

# THE GENUS MALURUS

## # 4 THE RED-WINGED WREN



RED-WINGED WREN  
Photo: Cas Liber

The Red-winged Wren, *Malurus elegans*, is a member of the Australian and New Guinea Maluridae family. It is sedentary and endemic to the south-western corner of Western Australia. The species shows a high degree of sexual dimorphism, and the male has both breeding and eclipse plumage phases. No separate subspecies are recognised. Although similar in appearance and closely related to the Variegated Wren, *M. Lamberti*, and the Blue-



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breasted Wren, *M. pulcherrimus*, the Red-winged is regarded as a separate species as no intermediate forms have been recorded where ranges overlap. The Red-winged Wren is locally common, but there is evidence of a steady decline in numbers.

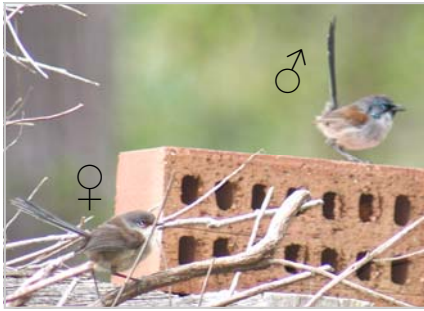
The Red-winged Wren is primarily insectivorous, and has a narrow pointed beak ideally adapted for catching and probing for insects. It forages and lives in the shelter of scrubby vegetation in temperate wetter forests dominated by the Karri (*Eucalyptus diversicolor*), where it remains close to cover to avoid predators. Like other maluridae wrens, small groups of birds maintain and defend small territories year-round. These groups practice cooperative breeding, and consist of a socially monogamous pair with several helper birds who assist in raising the young. Studies have shown there is a higher percentage of female helpers in this species than is usual in the other species in the genus. A variety of vocalisations and visual displays have been recorded for communication and courtship in this species. Song is utilised to advertise territory, and birds can distinguish other individuals by their song alone. Male Red-wings often pluck yellow petals and display them to females as part of the courtship display.



TYPICAL RED-WINGED WREN  
HABITAT  
Photo: "Orderinchaos"

The Red-winged Wren was officially described by the ornithologist John Gould in 1837, who gave it the specific Latin name of "elegans" (elegant).

Gould gave its location as the East-Coast, but realised his error when further collections from the South-west of Western Australia were made by John Gilbert. Gregory Mathews described birds from the southern Karri forests as subspecies *warreni* in 1916 on the basis of darker female plumage. However, it is now generally agreed that no separate subspecies exist. In fact, there is little variation in size or colour within the species, either between populations or individuals.



RED-WINGED WREN PAIR  
Male showing eclipse plumage  
Photo: Cas Liber

The Red-winged Wren belongs to a group of four very similar species within the genus, collectively known as Chestnut-shouldered Wrens. The three other species in the group being the Lovely Wren, *M. Amabilis*, of Cape York, the Variegated Wren, *M. Lamberti*, found across a large portion of the rest of the continent, and the Blue-breasted Wren, *M. Pulcherrimus*, of portion of southern Western Australia and the Eyre Peninsula. Molecular study has shown the Blue-breasted Wren to be the closest genetically to the Red-winged Wren.

The Red-winged Wren is 15cm (6") in length and weighs 8-11gm (0.21-0.38 oz). The average tail length is 7.5cm (3"), which is among the longest in the genus; averaging 10mm (0.4") in males and 9.3mm in females. The beak is relatively long, narrow and pointed, similar in shape to those of other birds that feed by probing for, or picking, insects off their surroundings.

Like other maluridae wrens, the Red-winged features marked sexual dimorphism. The male in breeding plumage has a silvery blue crown, ear coverts and upper back, a black throat and nape, bright red-brown shoulders, a long grey-brown tail and wings, and greyish-white belly. The crown, ear-tufts and upper-back are prominently featured in breeding displays. Non-breeding males, females and juveniles are predominantly grey-brown in colour, although some males may retain traces of blue and black plumage (see illustration above). All males have a black beak and lores (eye-ring and bare skin between eyes and beak), females also have a black beak, but have rufous lores and a pale grey eye-ring. Immature males develop black lores at about six weeks of age and usually have a patchy or spotty appearance, with a mixture of blue and grey feathers on the head, and black and grey on the breast in the first breeding season after hatching. Young hatched early in the breeding season will develop more nuptial plumage initially than those born late. Most perfect their nuptial moult by their second spring, though some take another twelve months. Several fully coloured males have been observed simultaneously in

a single group, but it is not known how, or if, this relates to dominance or breeding status. After breeding both sexes moult in autumn, this is when the males assume their eclipse non-breeding plumage. They again assume their brilliant nuptial plumage in late winter or spring. All the body feathers are replaced at both moults, but wing and tail feathers in spring only, though these may regrow at any time if worn or damaged. The blue coloured plumage, particularly the ear-coverts, of a breeding male are highly iridescent due to the flattened and twisted surface of the barbules. The blue plumage also strongly reflects ultraviolet light, and is probably even more prominent to other wrens, as their colour vision extends into this part of the spectrum.

Vocalisation among Red-winged Wrens is primarily for communication between birds within a social group, and for advertising and defending a territory. The species is able to distinguish different individuals on the basis of song alone, this ability is integral to the identification of group members and strangers. The basic song is a 1-4 second high-pitched reel consisting of 10-20 short elements per second; it is used by both sexes, particularly when there is a territorial boundary dispute. Singing is most frequent before, and just after, dawn. Foraging birds maintain contact with a soft, repeated “see-see-see” in descending tones. The alarm call is a loud, sharp “tsit”.

Considering their small size the survival rate of maluridae wrens from one season to the next is generally high, with the Red-winged Wren having the highest rate of all—with 78% of breeding males and 77% of breeding females surviving from one year to the next. It is not unusual for Red-winged Wrens to reach ten years of age; the oldest known individual to date reached the ripe old age of sixteen years.

The range of the Red-winged Wren is from the Moore River north of Perth; south through to the Margaret River region and east to Albany. It is common in parts of its range, though there is some evidence that the draining of swampland has caused a decline in numbers. Older forests appear to be less favourable habitat, but the species seems to be attracted to disturbed areas after logging. Fires result in populations disappearing, but recolonisation usually occurs within two years. Pine (*Pinus* spp.) and eucalypt plantations are generally unsuitable habitat due to the lack of undergrowth.

The Red-winged Wren meets the Variegated Wren at the northern limit of its range, and the Blue-breasted at the eastern. The two latter species occupy dryer scrub while the Red-winged is restricted to wetter forests and riverside Sword Sedge, *Lepidosperma effusum*. The lack of intermediate forms reinforces the status of all three taxa as separate species.

Hopping is the usual form of terrestrial locomotion, though birds may run while performing the 'Rodent Run Display' detailed below. Balance is assisted 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, though not for extended journeys.

A group of Red-winged Wrens maintains and defends a territory year-round. Territories average around 0.4 -2.4 hectares (1-6 acres) in optimal habitat, but are smaller and restricted to dense riverbank undergrowth in less favourable habitat. A territory is large enough to support the group in a poor year, or to accommodate new members after a good breeding season. Groups range from two to nine members in size with the average being four, this is the highest for any of the genus so far studied. This is thought to be due to the very high annual survival rate and the occupancy of suitable territory. Though reproduction rates are low, young birds still have few areas available for them to disperse into. Pairs are monogamous, with relationships usually only ending when one partner dies. The survivor will then select a new partner, often from among the helper birds in the group. Although no detailed studies have been conducted, it is likely Red-winged Wrens are sexually promiscuous, with partners mating with other individuals. Female helpers are more common in this species than in the intensively studied Superb Blue Wren, *M. cyaneus*. More than fifty percent of groups have two or more helpers, often female, which feed the nestlings and thus reduce the workload of breeding females. Helpers have been shown to improve reproductive success by increasing the numbers of young successfully raised per year from 1.3 to 2 birds. There is some evidence that groups that include male helpers may enlarge territory boundaries which can result in a helper "hiving-off" part to form a new territorial group. Like other members of the genus, Red-winged Wrens may use the 'Rodent-run' display to distract predators from nests with young birds.

The breeding season is shorter than that of others of the genus, occurring from October (rarely September) through to December. Constructed solely by the female, the nest is generally situated in thick vegetation and around 20cm (8") above the ground. It is a round, or domed, structure made of loosely woven grasses and spider webs, with an entrance in one side. The interior may be lined with finer grass and material from *Clematis pubescens* and *Banksia grandis*. One, or rarely two broods, may be raised in a season, the second being laid on average fifty-one days after the first. A clutch consists of two or three dull creamish-white eggs of a tapered oval shape with reddish-brown splotches and spots, that measure 12 x 16mm (.45 x .6") with reddish-brown splotches and spots. The female only incubates the eggs for about thirty minutes at a time, after which the

male calls to her and she leaves the nest to hurriedly forage for fifteen to twenty minutes before returning to incubational duties. Her long tail often becomes bent in the cramped nest space, which is a useful indicator of nesting. The incubation period is fourteen to fifteen days, a day less in later broods. The successful hatching rate has been estimated to be 94%. Newly hatched nestlings are reddish-pink in colour, and both naked and blind. However, within twenty-four hours, their skin darkens to a blue-grey hue as their feathers develop beneath the skin. Sheathed primary feathers emerge by the third day and the eyes begin to open on the fifth day and are fully open the next. The hatchlings are fed, and their faecal sacs removed, by all members of the family group for eleven to twelve days, at which time they fledge. Although fledglings are fully feathered, their tails and wings are not fully grown making them poor fliers. During the further ten days it takes for their wings to fully develop, they generally stay well hidden in the vicinity the nest.

The young are fed by both the parents and helpers for approximately a month after fledging. They then often remain with the family group, as helpers, for a year or more, before moving to another group. Red-winged Wrens reach sexual maturity at twelve months of age, but females often don't to breed until their third year, as breeding vacancies are scarce.

Like others of the genus, male Red-winged Wrens have been observed carrying brightly coloured petals to display to females as part of the courtship ritual. The petals recorded have usually been yellow, but the use of white ones has occasionally been observed. The 'Face-fan' display is commonly seen as a part of aggressive or sexual display behaviours; this involves the flaring of the blue ear-tufts by erecting the feathers. The silvery-blue upper-back feathers are also more prominently used in display than is the case with other Maluridae species.

R.V.C. with help from Wikipedia

### **DID YOU KNOW THAT...**

the syrinx is the sound-producing vocal organ of birds, located at the base of a bird's trachea?

in some songbirds, the syrinx can produce more than one sound at a time?

a Ruby-throated Hummingbird's heart beats up to 1200 times per minute? (that's about 20 beats per second)

as part of their pair-bonding ritual Ravens hold each other's beaks in a prolonged "kiss"?

the oils from a bird's preen gland are partly used as a deterrent to lice ?

an Eider Duck, lines her nests with her breast down, which can be safely harvested for human use after the young leave the nest? (hence the term eiderdown for a bed covering)

the yellow bill colour of many Hornbill species is produced by preen gland secretions?