FAUNA

THICK-BILLED GRASSWRENS

by Belinda Brooker

WHY have Thick-billed Grasswrens disappeared from the wheatbelt, and from most of their former range in pastoral areas? This was one of the questions I set out to try to answer as I studied the ecology of five bird species at Shark Bay for my PhD thesis.

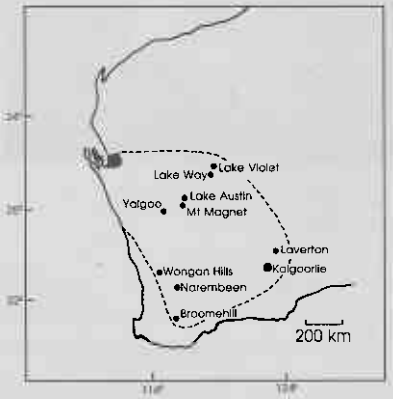
Though probably never common, Thick-billed Grasswrens (*Amytornis textilis*) once occurred over the wheatbelt and much of the adjacent pastoral area (see map). However, the bird has not been seen in the wheatbelt since 1910, and in WA now only occurs near Shark Bay. They are small, active birds, spending most of their time on or near the ground.

Grasswrens feed on both bare soil and among leaf litter, searching for invertebrates and plant food. They are particularly partial to ants of *Crematogaster* species, but they also take spiders, termites, beetles, moth/butterfly larvae and bugs. Grasswrens also consume vegetable food, in particular the fruits of *Enchylaena tomentosa* (ruby saltbush) and *Rhagodia eremaea* (tall saltbush). Both of these plants produce a orange/red succulent fruit with a black seed which remains intact and easily recognisable in the scats – seed dispersal for the plant, presumably.

Grasswrens pair up and establish a territory of between 1.2 to 2.0 ha, in which they breed and live throughout the year. They defend the boundaries of their territories by song and by chasing intruders.

The birds start beeding in winter or early spring; in this arid area, the onset of breeding may be related to good rains in a previous month. They build a deep, cup-shaped nest towards the centre of a climbing plant or shrub, usually between 20 and 70 cm above ground. In dense vegetation the nest may not be covered, but in more open situations a hood is constructed over it. The nests consist of woven strips of bark, dry grass and flowering stems of *Ptilotus obovatus* (cotton bush), sometimes with strips of fine bark around the entrance. They are lined with narrow strips of bark, fine grasses and occasionally plant down such as *Ptilotus* flower heads. The female builds the nest and the male feeds her during the pre-laying period and incubation. One to four eggs are laid. The nestlings are fed the same food as adults, but with a higher proportion of caterpillars.

Grasswren performing a 'dodgem-car' display to draw predators away from the nest.



Map showing present and former localities of the grasswren in Western Australia.

Nests sometimes failed because of predation, probably by the mulga snake or Gould's monitor. Although cuckoos exist in the area, during this study I did not record them parasitising grasswren nests. It seems from this study that the degree of nesting cover was an important determinant of nesting success. This may provide a pointer as to why these birds have declined elsewhere in WA.

The grasswren has a preference for litter substrates in which to forage, and it prefers to nest in dense low shrubs. It may also eat the seeds of plants which are selectively grazed by stock. In the wheatbelt, grazing has removed the litter layer, and often the shrubs as well. Even in the pastoral region, grazing by sheep, goats and rabbits has significantly changed the shrub community, especially its density at low level, making it not only less suitable for grasswrens but exposing them to more predation.

In summary, it is not possible to attribute the decline of the Thick-billed Grasswren to any single factor, rather, it appears likely that an interaction of several features of it's life history made it sensitive to disturbance. If this bird is ever to expand back into some of its former range, land management will need to alter to permit leaf litter accumulation and dense low shrub growth.

(Nb: For an illustration of the Cocktail Ant, Crematogaster *sp, see Western Wildlife 3/1)*

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Sketch of the nest sites of the five bird species studied in my thesis.