BREEDING RECORDS OF MALLEEFOWL (LEIPOA OCELLATA) AND SCARLET-CHESTED PARROTS (NEOPHEMA SPLENDIDA) WITHIN THE YELLABINNA WILDERNESS AREA, SOUTH AUSTRALIA

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INTRODUCTION

Between 4-22 October 1987, the National Parks and Wildlife Service conducted a biological survey of the mass of mallee-covered sand dunes extending WNW from the western end of the Gawler Ranges to near the Western Australian border. (Copley & Kemper in prep.) This area, classified as the Yellabinna Environmental Association by Laut et al. 1977, has been known to many ornithologists as the "Barton Sand Dunes" but we believe it is now more appropriately described as the Yellabinna Wilderness Area following Lesslie and Taylor (1983). However the trackless central portion of the Yellabinna area was still virtually unknown biologically, so we took the opportunity when it arose to take part in a camel-trek into part of this area and extend our 1987 survey. An additional incentive was the exceptional rains that had fallen in this part of the State in March 1989. Tarcoola recorded 129 mm for March with 93 mm falling in a 24 hour period on 14 March. From January to June 1989 Tarcoola had recorded 212 mm compared with their mean annual rainfall of 172

The camel trek took place between 16-30 May 1989 and followed a compass line through the dune systems from Mount Finke (30°55′S, 134°01′E) to Barton (30°31′S, 132°39′E). It was organised by the "Outback Camel Company" and consisted of a string of 16 camels, four cameleers, five New Zealand tourists and six biologists. Walking with a camel string does not allow time for detailed biological observations but all birds seen or heard during the day's walking were recorded together with late afternoon and evening observations at each of the nine camps.

This paper presents breeding records of Malleefowl, *Leipoa ocellata*, and Scarlet-chested Parrots, *Neophema splendida*, in this area and discusses them in the context of previous information on these species.

MALLEEFOWL Leipoa ocellata

Malleefowl have declined significantly both in overall distribution and breeding range since European settlement of Australia (Blakers et al. 1984). This decline is particularly evident in the most arid parts of its former range within the Northern Territory, South Australia and Western Australia. The details of the probable extinction of the Malleefowl in the Northern Territory by the 1950s has been documented by Kimber (1985). Further south into the Great Victoria Desert, in either South Australia or Western Australia, there are very few records (see Table 1). Peter Aitken (former Curator of Mammals at the SA Museum), whilst on a field trip in what are now the Pitjantjatjara Lands on 13 February 1966, visited Itari Rocks where he "saw a number of Malleefowl nests, one of which the natives dug up for the eggs" (Aitken, unpublished journal). In 1889 explorer Ernest Giles found "several nests" of the Malleefowl in mallee about 70 miles E of Queen Victoria Spring (Ford & Sedgewick, 1967). The explorer Richard T. Maurice was given Malleefowl eggs by Aborigines at Punthanna Well in 1898 (Gara 1989) and Daisy Bates recorded that the Aboriginal water catchment named Boundary Dam by Giles but known to the Aborigines as Wardargana was associated with the Malleefowl totem (Gara 1989).

The only recent published record of Malleefowl in the Great Victoria Desert has been that of an old nest in mulga woodland at Lake Yeo in Western Australia (approx. 28°S 124°E, McKenzie and Burbidge 1979). In the South Australian portion of the Great Victoria Desert the RAOU Bird Atlas project (Blakers et al. 1984) recorded only three localities where Malleefowl were present and none of these was a breeding record. There are 152 records for the whole of South Australia.

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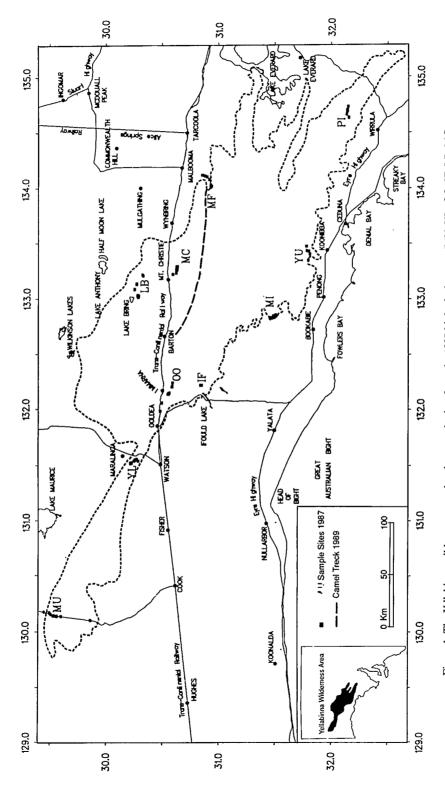


Figure 1. The Yellabinna wilderness area showing sample sites from the 1987 biological survey (MU, YL, OO, IF, LB, MC, MF, MI, YU and PI) and the route of the 1989 camel trek from Mt Finke to Barton.

TABLE 1: Malleefowl nest records, Great Victoria Desert S.A. and W.A.

Date	Location		Latitude	Longitude	Source
1889	70 miles E Queen Victoria Spring, WA		30°26′S	124°36′E	Ford & Sedgewick (1967)
1898	Punthanna Well, SA		29°15′00″S	131°40′00″E	Maurice in Gara (1989)
	Boundary Dam, WA		24°00′00″S	128°00′00″E	Bates in Gara (1989)
1966	Ilari Rocks, SA		26°59′00″S	130°16′00″E	Aitken (unpublished)
1976	Lake Yeo, WA		28°00′00″S	129°00′00″E	McKenzie & Burbidge (1979)
1969/70	39 miles E. Vokes Hill Junction	ca	28°30′00″S	131°20′00″E	Black & Badman (1986)
1970's	Serpentine Lakes	ca	28°30′00″S	129°00′00″E	Black & Badman (1986)
1981 1981	18 km NW Maralinga 60 km NW Maralinga	ca ca	30°00′00″S 29°40′00″S	131°40′00″E 131°50′00″E	Black & Badman (1986) & RAOU Atlas (1976)
1987 1987	3 km SW Inila Rockwaters 1.4 km S Inila Rockwaters		31°48′15″S 31°46′35″S	133°24′05″E 133°25′45″E	Yellabinna survey Yellabinna survey
1989 1989	25 km SW Mt. Christie Old mounds Further E		29°49′30″S 30°53′16″S	133°04′30″E 133°37′08″E	Camel trip Camel trip

Black and Badman (1986) suggested that Malleefowl are still "sparsely distributed throughout the desert" with evidence of active mounds near Serpentine Lakes, 62 km E of Vokes Hill Junction and 18 km and 60 km NW of Maralinga.

The only Malleefowl records from the 1987 NPWS survey of the Yellabinna area were of two old mounds in Yumbarra Conservation Park, 3 km SW, and 1.4 km S of Inila Rockwaters (Copley & Kemper in prep.).

The most recent record is that which is related in this report. At 10.00 on 24 May 1989, two Malleefowl were flushed from a mallee tree near an active nest mound. The locality was approximately 25 km SW of Mt. Christie railway siding (30°49′30″S, 133°04′30″E). The birds had opened the mound and scraped it half-full of mallee sticks and leaves. The mound was in very open mallee with a ground cover of open *Triodia* hummocks and the birds had gathered litter from a radius of up to 20 m away. Two inactive, old mounds had been discovered further to the east on May 20, at approximately 30°53′00″S, 133°37′8″E.

Although there has been very little searching for breeding Malleefowl within the Yellabinna MAY, 1990 11

Wilderness or the larger extent of the Great Victoria Desert in South and Western Australia, there seems little doubt that as in the Northern Territory, the range and abundance of the Malleefowl has contracted dramatically in this arid area. Recent evidence of active nest mounds is now confined to the area from Serpentine Lakes in the west to the record reported here in the east, and mallee fowl probably do not occur north of 28°30′S. This population, centred on the Yellabinna Wilderness, is separated by 650 km of Nullarbor Plain from the nearest known breeding population in Western Australia situated in coastal mallee 50 km SE of Madura (32°10′S, 127°24′E, McKenzie and Robinson 1987).

To the south-east of the Yellabinna Wilderness the nearest breeding record for Malleefowl is E of Streaky Bay (32°45′S, 134°15′E; 2 December 1978, RAOU Atlas records) which is 240 km from the active nest reported here. Clearly much more work needs to be done in the extensive areas of mallee on northern Eyre Peninsula but at present it may be that the Yellabinna Wilderness supports the only breeding population of Malleefowl left at the edge of its once much more extensive arid zone range.

SCARLET-CHESTED PARROT Neophema splendida

The Scarlet-chested Parrot (Neophema splendida) is closely associated with mallee and very often there is a ground cover of spinifex. It is regarded as rare in South Australia. (Blakers et al. 1984). Recent records for South Australia have been summarised by Joseph (1976). The Yellabinna and Great Victoria Desert areas have been known for some time as places where the parrot is relatively common. During the NPWS survey in October 1987, eleven individuals were observed at six separate locations (Copley & Kemper in prep.) and during this camel trek we saw nineteen birds at seven locations. The majority of birds seen during the camel trek were in an area regenerating from an extensive wildfire 3–5 years previously.

Forshaw (1981) suggests that the breeding season is from August to December and all breeding records to date in the Great Victoria Desert/Yellabinna area support this (Ford 1971; Henderson 1977; Black and Badman 1986).

On 25 May 1989 we found a partly fledged N. splendida chick which had apparently fallen from its nest hollow, 22 km ESE of Mt. Christie Siding (30°34′36″S, 132°50′10″E). There were no adult birds present nor any obvious nest hollows in the immediate vicinity. The chick was collected but died soon after and has been lodged in the collections of the South Australian Museum (Registered No. B45891). The chick would not have been more than two weeks old and therefore, with an incubation time of approximately eighteen days and the suggestion by Henderson (1977) that ovary development is very rapid, mating must have taken place about a month previously which is appropriate timing for a breeding response to the heavy rains which fell in the area in March 1989. This record thus provides the first confirmation that rather than being a seasonal breeder N. splendida can, as suggested by Forshaw (1981), begin nesting in response to "prevailing climate conditions".

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