

FURTHER BREEDING OF THE WHITE-THROATED GERYGONE IN THE ALDINGA SCRUB

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INTRODUCTION

Following the successful breeding of a pair of White-throated Gerygones *Gerygone olivacea* in the Aldinga Scrub 50 km south of Adelaide in 1979 (Ashton and Ashton 1981), further individuals appeared and nested in the Scrub in 1980 and 1981. The birds appeared mostly in two areas in the north-eastern sector of the Scrub some 800 km east of the 1979 site. The similar habitat of both these areas differed from that of the 1979 area essentially in the absence of *Eucalyptus porosa* and the presence of *Banksia marginata* and *Pteridium esculentum*. Below appears a summary of our observations of these birds and their nestings.

OBSERVATIONS IN THE 1980 SEASON

Five adult Gerygones were present during October 1980 - January 1981. Two pairs bred. On 14 November a nest was found 3.5 m high in a mallee *Eucalyptus fasciculosa*. Both adults were feeding young the number of which was not determined. We did not observe the nest between 17 November and 7 December when the nest was found to be intact and empty.

On 6 January 1981 a second nest was found 3 m high in a similar *E. fasciculosa* 150 m south-west of the first. After observing no activity about the nest for a week, it was taken and found to contain three infertile eggs. A Gerygone separate from the first pair had been seen on several occasions in this area and so the nest was thought to belong to a second pair.

OBSERVATIONS IN THE 1981 SEASON

A male was first seen on 20 September. Two pairs were seen in and about a *Banksia marginata* bush on 6 October and one pair stayed in the Scrub until 21 January 1982. On 9 October the cobweb frame of a Gerygone nest was found in that *Banksia*, five metres from the site of the first nest of the 1980 season. Nest building was observed for four hours over eight days and only the female was involved. When first seen the nest was full length. It was of thin cobweb except for a few wood casts and it had a short tail of caterpillar silk and droppings. The female alighted at the nest at intervals of four minutes and proceeded to apply in one or two seconds the cobweb she had brought in her bill. Next day the nest was twice as thick and now contained bark slivers. Nearly all bark used was from *Calytrix tetragona*. Now when she arrived at the nest she spent five to ten seconds and

manipulated her bill more. From 11 October all construction was done from within the sac, the female entering through a now well-defined side entrance with bark, wood casts and, later, plant down in her bill. She entered on average every two minutes, seldom staying longer than 11 seconds. On 19 October the nest looked complete except for the hood. The female's arrivals were twice intercepted by the male for copulation alongside the nest.

The first brooding

On 22 October the female was brooding one egg but still adding bark to the hood. Inspection on 3 November showed three eggs. We observed the nest for two and a half hours over 11 days. The female alone brooded and for periods of seven to 14 minutes with absences of four to eight minutes. On 18 and 20 November she behaved on several occasions as if feeding young; clinging to the outside of the nest, she leaned deep into it for two seconds then entered for eight seconds to several minutes. Another observer noted one bird at this time enter the nest with an insect in its bill and then emerge and eat it (F. N. Smeaton, pers. comm.). On 20 November we first observed the male inspecting the nest contents by peering through the entrance. Only three eggs were present. During the next two days the male was relatively quiet and we made only infrequent sightings of the female which had now ceased brooding. The male no longer chased off other birds that came near the nest. These had included Silvereyes *Zosterops lateralis*, Golden Whistler (male) *Pachycephala pectoralis* and New Holland Honeyeaters *Phylidonyris novaehollandiae*. The first brooding had lasted 29 days. Reader's Digest (1976) gives the incubation time in this species as about 12 days, RAOU Nest Record Cards as 13-18 days.

The second brooding

On 24 November the male resumed trilling frequently and loudly. Nest inspection on 28 November showed four eggs and on 11 December six. A newly hatched nestling was present on 17 December. Both parents fed the young at approximately three minute intervals except when, during the first two days, the female brooded the young for periods of up to eight minutes. When visited at 0800 on 31 December the male was quiet, and the female seen only after 20 minutes; neither bird went to the nest.

The nestling was found dead in the nest. It had last been seen taking food on 29 December. The following day had been one of sudden extreme heat (42°C) and this may have been the cause of its death. The nestling was well feathered. Shane Parker of the South Australian Museum examined it and has kindly supplied the following observations (pers. comm.): 'The nestling's body feathers appear fairly well emerged from their sheaths. The wing feathers, on the other hand (both quills and coverts), although apparently full-length, have only the tips of the feather vanes emerging from the sheaths, giving the wings a decidedly odd, skeletal appearance. If this condition is abnormal, which I think it is, then it could be the result of a metabolic dysfunction, probably brought on by the heatwave.' The nestling is now in the South Australian Museum, B36206. Only two eggs were in the nest so three had been removed; no eggs were seen below the nest.

The nest was measured as slung at a height of 101 mm from the ground from a slim twig of *Banksia marginata* alongside a dead flower spike, which it closely resembled. In general appearance and size it resembled the previous three nests we had observed except for an exaggerated hood extending outwards 60 mm and the virtual absence of a tail. The nest is now in the South Australian Museum, B36207.

DISCUSSION

To obtain further information and to make comparisons we examined the 160 nesting records for this species held by the RAOU Nest Record Scheme. Seventy-five per cent of nests

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were in Eucalypts the remainder in a range of trees and shrubs, though none in *Banksia*. Only four per cent were placed as low as one metre from the ground. There is only one record of a nest being double brooded though several of birds breeding again in a nest built nearby and usually after predation on the first nest; the proportion of such instances was 15 per cent. Two instances are recorded of failure to hatch from a clutch. Ninety per cent of clutches consisted of three eggs, all others of two except for one of four. There is no record of a bird brooding eggs for longer than 18 days though there are five records of birds brooding on no eggs for six to 28 days. No instances are recorded of birds bringing food to unhatched eggs after the expected incubation period.

The record cards do not help to explain how three eggs disappeared during the second 1981 brooding without being found under the nest but do record several instances of an egg found under a nest. There are four records of one or more dead young in a nest. There is one record of a nest built in the same position as in the previous season. The fact that the birds in 1981 nested only five metres from the 1980 nest site raises the question of whether the same individuals nested in the Scrub.

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