

BOURKE'S PARROT IN THE WESTERN LAKE EYRE DRAINAGE

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INTRODUCTION

Bourke's Parrot *Neophema bourkii* is predominantly a bird of Mulga *Acacia aneura* scrubs (Ford 1961, Parker 1969) although Slater (1970) also mentions trees along watercourses as a suitable habitat. In the area directly west of Lake Eyre in South Australia, with which this paper is concerned, Mulga is uncommon and generally small and Bourke's Parrot is indeed usually found along tree-lined watercourses (Badman 1979). Lendon (1973—quoting MacGillivray) reports that this species nests in a hollow scrub tree at from three to ten feet (one to three metres) from the ground, and rarely in a box tree at the edge of scrub. In this paper, I describe one nest and a probable second nest of Bourke's Parrot in the western Lake Eyre Drainage.

Turning now to distribution, Eckert (1975) brought attention to a lack of records from west of Lake Eyre between Allandale and just north-west of Woomera. He suggested that this may be due to a lack of observers. Below I present recently obtained records which support this contention.

NESTS

Nest 1

On 15 August 1978 I found a nest containing five eggs in a River Red Gum *Eucalyptus camaldulensis* (Plate 1) on the bank of Edward Creek one km S of Nilpinna HS (28° 29'S, 135° 55'E). The nest was in a vertical hollow eight metres above the ground. The hollow was 600 mm deep and 120 mm across at the top. The small white eggs were resting on decayed woody material at the bottom of the hollow. A pair of Bourke's Parrots was perched in a small *Acacia* (three metres high) 10 metres from the nest tree. Later, on closer approach, both parrots flew to another small *Acacia* near the nest tree.

Three days later I again visited this nest and no birds were at first evident. However, on climbing the tree, I flushed one Bourke's Parrot from the nest hole, whereupon it flew to a small *Acacia* 10 metres away. It remained there while I examined the nest, which contained four eggs and one very small nestling.

On 19 September 1978 I visited this area with Shane Parker and Terry Sim of the South Australian Museum but Bourke's Parrots were not seen on this occasion. On examination the nest was found to be lined with green *Eucalyptus*

leaves that had been placed over the original lining, and so it had probably been taken over by Galahs *Cacatua roseicapilla*, one of which was seen nearby (see Badman, this issue).

The habitat in this area consisted of River Red Gums, Mulga and Dead Finish *Acacia-tetragonophylla* along a stony watercourse. Surrounding country consisted of open gibber plains, lush after heavy winter rains throughout the whole of the North-East of South Australia. River Red Gums were the only trees of sufficient size to provide nesting holes in this area.

Nest 2

On 13 August 1978 I flushed a Bourke's Parrot from a dead eucalypt (Plate 2) at Douglas Creek, 30 km NE of William Creek (28° 44'S, 136° 32'E). This bird flew from a

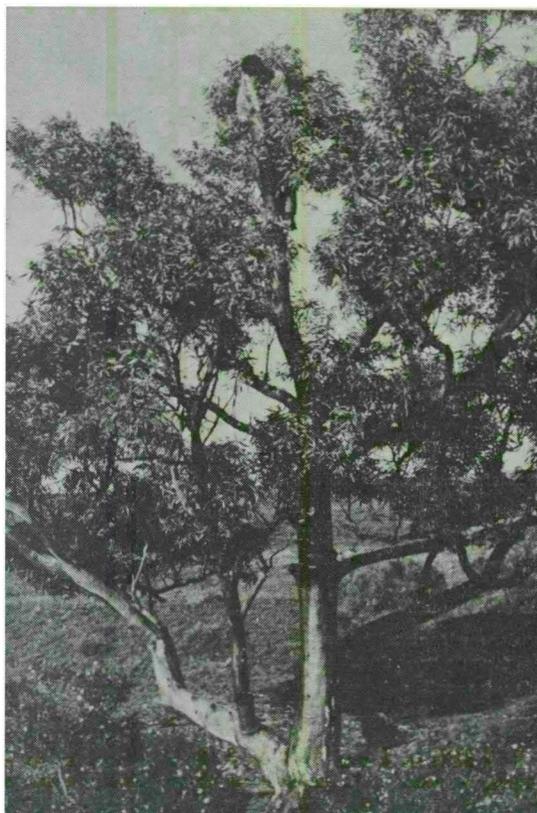


Plate 1. The author examining the Bourke's Parrot nesting hole in the River Red Gum at Nilpinna.

hollow in a short horizontal branch seven metres above the ground when the tree was shaken. It flew to a Coolibah *Eucalyptus microtheca* ca 30 metres away, where it was joined almost immediately by a second bird. The first bird returned to the same hole when I moved away, while the second bird flew to a perch near the outside of the hole.

One Bourke's Parrot was flushed from the same hole when the tree was shaken three hours later and again flew to a nearby tree, where it remained. Due to the flimsy nature of the tree I was unable to climb up to the hole to confirm breeding.

The habitat here was Coolibah, Gidgea *Acacia cambagei* and some small Mulgas along a wide sandy watercourse between gibber plains. The dense understorey included *Rhagodia spinescens*, *Enchylaena tomentosa*, *Brassica tournefortii* and *Lepidium* sp.

This area was also visited by Shane Parker, Terry Sim and myself on 18 September 1978.

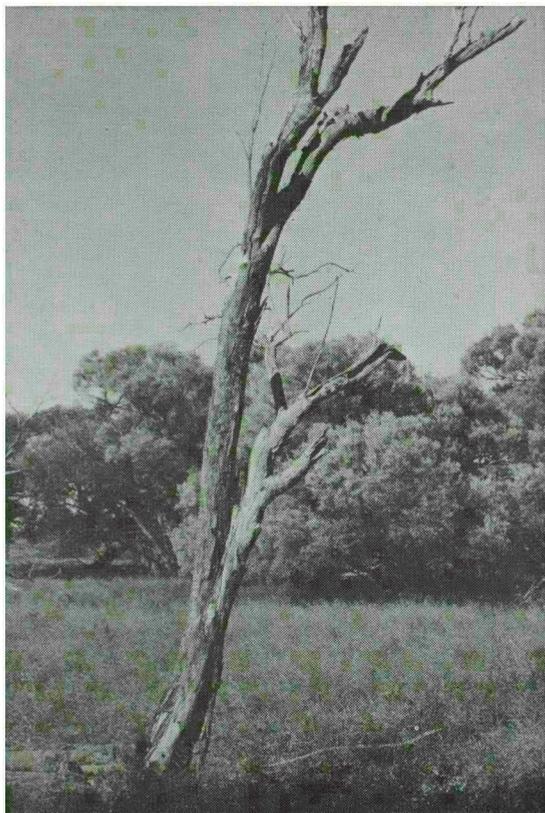


Plate 2. *The tree at Douglas Creek. The hole used is in the protuberance mid-way along the underside of the top right-hand limb.*

On this occasion three Bourke's Parrots were seen within 300 metres of the supposed nest site. One Galah and a Tree Martin *Cecropis nigricans* were flushed from separate holes in the hollow tree where the Bourke's Parrots were previously seen, though neither came from the hole used by the Bourke's Parrot.

FURTHER SIGHT RECORDS

1978

During the latter half of 1978 I recorded this species over a wide area to the west of Lake Eyre. On 15 August one bird was seen in open Gidgea scrub near Warrararoonna WH, Peake Creek (28° 04'S, 135° 54'E). As I approached, the bird flew from tree to tree in a small area, and was disinclined to leave the locality. This behaviour was very similar to that of the two pairs of Bourke's Parrots mentioned above and suggested to me that the bird may have had a nest nearby. However, I was unable to find a nest and no trees in the immediate vicinity were found with hollows suitable for nesting. Coolibah trees bordering the waterhole 500 metres away did contain many hollows suitable for nests, and several other species of birds were found nesting there. The Gidgea was generally under four metres in height, much of it dead, and all boles were under 250 mm in diameter. On 23 October one bird was seen in dense Gidgea one km west of the above location. This bird immediately flew away low and fast and soon disappeared from view. From my own experience, this behaviour is more characteristic of Bourke's Parrot in this area than that observed on 15 August.

On 17 August two birds were seen in Coolibahs bordering The Neales near Algebuckinna (27° 53'S, 135° 46'E), and one was seen in Coolibahs at Peake Creek, near the Central Australian Railway crossing (28° 03'S, 135° 50'E). Both habitats are very similar, with *Acacia stenophylla*, *Lignum Muehlenbeckia cunninghamii* and *Nitraria schoberi* and understorey of *Cyperus gymnocaulos*, *Atriplex spongiosa*, *Enchylaena tomentosa*, *Brassica tournefortii*, *Lepidium* sp., and *Leptochloa digitata* and other grasses. The Algebuckinna location is 10 km upstream from Eaglehawk Dam where I have previously recorded this species (Badman 1979). Peake Creek railway bridge is six km upstream from Warrararoonna WH.

Two birds were recorded at Box Creek, Nilpinna Stn. (28° 42'S, 135° 58'E), on 21 October. This area is about 10 km NW of Rocky Dam where I recorded the species in 1977 (Badman 1979). The habitat was open Mulga, Dead Finish and River Red Gums along a stony watercourse surrounded by gibber plains. The

understorey consisted of grasses in the watercourse and chenopods on the plains.¹

A single bird was seen at North Creek, Allandale Stn. (27° 43'S, 135° 36'E), 25 km SE of Oodnadatta, on 19 and 20 November. It was flushed from grass and chenopods by the roadside soon after sunrise on 19 November and was lost to sight among Gidgea along the watercourse. A search late that afternoon revealed a female or immature-phase Bourke's Parrot in Gidgea bordering the creek. The habitat consisted of Gidgea, Coolibah and *Santalum lanceolatum* along a stony watercourse bordered by gibber plains, with understorey of grasses, *Atriplex vesicaria*, *Rhagodia spinescens*, *Enchylaena tomentosa* and other chenopods under 600 mm in height. Whilst driving through this same area late on the following afternoon, I again flushed a single bird from chenopods by the roadside.

1979

During 1979 I did not record Bourke's Parrot until 20 October, when three birds were seen at Ockenden Creek, four km E of Mt Dutton RS (27° 48'S, 135° 44'E = 45 km south-east of Oodnadatta). They were flushed from chenopods bordering the watercourse in late afternoon and flew into Gidgea along the creek. The country bordering the watercourse consisted of gibber plains, well vegetated with *Atriplex spongiosa*, *Salsola kali*, *Brachyscome ciliaris*, other chenopods, grasses and samphire.

1980

On 6 June I recorded two birds one km S of Carpamoongana WH on The Hamilton (26° 45'S, 134° 45'E) and later that same day saw at least two Bourke's Parrots 29 km NE of the Todmorden HS (26° 57'S, 134° 55'E). Both locations are NW of Oodnadatta. Habitat on both occasions was dense Mulga scrub covering sandy flats and low jumbled sandhills with *Eremophila freelingii*, *E. glabra*, *Cassia helmsii*, *Acacia tetragonophylla*, *A. ligulata*, *Sclerolaena* spp., *Brachyscome ciliaris*, *Crotalaria strehlowii*, *Enneapogon avenaceus* and other grasses. The birds near Carpamoongana WH were seen around a large, dead Mulga for about 10 minutes; one bird was investigating holes in the tree, while the other bird remained perched on a dead branch of the same tree. This tree was about five metres in height and its bole was

200-250 mm in diameter, with many hollows. The behaviour of these two birds was very similar to that of the birds I observed at Douglas Creek on 13 August 1978.

DISCUSSION

Although the Bourke's Parrot is undoubtedly a bird of the Mulga scrub, it is found in and breeds in other habitats. The increase in the number of sightings by me in the area to the west of Lake Eyre and south of Oodnadatta (and in particular to the south of Peake Creek) during the latter part of 1978 is almost certainly directly attributable to the excellent conditions which prevailed following the good winter rains of 1978 (see Badman (1979) for sight records for 1977 — March 1978).

Seasonal conditions in 1979 were equally as good as in 1978, again due to good winter rains, and much better than in 1977 which was a dry year in this area, yet I recorded Bourke's Parrot on only a single occasion. During 1979 I spent a total of 24 days in the field in the area north of William Creek, south of Dalhousie Springs and west of the Simpson Desert and Lake Eyre, an area where I had often recorded the Bourke's Parrot in 1977-78. During 1978 I spent a total of 31 days in the field in the same area, and during 1977 I lived there continuously for the first nine months of the year.

Smith (1979) noted an increase in the abundance of this species throughout its range, yet in the area under review there appears to have been great variation in distribution from year to year which cannot wholly be attributed to seasonal conditions. Davies (1977) suggests an increase in the abundance of this species on pastoral land to be due to the grazing of sheep and cattle which in turn removed small chenopod shrubs, thus permitting the growth of annual grasses and herbs. Grasses and herbs were still plentiful in this area during 1979, so I think it unlikely that a lack of suitable food from such plants was responsible for the paucity of records of Bourke's Parrot for this particular year. Nor would it seem likely that 'subtle alteration of the environment' brought about by stocking with sheep and cattle, or by rabbits, as suggested by MacGillivray (1927) can be blamed for the lack of records in 1979. From my own observations I would say that cattle and rabbit numbers in this area showed little change during this three year period. There are no sheep in this area. The crepuscular habits of this species undoubtedly caused me to miss sighting it on several occasions in 1979, yet this also holds true for 1977 and 1978. It is unlikely that the yearly fluctuations in numbers of Bourke's Parrots were due to poorer seasonal

¹ Of note on this occasion is the fact that five other species of parrot were also seen nearby along this watercourse; i.e. Galah, Little Corella *Cacatua sanguinea*, Cockatiel *Nymphicus hollandicus*, Budgerigar *Melopsittacus undulatus*, and Port Lincoln Ringneck *Barnardius zonarius*. Such an abundance of parrot species has not previously been recorded by me in such a small section of this region. I attribute it to the exceptionally heavy winter rains of 1978 and the subsequent lush condition of the countryside.

conditions in other parts of its range as Ford (1961) suggests that this parrot may exhibit a high tolerance to conditions of aridity to which birds of the interior are subjected. I think it more likely that these fluctuations are due to the extreme nomadism mentioned by Ford (1961) and Forshaw (1969). The stimulus for this nomadism is unknown, but it is certainly not wholly governed by rainfall.

I think it very likely that Bourke's Parrot is resident in the large area of Mulga scrub between The Alberga and The Hamilton, north-west of Oodnadatta, which extends eastwards as far as Mt Sarah HS and westwards almost to Granite Downs and the Stuart Highway. The vegetation there is more characteristic of the North-West of South Australia than of the Lake Eyre drainage, and at the time of my visit appeared to be in excellent condition and free from the effects of rabbits. The only damage to the vegetation was around the bores, where cattle had destroyed most of the shrubs

and grasses, and some of the Mulga, within a radius of less than one kilometre.

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