

GREY GRASSWRENS AND GRASS OWLS AT GOYDER'S LAGOON, SOUTH AUSTRALIA

JOHN B. COX

Accepted February, 1976.

INTRODUCTION

The Grey Grasswren *Amytornis barbatus* was first collected by N. J. Favalaro in swamplands, known as the 'Bulloorine,' in the north-western sector of New South Wales during July, 1967. Favalaro and McEvey (1968) gave the known distribution of the species as "... over a distance of 25 miles from Teurika to a point approximately five miles over the Queensland border." They reported that it inhabited Swamp Cane-Grass *Eragrostis australasica* clumps and Lignum *Muehlenbeckia cunninghamii* thickets on the flood-plain of the Bulloo River.

Grass Owls *Tyto longimembris* have previously been recorded from all Australian mainland States except South Australia. The species is rare and most reports have been from coastal localities (Slater, 1970). It inhabits "tall grasslands and swampy country" according to Slater. Fleay (1968: 123-128) detailed sightings of birds in coastal swampy country in Queensland.

An expedition organised by the Nature Conservation Society of South Australia carried out an ecological survey of the far North-East of South Australia in August, 1975, with myself participating. Two of the major finds were Grey Grasswrens and Grass Owls on part of the Goyder's Lagoon flood-plain.

LOCATION AND TOPOGRAPHY

Both species were found in a segment of the flood-plain to the north of, and extending from, Kooncheri Waterhole to Pandiburra Bore. Kooncheri Waterhole is approximately 50 km north-east of Clifton Hills H.S. and is situated at the northern end of the Kooncheri sand-dune. To the west of the dune the flood-plain gradually gives way to saltbush and gibber plains, but 10 km north-west it merges with the lush vegetation of the Pandiburra artesian bore. Two km north of the bore is another waterhole at the southern end of another sand-dune. The area of habitat on the flood-plain which supports Grey Grasswrens and Grass Owls extends from this latter waterhole and Pandiburra Bore east to beyond Kooncheri Waterhole and north for approximately 15 km.

HABITAT

Lignum and the sedge *Eleocharis pallens* with isolated *Acacia* spp. covered most of this section of flood-plain.

The Grey Grasswrens were most often found in dense areas of lignum where the sedge was comparatively thinner. However, they were never found in lignum areas with no ground cover of the sedge.

Grass Owls were mostly seen where the sedge was thicker and about knee-high, with few lignum clumps. However most birds flushed arose from the base of a lignum.

DETAILS OF OBSERVATIONS AND SPECIMENS

Grey Grasswren

Grasswrens were first located by their call at 09.00 on 12 August about 750 m north-east of Kooncheri Waterhole. This was in an area of dense lignum and sedge. The birds were very hard to locate because of the thick vegetation and their wariness. When an area where calls came from was approached, the birds invariably slipped further ahead. Except in brief glimpses when fluttering into a lignum thicket, they were not seen. Eventually it was learned that they would move ahead of me, as indicated by their calls, for a distance of only about 200 m before they became silent. It was then not known whether the birds were remaining still and hidden, or were continuing to move. Walking in their anticipated direction of movement, call-notes were eventually heard further ahead. These were later found to be from a different pair of birds.

It was learnt that each pair of grasswrens occupied separate territories. As the territory of one pair was entered, the disturbance caused them to call and move rapidly away. On reaching their territorial limit, they became silent, and either remained stationary, or moved away to either side. As I continued to walk in a straight line and thus past the silent birds, the territory belonging to another pair was entered. These also called as they moved ahead to their territorial limits. Three pairs each with a territory of about 200 sq. metres were thus found north-east of Kooncheri Waterhole. That only

two birds occupied each territory was deduced from the birds' calls and a few brief glimpses.

Two different calls were heard. The most frequently heard was thought to be a contact call. This was constantly used by both birds of a pair as they moved through dense vegetation and was presumably their way of maintaining contact with each other. It was a high-pitched triple 'chip-ip-ip,' very reminiscent of the call of the Striated Grasswren, *Amytornis striatus*, a species with which I am very familiar. The other call was a single high-pitched 'cep,' only used when the birds were alarmed.

Views of the birds could not be obtained by patient concealment, or even by silently stalking up to the site from which they were calling. They seemed always to move away. However, once their territorial limits were understood it was possible to trick them. This was achieved by allowing the birds to move ahead while ensuring that they knew of my location, then silently cutting widely around until I was ahead of them. Thus they unwittingly came towards me. This must have perplexed them, because one was soon observed ascending a lignum clump; the one and only time a bird was seen perched in the open.

The next day grasswrens were located in another section of the habitat near Pandiburra Bore. On 14 August two more pairs were found between Kooncheri Waterhole and Pandiburra Bore. The areas of lignum sedge habitat that were searched all revealed grasswrens. Thus it seems likely that a sizeable population exists throughout the approximately 15 sq. km of habitat.

One specimen was collected near Kooncheri Waterhole and another near Pandiburra Bore: from these, the identification of the birds was confirmed.

Grass Owl

Barn Owls *Tyto alba* were frequently seen by the light of our camp-fire at Kooncheri. On the night of 11 August the first indication that another *Tyto* species might be present was received when an owl that seemed slightly larger and somewhat different swooped through the firelight. Although looked for, it was not seen again.

On 13 August P. Reeves, M. Lewis and I were wading amongst lignum and sedge growing in water near the waterhole north of Pandiburra Bore when two owls flushed from the lower part of a lignum clump about five metres in front of me. One flew ahead and away. The other

circled and slowly flew directly overhead, circled once more and alighted about 500 m distant. Immediately noticeable were the dark colour and long trailing legs. These at once established its identification as a Grass Owl. A description and sketch was made in the field immediately afterwards.

Description: An obvious *Tyto* from the pronounced facial disc and whitish underparts. Barn Owl size or slightly larger. Legs very long and toes trailing beyond tail feathers. Underparts whitish with fine but obvious black spots on the underwing coverts and breast. Face buffy white, darker about eyes, and surrounded by a dark outline to the facial disc. Upperparts rich buff heavily overlaid by dark brown blotches and barrings. Lower back very dark and with a perceptible purplish tinge. Wing tips dark.

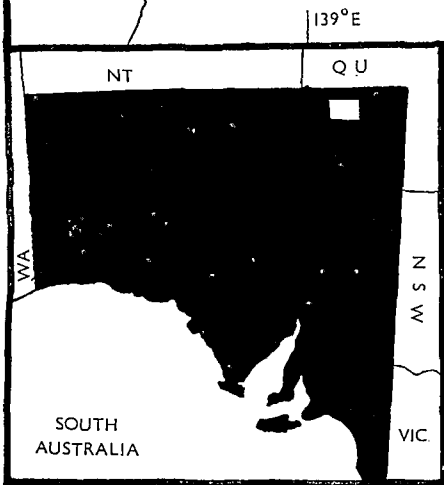
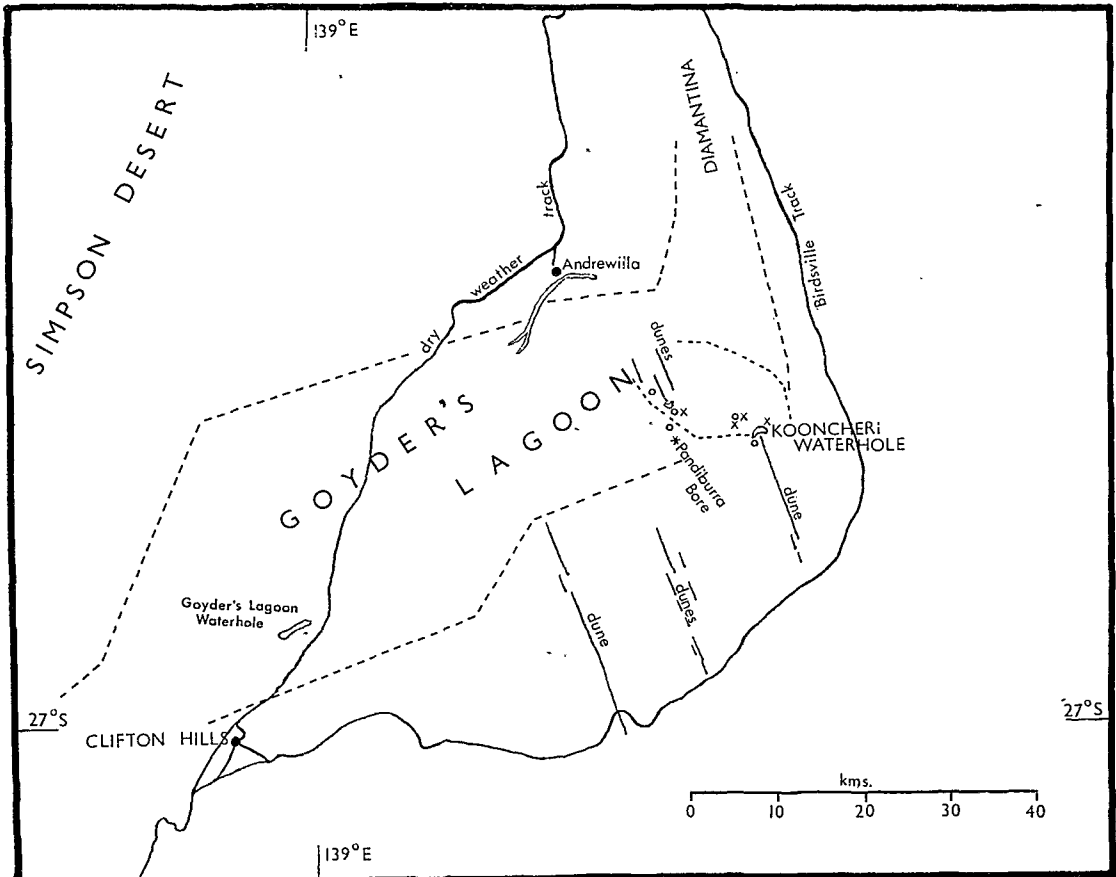
About an hour later two more Grass Owls were flushed from a lignum clump growing in extensive knee-high sedge about one km from the previous birds. We watched these land while Reeves prepared a camera. Working through that area we flushed two Grass Owls, then another two, then one, and finally two more. It was judged that we had flushed at least five individuals, some of which Reeves photographed while they were in flight.

On 14 August while walking through lignum sedge north-west of Kooncheri Waterhole I found the decomposed body of a Grass Owl. Meanwhile J. Forrest had found the remains of another hanging on a barbed wire fence near Pandiburra Bore. That night a special watch was made of owls flying over the camp, and apart from many Barn Owls three Grass Owls were identified in spotlights. Barn Owls were common in trees about the waterhole, and it seemed that they and Grass Owls hunted over the same country. Our camp was sited among lignum near the sand-dune and away from any trees.

DISCUSSION: GREY GRASSWREN

The Grey Grasswren population described by Favaloro and McEvey (1968) and the Kooncheri birds have two features of habitat in common: swampy flood-plain country and associated lignum. Kooncheri is about 400 km north-west of the Bulloorine, and as might be expected, the habitats are not identical.

The habitat of the Bulloorine does not include the sedge of Kooncheri and, judging by photographs (Favaloro and McEvey, 1968, plate 4), is consequently not as dense. On the Bulloorine grasswrens also inhabit Swamp Cane-Grass. This was not so at Kooncheri where the only cane-grass, a different species, *Zygochloa para-*



- APPROX. {
- EXTENT OF LIGNUM/SEDGE HABITAT
 - EXTENT OF FLOOD-PLAIN
 - x GREY GRASSWREN LOCATIONS
 - o GRASS OWL LOCATIONS

GOYDER'S LAGOON
FLOOD-PLAIN

doxa, is on sand-dunes. However, waterlines on the sand-dunes suggest that in times of flood grasswrens might be forced to take refuge in the cane-grass on the dunes.

While lignum may be essential for Grey Grasswrens, other cover seems to be an additional requirement; Swamp Cane-Grass on the Bulloorine and the sedge at Kooncheri. The sedge undoubtedly enables the birds to travel swiftly between lignum clumps without exposing themselves to danger. The birds I saw were never in areas consisting only of lignum; it appeared that the sedge was essential to them, if only for cover.

The denser habitat of Kooncheri also accounts for the difficulty experienced in seeing the birds. In the more open habitat of the Bulloorine Favalaro observed them more easily. I found no evidence of breeding whereas Favalaro did; this might have also favoured his observations. He remarked on the different habits of the Grey Grasswren as compared to the Striated Grasswren and inferred that the latter is the more secretive. He thought that this was because *Triodia* clumps (the habitat of Striated Grasswrens) "grow so closely together that it is both safe and easy for this species to pass quickly on the ground from one tussock to another," and that "the Grey Grasswren, . . . has . . . considerable distances to travel between patches of vegetation for shelter." Consequently the birds on the Bulloorine were often noted flying.

With the extra cover of dense sedge at Kooncheri the birds had no need to fly except when pressed. Certainly they were harder to find than the average Striated Grasswren. It should be noted that Favalaro's observations were made during a flood of the Bulloorine. This may have forced the birds onto higher ground and away from the densest cover. S. A. Parker informed me that birds he observed on the Bulloorine, when it was dry during December, 1971, were very difficult to flush.

Favalaro noted that the Grey Grasswrens at the Bulloorine uttered a double note and also "kept up a prolonged twittering, the notes being soft double syllabled and high-pitched." While these may be similar in tone to the Kooncheri birds, they are not very consistent with the clear triple notes that I heard. Probably there are several calls yet to be described for the species.

Birds I saw in the field appeared greyish, and when a bird was seen briefly perched the underparts appeared very whitish. Other sightings of mine were too short to enable colours or markings on the birds to be comprehended.

One of the *striatus* group of grasswrens, this species is easily distinguished in the hand by the pronounced black throat markings. The two specimens collected are currently preserved in spirit in the S.A. Museum.

DISCUSSION: GRASS OWLS

Before our visit to Goyder's Lagoon a plague of the Long-haired Rat *Rattus villosissimus* had occurred. According to the mammalogists present, this plague was in decline during August, 1975. Parker (1971) described how the populations of Letter-winged Kites *Elanus scriptus* were affected by these rats. Letter-winged Kites were seen in very large numbers during a rat plague, but on the decline of the plague many of the birds were found dead. It is easy to speculate therefore, that Grass Owls had increased in number before our visit; and one of the dead birds could indicate that they would soon decline, similarly to the Letter-winged Kites. We saw Barn Owls, Letter-winged Kites and other raptors in good numbers throughout the North-East. It is likely that these and Grass Owls periodically fluctuate in numbers according to the availability of food.

Landowners informed us that, in previous years, owls rising from grassy plains near Goyder's Lagoon were often responsible for scaring cattle. It is acknowledged that these may have been Barn Owls; but the extensiveness of the appropriate habitat on the floodplain makes it likely that Grass Owls are always present in the Goyder's Lagoon area. During years when rains promote grass on the surrounding plains or when food is abundant, the birds may increase in numbers. When the resultant larger population is forced to concentrate in the remaining productive areas by the decline of food, or the drying of the interior, a surplus might starve — as with Letter-winged Kites — or be forced to disperse. It may even be suggested that odd records of the species from coastal regions (where most people are) could be of birds which have moved from inland regions. The paucity of Grass Owl records could be due to their nocturnal habits, and to confusion with Barn Owls.

In the field I found Grass Owls easy to distinguish from Barn Owls. The most noticeable points were: the long legs which trail with the whole length of the toes extending beyond the tail feathers (observations of Barn Owls revealed that they have only half the length of their toes extending beyond the tail); dark back (pale in Barn Owl); dark wing tips contrasting with a rich buff central patch (Barn

Owls have pale wing tips which form no contrast).

In the hand the very long legs with bristles (i.e. not feathered) over the greater length of the tarsus is diagnostic. Barn Owls have a shorter tarsus, feathered for half the length. Masked Owls *Tyto novaehollandiae* have their tarsus wholly feathered.

Because of their decomposed condition when found, the two specimens are preserved as skeletons in the S.A. Museum.

ACKNOWLEDGMENTS

My thanks are due to the Nature Conservation Society of South Australia for enabling me to participate in the expedition; to P. Reeves, M. Lewis and J. Forrest for their assistance in the field; and to the National Parks and Wildlife Service of S.A. who granted a permit which enabled me to collect selected specimens for the S.A. Museum during the expedition.

REFERENCES

- FAVALORO, N. J. and McEVEY, A. 1968. A New Species of Australian Grasswren. Mem. Nat. Mus. Vic. 28.
FLEAY, D. 1968. Nightwatchmen of Bush and Plain, Jacaranda.
PARKER, S. A. 1971. Critical notes on the status of some central Australian birds. Emu 71: 99-102.
SLATER, P. 1970. A Field Guide to Australian Birds. 1. Rigby.

48 Carter St., Thorngate, S.A. 5082.