-run* display. Balance is maintained by the proportionally large tail, which is usually held upright and is rarely still. The short, rounded wings provide good initial lift and are useful for short flights. If crossing large open spaces a combination of hopping and flight is employed.

Their diet includes small beetles, bugs, moths, praying mantises, caterpillars, and smaller insects, including spiders. The larger insects are mainly used by the breeding female and her helpers, including the breeding male, to feed nestlings. Foraging is carried out both on the ground and in low bushes. The mainly insectivorous diet is supplement with seeds and the fruits of saltbush (*Rhagodia*), goosefoot (*Chenopodium*) and

new shoots of samphire. During spring and summer they actively forage in bursts through the day accompany the activity with song. At this time of the year insects are numerous and easy to catch, this allows the birds to rest between forays. The social group often shelter and rest together during the heat of the day. During winter, food is harder to find and they forage continuously throughout the day.

Breeding females begin to build their nests in the spring, these are dome-shaped structures with a small entrance on one side. The nest is usually built in a thick shrub close to the ground. Spider webs, fine grasses, and vegetable-down are commonly used materials. The nest is typically 6-14cm (2 $\frac{1}{3}$ -5 $\frac{1}{2}$ inches) in height and 3-9mm thick. A clutch of 3-4 eggs is usual, with breeding occurring from September to January. The incubation period is around fourteen days. White-winged Wrens generally breed in the spring in the southwest of Western Australia, but are more opportunistic in arid regions. In such areas breeding has been observed in almost any month, particularly after rainfall. The breeding female alone incubates, while the breeding male (either a brown or blue male) and nest helpers aid in feeding the nestlings and removing their faecal sacs. The newly hatched nestlings are altricial (incapable of supporting themselves after hatching), and immediately gape for food. Downy feather tracts appear, and the eyes open, by the third or fourth day. The young remain in the nest for ten to eleven days, and continue to be fed for three to four weeks after leaving the nest. They then either help to raise the next brood or move to a nearby territory. It is not unusual for a pair to hatch and raise two broods in one season, with the helpers tending to lessen the stress on the breeding female rather than increase the overall number of times the nestlings are fed.

White-winged Wrens are particularly prone to parasitic nesting by Horsfield's Bronze Cuckoo, *Chalcites basalis*, but parasitism by the Shining Bronze Cuckoo, *C. lucidus* or the Black-eared Cuckoo, *C. osculans* is rarely recorded. As the nests are hidden close to the ground they are often trampled by grazing cattle. Even the occasional bird watcher may unintentionally trample a nest as they pursue their observation of the species. Adults and their young are preyed upon by a number of predators, mainly the Red fox, *Vulpes vulpes* and the feral cat, *Felis catus*. However, a number of native predatory birds, such as the Australian Magpie, *Gymnorhina tibicen*, Butcherbirds (*Cracticus* spp.), Currawongs (*Strepera* spp.), Crows and Ravens (*Corvus* spp.), Shrike-thrushes (*Colluricincla* spp.) and the Kookaburra, *Dacelo novaeguineae*. Snakes and Goannas also take their toll.

R.V.C. With help from Wikipedia