

BIRDS RECORDED DURING THREE VISITS TO THE FAR NORTH-EAST OF SOUTH AUSTRALIA

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INTRODUCTION

As defined here, the far North-East of South Australia extends from the Northern Territory and Queensland borders south to the latitude of Marree, and from the New South Wales and Queensland borders west to eastern Lake Eyre. This region is approximately 450 km from north to south and 325 km from east to west.

Much of the country is arid, the sand-dunes of the Simpson Desert being in the north-west and the gibber-plains of Sturt's Stony Desert in the centre. These vast desert plains lie over the Great Artesian Basin of eastern-central Australia (with many bore wells present to tap the subterranean water) and drain west to Lake Eyre. Two major watercourses cross the plains and flow into Lake Eyre: Cooper's Creek and the Warburton-Diamantina system. With many smaller watercourses, these are dry, apart from isolated waterholes and billabongs, for lengthy periods, their flow of water being more dependent upon the rainfall of central Queensland rather than upon local rains. While rainfall of the North-East is usually below 130 mm annually, periodic heavy rainfall can cause a flow of water that is great enough to enter and fill many of the often dry lakes.

Tree growth is mainly restricted to the banks of watercourses. Eucalypts are predominant, the Coolibah *Eucalyptus microtheca* being the commonest, though Red Gums *E. camuldulensis* are well established at Coongie and Innamincka. Acacias are widely distributed, but mulga is scarce. Plains vegetation is generally sparse; but in places the perennial saltbush is common, and grasses occur where there is sufficient soil after wet seasons. Lignum is common near water and on flood-plains, there being very extensive areas with sedge at Goyder's Lagoon. Dense aquatic plants, particularly reeds, are present along most bore drains. The many and often lengthy sand-dunes, usually running from north-west to south-east, support abundant cane-grass and sometimes a variety of shrubs.

During 1973-74 heavy rainfalls in the interiors of Queensland and S.A. caused extensive flooding of the Cooper and Warburton-Diamantina systems, eventually filling Lake Eyre. No sealed roads exist in the region and many of the more frequented tracks were cut.

This paper details birds seen during three visits. The first was from 17-25 October, 1974 by L. Pedler, who travelled north along the Birdsville Track, via Muloorina and Lake Eyre, to Queensland, and then south from the Queensland border about 30 km east of Cordillo Downs to Innamincka, Moomba and along the Strzelecki Track towards Lyndhurst; out of the region. The second was an expedition organised by the Nature Conservation Society of South Australia from 3-30 August, 1975, which travelled north along the Birdsville Track, west to the Warburton, north to Clifton Hills and Goyder's Lagoon, then east to Kooncheri and Coongie; returning to Clifton Hills, then north to Birdsville via Andrewilla, and south via Pandie Pandie and Damperanie. D. Close participated as far as Goyder's Lagoon, and J. Cox participated throughout. The third by L. Pedler and L. Joseph from 12-15 October 1976 was from Marree, along the Birdsville Track to just south of the Cooper's Creek ferry, where heavy rain halted progress; then an attempt to reach Innamincka via the Strzelecki Track reached a point about 15 km east of Petermorra Creek. These routes of these expeditions are shown on the map, but many minor excursions are not marked.

The birds of this region have been little studied, as shown by the discovery in August, 1975 of numbers of two species previously unknown in S.A. (Cox 1976). It is the purpose of this paper, therefore, to place on record where, in the region, all bird species were seen. There is little purpose in discussing distribution and status when both are little known, whereas there is much purpose in providing a source of data which may be used in the future to assess both factors.

The recent rainfall and flooding, which produced the many stretches of surface water found up to August 1975, were undoubtedly responsible for the many aquatic or semi-aquatic species seen. Moreover a recent abundance of native Long-haired Rats *Rattus villosissimus* (Cox 1976) may have been the cause of the large numbers of raptors seen. Perhaps of most interest however, is the proportional difference in the numbers of many species seen during the three visits. Some birds were seen

commonly in October, whereas none of the same species was seen in August. If these data are correlated with the species' known seasonal occurrences in southern parts of the state, they suggest that regular migrations of many birds to and from the whole of S.A. take place, rather than suggest nomadic movements from the interior to southern regions. Other birds which breed in the south, but which occur throughout the year, may move inland in large numbers. It is only through an accumulation of evidence, which this paper hopes to provide or initiate, that these problems can be solved.

TREATMENT

In the following list of species recorded, emphasis has been placed on detailing the date, locality and habitat of each bird. Many com-

mon species which were seen continuously are not listed individually, but the locations where they were seen are given. Most localities are shown on the map, others may be ascertained by plotting the distance given from a locality along the illustrated routes according to the broadly-based compass directions that are written. All dates are abbreviated: thus in the examples 19/10 and 6/8, the ten refers to October 1974 or 76 (the dates of the October expeditions do not overlap so that there need be no confusion as to the year), and the eight to August 1975. A few specimens were collected under permit from the National Parks and Wildlife Service of S.A., and these are indicated.

The classification of birds follows that of *A Field List of the Birds of South Australia*. 1976. S.A. Orn. Ass.

A LIST OF RECORDED SPECIES

EMU *Dromaius novaehollandiae*.

Nine, just north of the dog fence on Muloorina Stn., 18/10; adult with four young at Mt. Gason Bore on 20/10; 12 adults 141 km south of Birdsville by the wet-weather track on 21/10; adult with eight young 80 km south of Moomba by Strzelecki Track on 24/10 (LP); five 10 km south of Mt. Gason Bore on 9/8; two 4 km west of Kooncheri Waterhole on 11/8; four near Pandiburra Bore on 13/8; two, Karawinnie Waterhole on 16/8; two, Coongie on 18/8; four near Coongie Lake on 20/8; four 20 km south of Pandie Pandie on 26/8; two at Mt. Gason on 28/8 (JC); one at Frome Creek, close to Marree, eight at Lake Harry; 10, 16 km north of Dulkaninna on 12/10; one near Kopperamanna Bore on 13/10 (LP, LJ).

LITTLE GREBE

Tachybaptus novaehollandiae.

Four and a nest with three eggs on the Frome, Muloorina Stn., on 17/10 (LP); 12 at Mungeranie Creek on 4/8; two on the Warburton 15 km downstream from New Kalamurina on 5/8; five at the last locality on 6/8; four at same place on 7/8 (DC JC); two at Kooncheri Waterhole on 14/8; one at Cannu-waukaninna Bore on 30/8 (JC).

HOARY-HEADED GREBE

Podiceps poliocephalus.

About 50 on Lake Eyre on 18/10 (LP); several hundred or more on Lake Harry on 12/10 (LP, LJ).

GREAT-CRESTED GREBE

Podiceps cristatus.

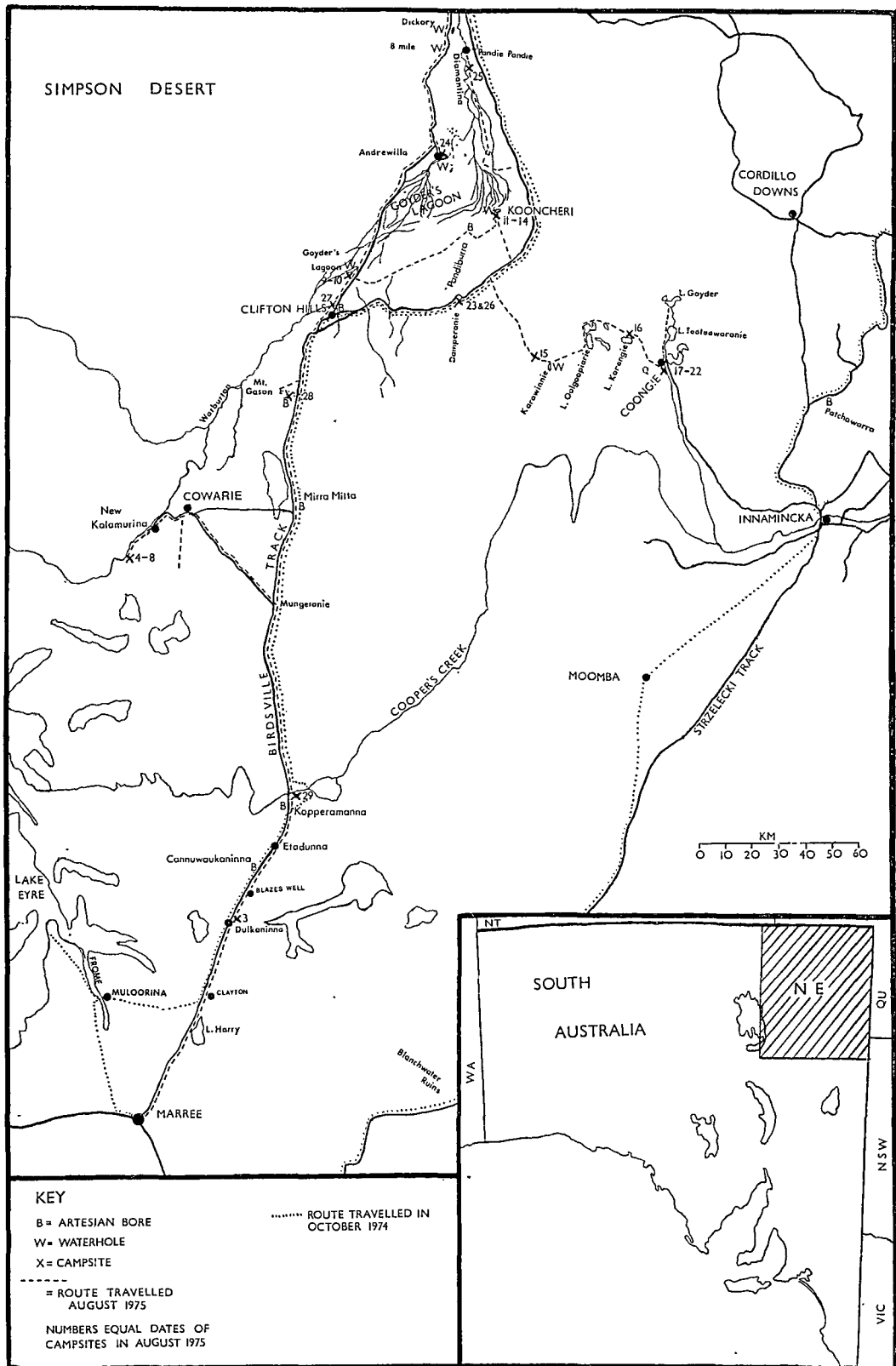
Seven were seen on Lake Harry on 12/10

among hundreds of ducks and swans. The closest two, with a flock of Hoary-headed Grebes, were viewed at about 60 m with 16 x 40 binoculars. They stood out by their larger size and striking white chests and were later seen with heads held high, rufous facial feathers puffed out, and dark crests held erect. Condon (1969) gave Eureka as the locality of the previous northernmost record of this species in S.A. (LP, LJ).

AUSTRALIAN PELICAN

Pelecanus conspicillatus.

About 200 on a sandbar in Lake Eyre north-west of Muloorina Stn. on 18/10; 60-plus near Cooper's Creek ferry, Birdsville Track, on 20/10, flying upstream in early morning, and there appeared to be young pelicans on an island about 1 km downstream from the ferry, with a few adults; 42 over Birdsville Track 118 km south of Birdsville on 21/10, flying in formation to the south-east; c500 fishing in a raft on Cooper's Creek at Innamincka on 23/10 (LP); parties of up to 20 birds along the Warburton between New Kalamurina Stn. and 15 km downstream therefrom, 5-8/8; four on Goyder's Lagoon Waterhole 9-10/8 (DC, JC); up to 15 at Kooncheri Waterhole on 12-14/8; c150 at Lake Oolgoopiarie on 16/8; 40 at Lake Karangie on 17/8; c 300 at Coongie Lake 17-21/8; 15 at Lake Tootoowaranie on 22/8; five at Andrewilla Waterhole on 25/8; 25 at Dickory Waterhole on 25/8; c 250 at the Birdsville Track crossing of Cooper's Creek on 29/8 (JC). About 100 at Lake Harry and 12 at Clayton River on 12/10; four on swamps near Kopperamanna Bore on 13/10 (LP, LJ).



BLACK CORMORANT*Phalacrocorax carbo*

About 300 flying along Cooper's Creek near the Birdsville Track ferry on 20/10, mostly going upstream in the early morning; c100 at Innamincka on 23/10; c50 at Moomba on 24/10; five flew up from claypans and headed north-east, about 120 km south of Birdsville on 21/10 (LP); 30 at Mungeranie Creek on 4/8; 50 at Cowarie on 6/8; up to 300 along the Warburton 15 km downstream from New Kalamurina on 5-8/8; c100 at Goyder's Lagoon Waterhole on 9-10/8 (DC, JC); c75 at Kooncheri Waterhole on 12-14/8; c400 at Coongie Lake, many nests in Coolibahs were being used by this species for perching and roosting, and probably the species had formerly bred at that locality, on 17-22/8; c30 at Lake Tootoowaranie on 22/8; 20 at Andrewilla waterhole on 25/8; 70 2 km north of Clifton Hills on 28/8; five at Mt. Gason on 29/8; c1500 at Birdsville Track crossing of Cooper's Creek on 29/8 (JC); several at Lake Harry on 12/10; seven flying over plains 15 km north-east of Etadunna, and two at swamps near Kopperamanna Bore, on 13/10 (LP, LJ).

LITTLE BLACK CORMORANT*Phalacrocorax sulcirostris*.

Approximately 700 at Frome Creek, Muloorina Stn. on 18/10 (LP); five at Cowarie on 6/8; five at Goyder's Lagoon Waterhole on 9-10/8 (DC, JC); one at Coongie Lake on 18/8 (JC); 30-plus at Lake Harry, two at Clayton Bore and two in a roadside puddle 3 km south of Etadunna on 12/10; three at Blanchewater Creek on 15/10 (LP, LJ).

PIED CORMORANT *Phalacrocorax varius*.

About 50 at the Birdsville Track ferry across Cooper's Creek on 20/10 (LP); one at Mungeranie Creek on 4/8; up to 10 on the Warburton 15 km downstream from New Kalamurina on 5/8 (DC, JC); c100 at Coongie Lakes on 17-22/8, and they probably formerly bred along with Black Cormorants (JC).

LITTLE PIED CORMORANT*Phalacrocorax melanoleucos*.

Five at Mungeranie Creek on 4/8; up to 20 along the Warburton about 15 km downstream from New Kalamurina on 5-8/8 (DC, JC), two at Lake Harry and one at Clayton Bore on 12/10 (LP, LJ).

DARTER *Anhinga melanogaster*.

Two at Frome Creek, Muloorina Stn. on 18/10; six at Innamincka on 23-24/10 (LP); one at Mungeranie Creek on 4/8; specimen

from Mungeranie Creek on 9/8; up to six along the Warburton 15 km downstream from New Kalamurina on 5-8/8; 10 at Goyder's Lagoon Waterhole on 9-10/8 (DC, JC); four at Kooncheri Waterhole on 12-14/8; two at Karawinnie Waterhole on 16/8; one at Lake Karangie on 17/8; up to 12 at Coongie Lake on 18-22/8; two at Lake Goyder on 22/8; four at Andrewilla Waterhole on 25/8; two at Eight Mile Waterhole on 25/8; one at Dickory Waterhole on 25/8 (JC); one at Clayton River on 12/10 (LJ).

WHITE-FACED HERON*Ardea novaehollandiae*.

Two on Frome Creek, Muloorina Stn., on 18/10; one at Mirra Mitta Lake on 20/10; two at Mungeranie Creek on 20/10; three 133 km south of Birdsville on 21/10; two at Innamincka on 23/10 (LP); six at Lake Harry on 3/8; four at Dulkaninna Creek on 4/8; one at Mungeranie Creek on 4/8; up to ten near Cowarie on 6-7/8; 20-plus along the Warburton 15 km downstream from New Kalamurina (DC, JC); up to 20 at Kooncheri Waterhole and Pandiburra Bore on 12-14; c15 at Lake Oolgooparie on 16/8; two at Lake Karangie on 17/8; up to 30 at Coongie Lakes on 18-22/8; one at Dickory Waterhole on 25/8; two at Mt. Gason Bore on 28/8; one at Lake Harry on 30/8 (JC); about 20 at Lake Harry, four at Clayton Bore and one at Cannuwaukaninna Bore on 12/10; over 20 near Kopperamanna Bore on 13/10; one at Blanchewater Creek on 14/10 (LP, LJ).

WHITE-NECKED HERON *Ardea pacifica*.

One at Dulkaninna Creek on 19/10; three at Mirra Mitta Lake on 20/10; eight 95 km, 10 133 km and three, 140 km south of Birdsville in claypans on 21/10 (LP); one at Mungeranie Creek on 4/8; eight along the Warburton 15 km downstream from New Kalamurina on 5-8/8; two at Goyder's Lagoon Waterhole on 9-10/8 (DC, JC); two at Kooncheri Waterhole on 12-14/8; five at Coongie Lakes on 18-22/8; one 5 km north of Clifton Hills on 24/8; five at Eight Mile Waterhole on 25/8; one at Mt. Gason on 28/8 (JC); one 15 km north-east of Etadunna on 13/10 (LP, LJ).

GREAT WHITE EGRET *Egretta alba*.

Two at Frome Creek, Muloorina Stn., on 18/10; one at the Birdsville Track ferry across Cooper's Creek on 20/10; four at Innamincka on 24/10 (LP); one on the Warburton 15 km downstream from New Kalamurina on 6-7/8; two at Goyder's Lagoon Waterhole on 9-10/8 (DC, JC); up to four at Coongie Lakes on 17-

19/8; one at Andrewilla Waterhole on 25/8 (JC); eight at Lake Harry and one at Clayton Bore on 12/10 (LP, LJ).

NANKEEN NIGHT HERON

Nycticorax caledonicus.

One adult at Innamincka on 23/10 (LP); four in Coolibahs along the Warburton 15 km downstream from New Kalamurina on 5-7/8 (DC, JC); one at Kooncheri Waterhole on 14/8; up to eight at Coongie Lakes on 17-22/8 in Coolibahs and Red Gums (eight seen together on 20/8); one in Coolibahs along the Diamantina 10 km south of Pandie Pandie on 26/8 (JC); one immature at Clayton River on 12/10 (LJ).

WHITE IBIS *Threskiornis molucca*.

One at Innamincka on 24/10 (LP); one at Goyder's Lagoon Waterhole on 9-10/8 (DC, JC); 12 at Kooncheri Waterhole on 12-14/8; five at Coongie Lake on 17/8 (JC).

STRAW-NECKED IBIS

Threskiornis spinicollis.

Two at Innamincka on 23/10; five at Muloorina on 18/10; two at Blazes Well, Etadunna, on 20/10; 10, 22 km south of Mungeranie Creek on 20/10; two at Mungeranie Creek on 20/10; five at Mirra Mitta Lake on 20/10; one 56 km south of Moomba on 24/10 (LP); 15 at Kooncheri Waterhole on 12-14/8; 20 at Lake Oolgoopiarie on 16/8; five at Coongie Lake on 17/8; seven 14 km east of Clifton Hills on 27/8; 12 at Mt. Gason Bore on 28/8 (JC); seven at Lake Harry and over 60 at a canegrass swamp 16 km north of Dulkaninna on 12/10; two on swamps near Kopperamanna Bore on 13/10 (LP, LJ).

ROYAL SPOONBILL *Platalea regia*.

10 along the Warburton 15 km downstream from New Kalamurina on 5-8/8; 12 at Goyder's Lagoon Waterhole on 9-10/8 (DC, JC); three at Kooncheri Waterhole on 12-14/8; eight at Lake Oolgoopiarie on 16/8; one at Lake Karangie on 17/8; up to 20 at Coongie Lake on 18-22/8; one at Lake Goyder on 22/8; two at Eight Mile Waterhole on 25/8 (JC).

YELLOW-BILLED SPOONBILL

Platalea flavipes.

Two on Frome Creek, Muloorina, on 17-18/10 (LP); one at Mungeranie Creek on 4 and 28/8 (DC, JC); one at Kooncheri Waterhole on 12/8 (JC); one at Clayton Bore on 12/10; 15 near Kopperamanna Bore on 13/10 (LP, LJ).

BLACK SWAN *Cygnus atratus*.

About 20 scattered along shore of Lake Eyre South on 18/10 (LP); 200-plus at Lake Harry on 4 and 30/8 (DC, JC); up to seven at Coongie Lake on 18-22/8 (JC); well over 500 on Lake Harry on 12/10, a number of pairs having downy young of various sizes, one pair having seven small cygnets (LP, LJ).

CHESTNUT-BREADED SHELDUCK

Tadorna tadornoides.

12 at Mungeranie Creek on 4/8; up to 200 along the Warburton 15 km downstream from New Kalamurina on 5-8/8; eight at Goyder's Lagoon Waterhole on 9-10/8 (DC, JC); four at Kooncheri Waterhole on 12-14/8; c500-600 at Coongie Lakes on 18-22; three at Mungeranie Creek on 29/8; c300 at Birdsville Track crossing of Cooper's Creek on 29/8 (JC).

BLACK DUCK *Anas superciliosa*.

Four adults and one young at Frome Creek, Muloorina, on 18/10; six at Birdsville Track ferry across Cooper's Creek on 20/10; seven 80 km south of Moomba on claypans on 24/10 (LP); eight at Lake Harry on 3/8; 10 at Mungeranie Creek on 4/8; up to 30 along the Warburton 15 km downstream from New Kalamurina on 5-8/8; 20 at Goyder's Lagoon Waterhole on 9-10/8 (DC, JC); 40 at Kooncheri Waterhole on 11-14/8; five at Karawinnie Waterhole on 16/8; 80 at Lake Oolgoopiarie on 16/8; c100 at Coongie Lake on 17-22/8; eight 2 km north of Clifton Hills on 28/8; four at Mungeranie Creek on 29/8 (JC); 30-plus on Lake Harry on 12/10; four on a claypan 15 km north-east of Etadunna, and a few near Kopperamanna on 13/10 (LP, LJ).

CHESTNUT TEAL *Anas castanea*.

One male seen swimming at close range at Kooncheri Waterhole on 14/8 (JC).

GREY TEAL *Anas gibberifrons*.

About 50 on Lake Eyre South on 18/10; six at Birdsville Track ferry crossing of Cooper's Creek on 20/10; six at Frome Creek on 17/10 (LP); c150 at Lake Harry on 3/8; c200 along the Warburton 15 km downstream from New Kalamurina on 5-8/8; c80 at Goyder's Lagoon Waterhole on 9-10/8 (DC, JC); c150 at Kooncheri Waterhole on 12-14/8; c50 at Coongie Lakes on 17-22/8; seven at Andrewilla Waterhole on 25/8; c25 at Eight Mile Waterhole on 25/8; seven on the Diamantina 10 km south of Pandie Pandie on 26/8; 12, 2 km north of Clifton Hills on 28/8; six at Mt. Gason Bore on 28/8; seven at Mungeranie on 29/8 (JC); over 1,000 on Lake Harry, and two, 20 km north of

Dulkaninna on 12/10; 10, 15 km north-east of Etadunna, and over 500 in shallow coolibah-lignum swamp near Koppermanna Bore on 13/10 (LP, LJ).

PINK-EARED DUCK

Malacorhynchus membranaceus.

30 at Lake Eyre South on 18/10; two at the Birdsville Track ferry crossing of Cooper's Creek on 20/10 (LP); 25 on the Warburton 15 km downstream from New Kalamurina on 5-7/8; 30 at Goyder's Lagoon Waterhole on 9-10/8 (DC, JC); 20 at Kooncheri Waterhole on 11-14/8; 25 at Dickory Waterhole on 25/8 (JC).

WHITE-EYED DUCK *Aythya australis.*

One on Lake Eyre South on 18/10 (LP); up to eight on the Warburton 15 km downstream from New Kalamurina on 5-8/8; five at Goyder's Lagoon Waterhole on 9-10/8 (DC, JC); eight at Kooncheri Waterhole on 14/8; up to 12 at Coongie Lake on 18-22/8; six at Andrewilla Waterhole on 25/8 (JC); more than 80 on Lake Harry on 12/10 (LP, LJ).

MANED WOOD-DUCK *Chenonetta jubata.*

Two at the Birdsville Track ferry across Cooper's Creek on 20/10 (LP); 12 at Mungeranie Creek on 4/8; 12 on the Warburton 15 km downstream from New Kalamurina on 5-8/8; 14 at Goyder's Lagoon Waterhole on 9-10/8 (DC, JC); 40 at Kooncheri Waterhole on 12-14/8, c3,000 at Lake Oolgoopiarie on 16/8; c5,000 at Lake Karangie on 17/8; c2,000 at Coongie Lake on 18-22/8; 50 at Andrewilla Waterhole on 25/8; 25 at Eight Mile Waterhole on 25/8; six 2 km north of Clifton Hills on 28/8 (JC); two on Lake Harry on 12/10; about 20 near Koppermanna Bore on 13/10 (LP, LJ).

BLUE-BILLED DUCK *Oxyura australis.*

A pair with four young at Frome Creek, Muloorina, on 18/10 (female with young photographed) (LP).

MUSK DUCK *Biziura lobata.*

One male on Frome Creek on 18/10 (LP); one male at Kooncheri Waterhole on 14/8; two at Coongie Lake on 22/8 (JC).

BLACK-SHOULDERED KITE

Elanus caeruleus.

One at Etadunna on 19/10; four at Birdsville Track ferry crossing of Cooper's Creek on 19/10; two at Mt. Gason Bore on 20/10; one immature 238 km south of Birdsville on 21/10; one 65 km south of Innamincka, and one 48 km

south of Moomba on 24/10 (LP); three 41 km north of Marree on 3/8 (DC, JC); one at Clayton River on 12/10 (LP).

LETTER-WINGED KITE *Elanus scriptus.*

About 50 at Patchawarra Bore on 23/10, in one flock of 24 and another slightly larger flock (LP); 12 at Cowarie on 7/8 (DC, JC); one at Clifton Hills on 11/8 (DC); one at Kooncherie Waterhole on 13/8; four at Karawinnie Waterhole on 5/8; four and nest with three young at Lake Karangie on 16/8, nest 10 m up in Coolibah near waters edge, young still in nest but could fly, allowed approach to within 2 m; two at Coongie Lake on 17/8; nine at Lake Oolgoopiarie on 23/8; 23 at Damperanie on 27/8; nine on 27/8 and 43 on 28/8 2 km north of Clifton Hills, the 43 all perched together in one tree (JC).

BLACK KITE *Milvus migrans.*

Four at Marree on 17/10; two at Muloorina on 17/10; nine at Clayton Creek on 19/10; 11 at Dulkaninna on 19/10; two at Blazes Well on 19/10; 30-plus at Etadunna on 19/10; 20 at the Birdsville Track ferry crossing of Cooper's Creek on 20/10; 50-plus at Mungeranie on 20/10; six at Mt. Gason on 20/10; 50-plus at Clifton Hills on 20/10; 30 at Innamincka on 23/10; 20 at Patchawarra Bore on 23/10; six 118 km south of Birdsville on 21/10; four at Moomba on 24/10; two near Blanchewater ruins on 25/10; also odd birds in open areas between above localities (LP); During August 1975 birds were seen commonly every day, the following are rough estimates at the given localities and birds were seen continuously between each locality: c2000 at Dulkaninna Creek; c25 at Marree; c70 at Mungeranie Creek; c100 at Cowarie; c300 at campsite west of New Kalamurina; c50 at Mirra Mitta Bore; c75 at Clifton Hills; c150 at Goyder's Lagoon Waterhole; c300 at Kooncheri Waterhole; c40 at Karawinnie Waterhole; c200 at Lake Oolgoopiarie; c20 at Lake Karangie; c500 at Coongie Lake; c50 at Lake Goyder; c30 at Damperanie; c70 two km north of Clifton Hills; c60 at Andrewilla; c40 at Dickory Waterhole; c150 at Pandie Pandie; c20 at Mt. Gason Bore; c10 at Koppermanna Bore; c5 at Lake Harry (DC, JC); larger numbers concentrate about larger trees and waterholes, only small numbers being seen over open plains or sandhills. About 20 at Marree, two at Lake Harry, about 20 at Clayton River on 12/10; 15, 15 km north-east of Etadunna, and over 25 near Koppermanna Bore on 13/10; one at Petermorra Creek on 14/10 (LP, LJ).

BLACK-BREASTED KITE

Hamirostra melanosternon.

One perched near track 98 km south of Birdsville on 21/10 (LP); one dark phase bird flying over sandhill country 15 km south of Cowarie on 7/8; three pairs at Coongie Lakes on 17-22/8, one nest in constant use by two birds was found to contain a lining of fresh gum leaves on 20/8, nest about 20 m up in Red Gum; three seen flying together near Karawinnie Waterhole on 23/8 (JC).

WHISTLING KITE *Haliastur sphenurus*.

One at Frome Creek, Muloorina, on 17/10; two at Etadunna on 19/10; one at the Birdsville Track ferry crossing of Cooper's Creek on 20/10; one at Patchawarra Bore on 23/10; four at Innamincka on 24/10; one at Lake Eyre South on 18/10 (LP); four at Dulkaninna Creek on 3/8; six at Mungeranie Creek on 4/8; up to 10 along the Warburton 15 km downstream from New Kalamurina on 5-8/8; two at Mirra Mitta Bore on 9/8; six at Goyder's Lagoon Waterhole on 9-10/8 (DC, JC); 10 at Kooncheri Waterhole on 12-14/8; four at Lake Oolgoopiarie on 16/8; up to 12 at Coongie Lake on 17-22/8; one at Lake Tootoowaranie on 22/8; one 5 km north of Clifton Hills on 24/8; two 39 km north of Goyder's Lagoon Waterhole on 24/8; five at Andrewilla on 25/8; two at Pandie Pandie on 25/8; four 10 km south of Pandie Pandie on 26/8; two at Damperanie on 27/8; two at Mirra Mitta Bore on 29/8; one at Kopperamanna Bore on 30/8 (JC); one at Lake Harry and several at Clayton River on 12/10; one at Kopperamanna Bore and one 15 km north-east of Etadunna on 13/10 (LP, LJ).

BROWN GOSHAWK *Accipiter fasciatus*.

Two near Cowarie on 7/8 (DC, JC); two at Goyder's Lagoon Waterhole on 9-10/8 (DC, JC); up to three at Kooncheri Waterhole on 12-14/8; two on 17/8; one on 21/8 and two on 23/8 at Coongie Lake (JC).

COLLARED SPARROWHAWK

Accipiter cirrhocephalus.

One small male seen flying low over sanddunes on 7/8 10 km south of Cowarie, was observed at close range to swoop to the ground and later rise with a fairly large rat and fly off with it (DC, JC); one small male seen in trees along watercourse at Coongie Lake on 17/8 (JC).

LITTLE EAGLE *Hieraetus morphnoides*.

One at Karawinnie Waterhole on 16/8; up to three at Coongie Lake on 17-20/8; one at Damperanie on 23/8; one 10 km south of

Pandie Pandie on 26/8 (JC); two at Clayton River on 12/10 (LP, LJ).

WEDGE-TAILED EAGLE *Aquila audax*.

One at Frome Creek, Muloorina, on 18/10; two at Lake Eyre South on 18/10; one at Birdsville Track ferry crossing of Coopers Creek on 20/10; one 98 km south of Birdsville on 21/10; two 160 km south of Moomba on 24/10; one 100 km south of Moomba on 24/10 (LP); one 5 km south of Mungeranie on 4/8; three at Cowarie on 6-7/8; two at New Kalamurina on 8/8; one at Mirra Mitta Bore on 9/8; two adults and nest, 5 m up in a waterside Coolibah, with two young at Goyder's Lagoon Waterhole on 9-10/8 (DC, JC); three at Karawinnie Waterhole on 15/8; up to four at Coongie Lake on 17-22/8; two and nest, 15 m up in Coolibah with two nearly fledged young, at Lake Goyder on 22/8; one at Lake Karangie on 23/8; one 2 km north of Clifton Hills on 27/8 (JC); one 20 km north of Marree, one at Etadunna on 12/10; one 15 km north of Etadunna and three at a dead kangaroo near Clayton on 13/10 (LP, LJ).

SPOTTED HARRIER *Circus assimilis*.

Two at Muloorina on 17/10; three at Lake Eyre South on 18/10; one at Mungeranie on 20/10; two 15 km north of Patchawarra Bore on 23/10; one at Innamincka and one 60 km south of Moomba on 24/10 (LP). Only adults were recorded by LP; numerous others were unidentified, and no dark brown immature Swamp Harriers were seen. Two at Dulkaninna on 3/8; four 20 km south-east of Cowarie on 6-7/8; two at Mirra Mitta Bore on 9/8; two near Clifton Hills on 11/8 (DC, JC); up to four at Kooncherie on 11-14/8; two at Karawinnie Waterhole on 15/8; up to three over sandhills next to Coongie Lakes on 17-22/8; one at Lake Karangie on 23/8; one at Damperanie on 24/8; two 22 km north of Goyder's Lagoon Waterhole on 24/8; one at Damperanie on 27/8; one at Mt. Gason Bore on 28/8; two at Mt. Gason on 29/8; one 40 km south of Mungeranie on 29/8; one at Lake Harry on 30/8 (JC); one 15 km north-east of Etadunna on 13/10; one 15 km east of Petermorra Creek on 14/10 (LP, LJ).

SWAMP HARRIER *Circus approximans*.

Most of the birds seen were very dark brown immatures, and most had extensive white rump patches, a pale grey underside to primaries only, and were not confused with immature Spotted Harriers with which the observers are familiar. One at Dulkaninna Creek on 4/8; two at Mirra Mitta Bore on 9/8 and 29/8 (DC,

JC); three at Kooncherie on 11-14/8; one at Coongie Lake on 17/8 and two on 19/8; one at Lake Goyder on 22/8; two at Karawinnie Waterhole on 23/8 (JC); one at Lake Harry and one at Clayton Bore on 12/10; two at swamps near Kopperamanna Bore on 13/10, one of which unsuccessfully attacked a group of native-hens (LP, LJ).

GREY FALCON *Falco hypoleucos*.

Two at a coolibah-lined creek surrounded by grassy gibber plains, 15 km north-east of Etadunna by the track to the Cooper's Creek ferry on 13/10. They were flushed from a tree after sunset on 12/10 and flushed again nearby next morning. Good views were obtained by both observers of the birds in flight and perched within about 40 m.

In flight they had pale grey uppersides with darker grey on primaries and uppertail. The underwing was very pale grey shading slightly darker at the edges; wings were held flat with the tips very slightly bent upwards and not sharply pointed. When perched, undersides were paler than the back, wings and top of head; primaries and tail being darker still. Beak and eyes were dark; cere, orbital skin and legs were rich yellow. Three Grey Falcons were flushed together from foliage of a coolibah in the extensive coolibah-lignum swamp 2 km west of Kopperamanna Bore on 13/10; and again good views were obtained by both observers as the falcons circled a few times. The birds' size and outlines were not unlike those of Brown Falcons, except that wings were held flat and the flight style was much easier. Calls were like a shorter, softer version of a Brown Falcon's cackling (LP, LJ).

BLACK FALCON *Falco subniger*.

One at Dulkaninna and two at Etadunna on 19/10; two at Birdsville Track crossing of Cooper's Creek on 20/10; one being seen to stoop and catch a flying Orange Chat; one 118 km, two 85 km and one 70 km south of Birdsville on 21/10; one near Moomba on 24/10; one 40 km north of Patchawarra Bore on 23/10 (LP); two 10 km south of Lake Harry on 3/8; one 5 km south of Dulkaninna on 3/8; two at Dulkaninna on 3/8; two 20 km south of Mungeranie on 4/8; two 15 km south-east of Cowarie on 6-7/8; four near New Kalamurina on 8/8; two at Goyder's Lagoon Waterhole on 9-10/8 (DC, JC); two 20 km east of Goyder's Lagoon Waterhole on 11/8; one at Pandiburra Bore on 11/8; two at Karawinnie Waterhole on 15/8; one on 17/8; three on 20/8 and two on 21/8 at Coongie Lake; one at Damperanie on 23-24/8; two at Andrewilla

Waterhole on 25/8; one 20 km north of Andrewilla on 25/8; one at Damperanie on 27/8; two and a nest sited 5 m up in a Coolibah containing two downy young and one infertile egg, 2 km north of Clifton Hills on 28/8; one at Mt. Gason on 29/8; one 4 km north of Mirra Mitta Bore on 29/8 (JC); none was seen in the part of the region visited during October 1976 (LP, LJ).

BROWN FALCON *Falco berigora*.

One at Lake Eyre South on 18/10; one at Cooper's Creek-Birdsville Track crossing on 20/10; one 70 km south of Birdsville on 21/10; three near Patchawarra Bore on 23/10; three 110 km south of Moomba on 24/10; one and two young just out of nest 100 km south of Moomba on 24/10 (LP). During August 1975 this species was seen commonly throughout the region, most birds being alone or in pairs, and the following localities given of where birds were seen do not account for many seen on route between them. While they were thus seen continuously, the given locations indicate the distribution and dates of records: Lake Harry, Dulkaninna, Cooper's Creek-Birdsville Track crossing, Mungeranie, Cowarie, New Kalamurina (where one was flushed from a nest) Mirra Mitta Bore, Goyder's Lagoon Waterhole (DC, JC); Clifton Hills, Kooncheri, Karawinnie Waterhole, Coongie Lakes, Lake Goyder, Damperanie, Andrewilla, Pandie Pandie, Mt. Gason, (JC); One at Clayton on 12/10; one 15 km north-east of Etadunna on 13/10 (LP, LJ).

LITTLE FALCON *Falco longipennis*.

One by the Warburton 15 km downstream from New Kalamurina on 7/8; one at Cowarie on 8/8 (DC, JC); one at Coongie Lake on 17/8 (JC); one at the edge of the coolibah swamp near Kopperamanna Bore on 13/10; one eating a Budgerygah at Clayton River on 14/10 (LP, LJ).

NANKEEN KESTREL *Falco cenchroides*.

Two and a nest containing four eggs, 2 m up in a *Hakea*, with a Zebra Finch's nest in use in the base of the Kestrels' nest, at Lake Eyre South on 18/10; two at Frome Creek on 18/10; one at the Cooper's Creek-Birdsville Track crossing on 20/10; one adult and three newly-fledged young 64 km, and three 95 km south of Moomba on 24/10 (LP); very common during August 1975 between and at the following localities: Marree, Lake Harry, Dulkaninna, Cowarie, New Kalamurina, Mirra Mitta Bore, Goyder's Lagoon Waterhole (DC, JC); Kooncheri, Karawinnie Waterhole, Coongie, Clifton Hills, Andrewilla, Pandie Pandie, Damperanie, and the Cooper's Creek-Birdsville Track cross-

ing (JC); one 23 km north of Marree, two at Clayton and one 10 km north of Dulkaninna on 12/10; several 15 km north-east of Etadunna and two near Kopperamanna Bore on 13/10 (LP, LJ).

STUBBLE QUAIL *Coturnix pectoralis*.

One 56 km south of Moomba on 24/10; one male 106 km south of Birdsville on 21/10 (LP); up to four in lignum-sedge flood-plain country near Kooncheri on 11-14/8 (JC); one at Cannuaukaninna Bore on 12/10 (LP, LJ).

LITTLE BUTTON-QUAIL *Turnix velox*.

One at Mt. Gason Bore on 21/10; one near Moomba on 24/10; two 40 km north of Patchawarra Bore on 23/10 (LP); one flushed in a grassy plain 10 km west of Coongie on 17/8 (JC).

BROLGA *Grus rubicundus*.

Four at Dulkaninna Creek on 4/8; two 10 km south of Etadunna on 4/8; 20 15 km downstream on the Warburton from New Kalamurina on 5/8; six at Goyder's Lagoon Waterhole on 9-10/8 (DC, JC); two at Kooncheri on 13/8; two at Mt. Gason Bore on 28/8 (JC).

BANDED LANDRAIL *Gallirallus philippensis*.

One, accidentally caught in a mammal cage-trap by M. Barritt 16 km downstream on the Warburton from New Kalamurina on 5/8, was examined and photographed by DC and JC before being released in the lignum-coolibah habitat. In South Australia Condon (1969:42) listed Port Augusta as the northern-most locality for this species. Parker (1970) listed records from Alice Springs, and suggested that they may be of individuals which have travelled to the centre after heavy rains. Considering the recent heavy rains in South Australia, our bird and other crakes recorded below may have moved inland similarly.

AUSTRALIAN SPOTTED CRAKE

Porzana fluminea.

At least three at Kopperamanna Bore in dense reeds (specimen) on 30/8. Call-note a single 'kek' (JC). Condon (1969:42) wrote that this species has been recorded as far north as Lake Frome.

BAILLON'S CRAKE *Porzana pusilla*.

One along a watercourse at Coongie Lake on 20/8. This bird was seen from a rubber boat, feeding next to the water in dense vegetation. Remaining still and silent, we allowed the boat to drift into the vegetation; and as the bird progressed in its feeding along the waters edge, it approached us to within *one metre*. It was

watched at very close range for several minutes, and photographed (JC).

Condon (1969:42) wrote that this species occurs only in coastal districts; but Storr (1973:30) wrote that it breeds in the southern interior of Queensland.

SPOTLESS CRAKE *Porzana tabuensis*.

Two at Frome Creek, Muloorina, on 18/10, one km west of the homestead (LP); one at Mt. Gason Bore on 28/8 (JC). Condon (1969:42) noted that this species has occurred as far north as Lake Frome.

BLACK-TAILED NATIVE-HEN

Gallinula ventralis.

One adult and small young at Frome Creek, Muloorina, on 18/10; many at Blazes Well, Etadunna, on 19/10; one at Innamincka on 24/10; two at Moomba on 24/10 (LP); 10 at Cooper's Creek-Birdsville Track crossing on 4/8; 20 at Goyder's Lagoon Waterhole on 9-10/8 (DC, JC); c200 at Kooncheri on 11-14/8; c10,000 at Lake Oolgoopiarie on 16/8 — these were in very large, dense flocks along the waters edge, with each flock containing hundreds of birds and distributed evenly and thickly around the whole perimeter of the lake; c5,000 at Coongie Lakes on 17-22/8 — in large flocks around the shoreline; c700 at Lake Goyder on 22/8; c200 at Cooper's Creek-Birdsville Track crossing on 29/8; c50 at Cannuaukaninna Bore on 30/8 (JC). Matheson (1974) theorised that this species could erupt south after the flooding of northern districts in 1973-74, at the onset of drier conditions. Our data show that the birds were present in large concentrations in the north in 1975, and their habitat there was in the process of drying out. Large numbers must have moved out of that region shortly afterwards. About 80 on a claypan with cane-grass 16 km north of Dulkaninna on 12/10; 35 in similar habitat 15 km north-east of Etadunna, and over 1,000 along the edge of swamps among lignum near Kopperamanna Bore on 13/10 (LP, LJ).

DUSKY MOORHEN *Gallinula chloropus*.

Several on Frome Creek, Muloorina, on 18/10 (LP); two at Coongie Lake on 17/8 (JC).

PURPLE GALLINULE *Porphyrio porphyrio*.

Several at Muloorina on 18/10 (LP); six at Mungeranie Creek on 4/8 (DC, JC); three at Coongie Lake on 17/8; four at Cannuaukaninna Bore on 30/8 (JC); two at Clayton Bore on 12/10 (LP, LJ).

GOOT *Fulica atra*.

10-plus at Muloorina on 18/10; one at Lake Eyre South on 18/10 (LP); 12 at Goyder's Lagoon Waterhole on 9/8 (DC, JC); several hundred at Lake Harry on 12/10 (LP, LJ).

AUSTRALIAN BUSTARD *Ardeotis australis*.

Two 106 km south of Birdsville on 21/10; one 65 km south of Moomba on 24/10 (LP); one at Pandiburra Bore on 11/8; one 24 km north of Andrewilla on 25/8 (JC); one near Karawinnie Waterhole on 18/8 (H. Aslin per JC).

SPUR-WINGED PLOVER

Vanellus miles novaehollandiae.

MASKED PLOVER *Vanellus miles miles*.

One heard at Cooper's Creek-Birdsville Track crossing on 20/10 (LP); four *m. novaehollandiae* at Mungeranie Creek on 4/8 (DC, JC); three *m. novaehollandiae* and two *m. miles* at Coongie on 17-22/8; three *m. miles* at Karawinnie Waterhole on 23/8; two *m. novaehollandiae* paired, two *m. miles* paired, two birds with intermediate characters of *m. novaehollandiae* x *m. miles* paired and one *m. novaehollandiae* and one *m. miles* paired at Mt. Gason Bore on 28/8. These birds were closely studied: at Coongie both subspecies occurred near each other and the paired birds of each form did not mix, whereas at Mt. Gason they were associating with each other. The calls of both subspecies were closely listened to, and no difference between them could be discerned. Most birds appeared to be mated and this explained why never more than two individuals were seen together. Each pair kept to an area away from another pair and it seemed that their territories did not overlap. Thus at Coongie the territory of a pair of *m. novaehollandiae* did not overlap that of the pair of *m. miles*, but a single *m. novaehollandiae* was obviously not mated and was more free-ranging. Similarly the pairs of parental phenotypes at Mt. Gason had mutually exclusive territories, which also excluded those of the mixed pair and the pair with intermediate characters. No nests were found, but it seemed likely that nesting would shortly commence, as all birds that were paired appeared to have strong bonds and territoriality (JC). At least nine at Lake Harry on 12/10, consisting of a pair of *m. miles*, a pair of a single *m. novaehollandiae*, and two pairs of birds with intermediate characters (apparent hybrids), with varying amounts of black on the forebenders and intermediate-sized, or small, facial wattles. At the swamp near Kopperamanna Bore and along the bore drain on 13/10,

were a pair of *m. miles*, one *m. miles* paired with an intermediate, several other intermediates, and one *m. novaehollandiae* paired with an intermediate. More plovers were heard near Kopperamanna, but were not looked at closely. Behaviour of pairs and single birds seen in October 1976 was similar to that noted in August 1975; and some birds may have had nests (LP, LJ). When pairing it appears that individuals select mates of a similar appearance to themselves. Thus it seemed that at Mt. Gason two morphologically similar intermediates paired together, in preference to pairing with birds of either parental phenotype, forcing the odd birds of each parental phenotype to pair together. At Kopperamanna the intermediate paired with a *m. miles* appeared to resemble its mate more closely than it did another intermediate, some distance away, which was paired with a *m. novaehollandiae*.

BANDED PLOVER *Vanellus tricolor*.

Several 138 km south of Birdsville on 20/10 (LP).

RED-CAPPED DOTTEREL

Charadrius alexandrinus.

Recorded at Lake Eyre South on 18/10 (LP); 15 at Mt. Gason Bore on 28/8; although no nests were found, their behaviour indicated that they were breeding on the nearby gibberplain and feeding at the bore-drain (JC); several on gibbers at Lake Harry on 12/10; one on gibbers at Koppermananna Bore on 13/10 (LP, LJ).

BLACK-FRONTED DOTTEREL

Charadrius melanops.

Three at Innamincka on 23/10; three near Blanchewater ruins on 24/10 (LP); four at Dulkaninna on 4/8; four at Mungeranie on 4/8; many along the Warburton 15 km downstream from new Kalamurina on 5-8/8; three north of Cowarie on 7/8; several at Goyder's Lagoon Waterhole on 9-10/8 (DC, JC); six at Kooncheri Waterhole on 11-14/8; many at Lake Oolgoopiarie and Lake Karangie on 15-16/8; many at Coongie Lake on 17-22/8; 20 at Mt. Gason Bore on 28/8; six at Kopperamanna Bore on 30/8 (JC); one at swamp near Kopperamanna Bore on 13/10 (LJ).

RED-KNEED DOTTEREL

Charadrius cinctus.

Two at Mungeranie Creek on 20/10 (LP); 25 at Kooncheri Waterhole on 11-14/8; 15 at Coongie Lake on 17/8 (JC); nine at swamp near Kopperamanna Bore on 13/10 (LP, LJ).

INLAND DOTTEREL *Peltophyas australis*.

Two just south of the Cooper's Creek-Birdsville Track crossing on 19/10; one 96 km south of Birdsville on 21/10; 15 138 km south of Birdsville on 20/10 — all seen on gibbers (LP); flock of 23 at Clifton Hills on 11/8 (DC); two 6 km south of Kooncheri Waterhole on 12/8; one 50 km south of Kooncheri Waterhole on 15/8; 10 two km south of Kopperamanna Bore on 30/8 (JC); 14 in a group active just before sunset on a roadside surrounded by grassy gibber plains, 15 km east of Petermorra Creek on 14/10 — after dark several were seen singly, in the same area, on the road in car headlights (LP, LJ).

CURLEW SANDPIPER *Calidris ferruginea*.

One at Lake Eyre South on 18/10 — with the following species (LP).

SHARP-TAILED SANDPIPER

Calidris acuminata.

About 100 at Lake Eyre South on 18/10 (LP).

KNOT *Calidris canutus*.

One at Lake Eyre South on 18/10 (LP).

GREENSHANK *Tringa nebularia*.

One at Mt. Gason Bore on 28/8 (JC).

BLACK-WINGED STILT

Himantopus himantopus.

Four at Lake Eyre South on 18/10; two at Blazes Well, Etadunna, on 19/10; five at the Cooper's Creek-Birdsville Track crossing on 20/10; two at Mungeranie Creek on 20/10; one 61 km south of Moomba on 24/10 (LP); 12 at Mungeranie Creek on 4/8 (DC, JC) and eight on 29/8; five at Coongie Lake on 17/8 (JC); four at Lake Harry and two at Clayton Bore on 12/10 (LP, LJ).

RED-NECKED AVOCET

Recurvirostra novaehollandiae.

One 61 km south of Moomba on 24/10 (LP); two at Kooncheri Waterhole on 11/8; two at Coongie Lake on 17-21/8 (JC).

AUSTRALIAN PRATINCOLE

Stiltia isabella.

Six-plus in the main street of Marree on 17/10; three at Big Bore, Muloorina, on 17/10; c10 at Lake Eyre South on 18/10; several at the Cooper's Creek-Birdsville Track crossing on 19/10; six 22 km south of Mungeranie Creek on 19/10; 53 along 1 km of roadway near Mt. Gason Bore on 20/10; six 90 km south of Birdsville on 21/10; one 18 km north of Patchawarra Bore on 23/10; three at Patchawarra Bore on 23/10; c15 near Blachewater ruins on 24/10

(LP); one at Pandiburra Bore on 14/8; two at Lake Oolgoopiarie on 15/8; three at Lake Karangie on 15/8; one at Lake Harry on 30/8 (JC); one 18 km and one 23 km north of Marree, over 20 at Lake Harry, two at Clayton Bore, two at, and three 6 km north of, Dulkaninna, and two 3 km south of Etadunna on 12/10; seven 15 km north-east of Etadunna, high and flying south, five, 5 km east of Etadunna and about 20 around Kopperamanna Bore on 13/10; several 15 km east of Petermorra Creek on 14/10 (LP, LJ).

SILVER GULL *Larus novaehollandiae*.

Numerous at Lake Eyre South on 18/10; numerous at the Cooper's Creek-Birdsville Track crossing on 20/10 (LP); one at Lake Karangie on 23/8; about 45 at the Cooper's Creek-Birdsville Track crossing on 29/8 (JC); about 50 at Lake Harry on 12/10 (LP, LJ).

WHISKERED TERN *Chlidonias hybrida*.

About 50 at Lake Eyre South on 18/10, many in breeding plumage (LP); over 100 at Lake Harry on 12/10, mostly in breeding plumage, a few immatures (LP, LJ).

GULL-BILLED TERN *Gelochelidon nilotica*.

About 10 mostly over plains near Lake Eyre South on 18/10; two at Dulkaninna on 19/10; six-plus at the Cooper's Creek-Birdsville Track crossing on 20/10; one 145 km south of Birdsville on 20/10; five 120 km south of Birdsville flying over plains on 21/10, most groups contained birds in breeding and non-breeding plumages (LP); over 30 at Lake Harry on 12/10; six over plains 15 km north-east of Etadunna, and about 10 near Kopperamanna Bore on 13/10 (LP, LJ).

CASPIAN TERN *Hydroprogne caspia*.

Several at Lake Eyre South on 18/10; several at Cooper's Creek ferry on Birdsville Track on 20/10 (LP); two at Goyder's Lagoon Waterhole on 9-10/8 (DC, JC); four at Coongie Lake on 17/8 and one at 22/8; two at Lake Karangie on 23/8 (JC); two at Lake Harry on 12/10 (LP, LJ).

PEACEFUL DOVE *Geopelia striata*.

Several heard at Innamincka on 23/10 (LP); none was seen or heard during August 1975, even though a special watch was kept for them (JC); two seen and heard at Clayton River on 12/10; one or two heard at Blachewater Creek on 15/10 (LP, LJ).

DIAMOND DOVE *Geopelia cuneata*.

Several at Frome Creek, Muloorina, on 18/10; three at Clayton River on 19/10 (LP); c10 in scrub and tree savannah 6 km north of

Cooper's Creek on the Birdsville Track; many at Cowarie, New Kalamurina and to 15-17 km downstream along the Warburton on 4-8/8 — in Coolibahs by watercourses; many at Goyder's Lagoon Waterhole on 9-10/8 — in Coolibahs by water (DC, JC); many in trees about Kooncheri Waterhole on 12-14/8; many at Karawinnie Waterhole on 16/8; many at Lake Oolgoopiarie on 16/8; many at Coongie Lake on 17-22/8; several at Lake Tootoowaranie on 22/8; several at Andrewilla on 25/8; five at Eight Mile Waterhole on 25/8; many at Pandie Pandie and along the Diamantina on 25-26/8; many at the Cooper's Creek-Birdsville Track crossing on 29/8 — all in Coolibahs near water, and all birds were generally distributed through the trees, so that it was practically impossible to make accurate estimates of numbers (JC); six at Clayton River on 12/10 (LJ).

COMMON BRONZEWING

Phaps chalcoptera.

Two at Frome Creek, Muloorina, on 18/10 (LP); one at Coongie Lakes in trees by water on 17/8; one 12 km south of Pandie Pandie in Coolibahs by the Diamantina on 26/8 (JC).

FLOCK PIGEON *Phaps histrionica.*

Four 139 km south of Birdsville on 20/10; eight 120 km south of Birdsville on 21/10; four 108 km south of Birdsville on 21/10; eleven 40 km north of Patchawarra Bore on 23/10 — group flying fast and circling a dam, one or two would dip out of sight below the dam wall each time the flock passed over it, apparently not stopping to drink, perhaps drinking in flight — only seen for a short time around sunrise (LP); c200 in a dense flock at Pandiburra Bore on 11/8 towards sunset and on 14/8 in late afternoon — often the flock was landed and out of sight in the high grass and other vegetation, probably drinking — they would not allow a close approach and when disturbed continually circled in a compact flock for a considerable time; c20 seen flying over Kooncheri Waterhole and towards Pandiburra Bore at sunrise on 13/8; odd birds were often seen in the Pandiburra-Kooncheri area from 11-14/8 (JC).

CRESTED PIGEON *Ocyphaps lophotes.*

Two at Marree on 17/10; three at Innamincka on 24/10 (LP). During August 1975 these birds were seen very commonly throughout the region, mainly in pairs or small parties (making estimates of numbers impossible), on sandhills, saltbush plains amongst the gibbers, open woodland along watercourses and anywhere that trees or shrubs were present; they were seen at the following localities and at

many places between: Mungeranie Creek, Cowarie, New Kalamurina and up to 15 km downstream along the Warburton, Clifton Hills (DC, JC), Kooncheri, Karawinnie Waterhole, Coongie, Lake Tootoowaranie, Andrewilla, Pandie Pandie, Damperanie, the Cooper's Creek-Birdsville Track crossing (JC); about 20 at Clayton River on 12/10; six among coolibahs near Kopperamanna Bore on 13/10 (LP, LJ).

LITTLE CORELLA *Cacatua sanguinea.*

Four at the Cooper's Creek-Birdsville Track crossing on 20/10; c100 at Patchawarra Bore on 23/10; two at Frome Creek, Muloorina, on 18/10; numerous at Innamincka on 24/10 (LP); c20 at the Birdsville Track-Cooper's Creek crossing on 4/8; c50 at Mungeranie Creek at 4/8; numerous at Cowarie, New Kalamurina and to 15 km downstream along the Warburton on 4-8/8; c100 at Goyder's Lagoon Waterhole on 9-10/8 (DC, JC); c20 at Kooncheri Waterhole on 12-14/8; many about Coongie Lakes on 17-22/8; c50 at Andrewilla Waterhole on 25/8; c25 at Eight Mile Waterhole on 25/8; 10 along the Diamantina 20 km south of Pandie Pandie on 26/8; c150 two km north of Clifton Hills on 27-28/8 — all seen in or near trees alongside water or watercourses (JC); about 20 at Lake Harry H.S. and about 20 at Clayton R. on 12/10; two at Blanchewater Creek on 15/10 (LP, LJ).

GALAH *Cacatua roseicapilla.*

Two at Muloorina on 19/10; two 85 km south of Birdsville on 21/10, others seen (LP); c10 at the Cooper's Creek-Birdsville Track crossing on 4/8; many at Cowarie on 6-7/8; many at New Kalamurina and to 15 km downstream on the Warburton on 4-8/8; many at Goyder's Lagoon Waterhole on 9-10/8 (DC, JC); many at Kooncheri on 11-14/8; many at Coongie on 17-22/8; several at Lake Tootoowaranie on 22/8; c500 in one flock feeding on ground 39 km north of Goyder's Lagoon Waterhole on 24/8; many at Andrewilla on 25/6; c25 at Eight Mile Waterhole on 25/8; many at Pandie Pandie and to 20 km south along the Diamantina on 26-27/8; several at Clifton Hills and 2 km north of on 27-28/8; many at the Cooper's Creek-Birdsville Track crossing on 29/8 (JC); several at Clayton River and about 50, 16 km north of Dulkaninna on 12/10; a few near Kopperamanna Bore on 13/10; a few at Blanchewater Creek on 15/10 (LP, LJ).

COCKATIEL *Nymphicus hollandicus.*

Four at Clayton River and 80-plus at Etadunna on 19/10; three 15 km south of Patchawarra Bore on 23/10; 17 at Innamincka and

one south of Moomba on 24/10 (LP); 12, 15 km north-east of Etadunna flying south on 13/10 (LP, LJ).

RINGNECK PARROT *Barnardius barnardi*.

Two seen several times at Coongie Lakes on 17/8 — these birds appeared to be a lighter, more yellowish green than birds from Murray Mallee districts, which appear sea-green; they had pale heads with a red frontal band similar to the southern birds (JC).

RED-RUMPED PARROT

Psephotus haematonotus.

Locally very common at Innamincka on 23-24/10, and a pair was observed feeding young at the entrance of a tree hollow while others were feeding young recently out of nests (LP); observed continuously from Karawinnie Waterhole on 16/8 to Coongie Lakes on 22/8 — many flocks of up to 25 birds seen in trees about water, or feeding upon the ground; they were very common about Coongie Lake (JC). These observations show that Red-rumps are common in the North-East, contradicting Condon's (1969:62) statement that they are "rare".

BLUE-BONNET *Psephotus haematogaster*.

Small groups and individuals seen in Coolibahs along the Warburton 15 km downstream from New Kalamurina on 5-7/8; several seen in similar habitat at Cowarie on 6-7/8 (DC, JC); several at Karawinnie Waterhole on 16/8 and continuously, where there were trees, east to Coongie to 22/8; at Coongie they were often seen in pairs or small groups, but in lesser numbers than the preceding species (JC).

BOURKE'S PARROT *Neophema bourkii*.

Two were seen 6 km north of the Cooper's Creek-Birdsville Track crossing on 4/8. They were observed landed at close range in a mulga and also in flight. Their pink bellies and brownish-grey upperparts were clearly seen. Habitat—a savannah plain between high sandhills with scattered low trees (mulga, other acacia and hakea) and thick patches of shrubs. Eckert (1975) recently assessed the range of this species in S.A. and noted a complete lack of reports from the North-East, which was probably a reflection on the lack of work done in this area (DC, JC).

BUDGERYGAH *Melopsittacus undulatus*.

200 at Muloorina on 18/10; c25 90 km north of Innamincka on 23/10; c25 at Clayton on 19/10; several small groups at the Cooper's Creek-Birdsville Track crossing on 20/10 (LP); 20 at Coongie Lake on 17/8; 30 at Pandie Pandie on 26/8; 10 at Damperanie on 27/8; 15 at

Mt. Gason on 29/8 (JC); several groups of about 30 at Lake Harry, numerous small groups at Clayton on 12/10; numerous small groups near Etadunna on 13/10; several small flocks at Blanchewater on 15/10 (LP, LJ).

PALLID CUCKOO *Cuculus pallidus*.

Two at Kooncheri on 13/8; one at Karawinnie Waterhole on 16/8 (JC).

BLACK-EARED CUCKOO

Chrysococcyx osculans.

One 15 km downstream along the Warburton from New Kalamurina on 5/8 and 7/8 (DC, JC); one at Mt. Gason on 29/8 (JC).

HORSFIELD'S BRONZE-CUCKOO

Chrysococcyx basalis.

Several from New Kalamurina to 15 km downstream along the Warburton on 5-7/8; several at Goyder's Lagoon Waterhole on 9-10/8 (DC, JC); many mainly in lignum at Kooncheri on 11-14/8; one at Coongie Lake on 17/8 (JC).

BARN OWL *Tyto alba*.

One flushed from foliage at midday at Patchawarra Bore on 23/10; one heard at Innamincka on 23/10; two flying above campfire and calling 40 km north of Patchawarra Bore on 22/10; one flushed from foliage near Blanchewater ruins on 24/10 (LP); three in Coolibahs at Dulkaninna Creek on 4/8; one at Mungeranie Creek on 4/8; common in Coolibahs along the Warburton 15 km downstream from New Kalamurina on 5-7/8; several in trees about Goyder's Lagoon Waterhole on 9-10/8 (DC, JC); many about Kooncheri Waterhole in Coolibahs on 11-14/8; two 10 km north-west of Karawinnie Waterhole on 15/8; one at Lake Oolgoopiarie on 16/8; two at Lake Karangie on 16/8; common about Coongie Lakes on 17-22/8; several at Andrewilla Waterhole on 25/8; two 24 km north of Andrewilla on 25/8; several along the Diamantina 20 km downstream from Pandie Pandie on 26/8; several 2 km north of Clifton Hills on 27/8.

Barn owls were very common at most places during August 1975. They were frequently flushed from trees in daylight and often seen perched. It was common for birds to be seen over campfires. At Andrewilla JC was sleeping in the open and was awoken by a Barn Owl hovering above his face. After he scared it away and got a torch, it circled and returned several times to hover overhead in the beam.

GRASS OWL *Tyto longimembris*.

These were recorded at Kooncheri and Pandiburra Bore (specimens), and details of these have already been published (Cox 1976).

BOOBOOK OWL *Ninox novaeseelandiae*.

One flushed from bush in sandhills 20 km south of New Kalamurina on 7/8; one in Coolibahs at Goyder's Lagoon Waterhole on 10/8 (DC, JC); one at Coongie Lake on 17/8, and two on 22/8, and birds often heard calling at night; one flushed from an acacia 2 km north of Clifton Hills on 22/8 (JC).

BARKING OWL *Ninox connivens*.

One heard calling from a dense wood of Coolibahs and Red Gums at Coongie Lake on 20/8. This was heard from a range of c200 m. The call was a deep "oof-oof" repeated many times, with breaks of several minutes between each call. The second syllable was slightly deeper in tone; and the whole call was much deeper than that of the Boobook Owl, which were also heard from different places that night (JC).

TAWNY FROGMOUTH *Podargus strigoides*.

One at Coongie Lake on 18/8; one 2 km north of Clifton Hills on 27/8 — both birds were flushed from Coolibahs (JC).

OWLET NIGHTJAR *Aegotheles cristatus*.

Two at Dulkaninna Creek on 4/8; two 15 km south-west of New Kalamurina on 7/8 (DC, JC); one at Coongie Lake on 17/8; one at Pandie Pandie on 26/8; most seen in Coolibahs by water, but others were frequently heard at night (JC).

SPOTTED NIGHTJAR *Caprimulgus guttatus*.

One flushed from underneath a lignum bush at Goyder's Lagoon Waterhole on 10/8, in daylight. Both observers clearly saw the round white spots on the primaries of this bird. Lignum is probably an unusual habitat preference for this species; but the almost total lack of cover on the surrounding gibber-plains might account for this choice by the bird we saw (DC, JC).

RED-BACKED KINGFISHER*Halcyon pyrrhopygia*.

One 122 km south of Moomba on 24/10 (LP); three at New Kalamurina and 15 km downstream on Warburton on 6-7/8 (DC, JC); two at Karawinnie Waterhole on 16/8; one at Coongie Lake on 17 and 22/8; two at Pandie Pandie on 25/8 and one 20 km south on 26/8 (JC); one at Blanchewater Creek on 15/10 (LP, LJ).

SACRED KINGFISHER *Halcyon sancta*.

Two at Frome Creek, Muloorina, on 18/10; one at the Cooper's Creek-Birdsville Track ferry crossing on 20/10 (LP).

RAINBOW BEE-EATER *Merops ornatus*.

10-plus at Frome Creek, Muloorina, on 18/10; six at the Cooper's Creek-Birdsville Track crossing on 20/10; c10 at Innamincka on 24/10; four at Clayton on 19/10 (LP); several at Clayton on 12/10; several at Blanchewater Creek on 15/10 (LP, LJ).

WELCOME SWALLOW *Hirundo neoxena*.

Two at Muloorina on 17/10 (LP); one at the Cooper's Creek-Birdsville Track crossing on 4/8; two at Mungeranie Creek on 4/8; five at New Kalamurina on 5/8; c10 at Goyder's Lagoon Waterhole on 9-10/8 (DC, JC); five at Kooncheri Waterhole on 11-14/8; two at Cannuaukaninna Bore on 30/8 (JC); several at Marree on 12/10 (LP, LJ).

WHITE-BACKED SWALLOW*Cheramoeca leucosternum*.

Six in sandhills near Lake Eyre South on 18/10; eight at Innamincka on 23/10; two 65 km south of Moomba on 24/10; c10 near Blanchewater ruins on 25/10; two 105 km south of Birdsville on 20/10; c8 near Clifton Hills homestead on 20/10 (LP). During August 1975 this species was observed commonly at the following localities and often between them *en route*: Dulkaninna, Cowarie, New Kalamurina, Kooncheri, Coongie Lake, Clifton Hills, 39 km north of Clifton Hills, Andrewilla, Damperanie, Mt. Gason, Cooper's Creek-Birdsville Track crossing, Cannuaukaninna Bore. Most were seen in small loose parties, and most were near sandhills or banks (DC, JC).

TREE MARTIN *Cecropis nigricans*.

25 at Innamincka on 23/10; c15 at Frome Creek, Muloorina, on 18/10 (LP); many 15 km downstream from New Kalamurina along the Warburton on 5-7/8; many at Goyder's Lagoon Waterhole on 9-10/8 (DC, JC); many at Kooncheri Waterhole on 11-14/8; many at Coongie Lake on 17-22/8; c30 at Clifton Hills on 24/8; many at Andrewilla on 25/8; many at the Cooper's Creek-Birdsville Track crossing on 29/8. Most birds seen were concentrated about trees near water (JC); numerous between Dulkaninna and Etadunna on 12/10; numerous near Kopperamanna Bore on 13/10 (LP, LJ).

FAIRY MARTIN *Cecropis ariel*.

50 at Clayton on 19/10; c60 at Mungeranie on 21/10; c60, and 40 nests some containing young, in a stack of unused cement culverts at Mt. Gason Bore on 21/10; c20 by bridge between Lake Blanche and Lake Callabona on 24/10 (LP); c15 at Goyder's Lagoon Waterhole on 9-10/8 (DC, JC); many at Kooncheri

Waterhole and 20 nests in use in sand-cliffs caused by water erosion of end of sand-dune on 11-14/8; c15 at Coongie Lake on 17/8 (JC); a few at Lake Harry, about 30 at Clayton River and several 3 km south of Etadunna on 12/10; numerous, with Tree Martins, at Kopperamanna Bore on 13/10 (LP, LJ).

RICHARD'S PIPIT *Anthus novaeseelandiae*.

Two 75 km north of Innamincka on 23/10 (LP). Common in most open areas during August 1975, being observed at the following localities and *en route* between most: Marree, Dulkaninna, near Mungeranie, Cowarie, up to 15 km downstream along the Warburton from New Kalamurina, Clifton Hills, Goyder's Lagoon Waterhole (DC, JC), Kooncheri, Karawinnie, Lake Karangie, Coongie, Damperanie, Andrewilla, Pandie Pandie, Mt. Gason (JC). Birds were most often seen on plains between sandhills, but also were common near waterholes on previously flooded areas and on gibber-plains where a small amount of low vegetation existed. Several at Lake Harry on 12/10; numerous near Kopperamanna Bore on 13/10 (LP, LJ).

GROUND CUCKOO-SHRIKE

Coracina maxima.

Six 5 km west of Mungeranie on 4/8 over gibber and saltbush plains (DC, JC).

BLACK-FACED CUCKOO-SHRIKE

Coracina novaehollandiae.

Three at Innamincka on 23/10 (LP); c10 15 km south-west of New Kalamurina on 5/8; five at Goyder's Lagoon Waterhole on 9-10/8 (DC, JC); six at Kooncheri in dense lignum clumps on 11-14/8; several at Pandie Pandie on 25/8; several at Mt. Gason on 29/8. Birds were seen in *Acacia* scrub and in Coolibahs and lignum near water (JC); three at Blanche-water Creek on 15/10 (LP, LJ).

WHITE-WINGED TRILLER *Lalage sueurii*.

Six-plus at Muloorina on 18/10; two near Clifton Hills on 21/10; three at Innamincka on 23/10; one at Patchawarra Bore on 23/10 (LP); one male at Coongie Lake on 21/8 (JC); one male 3 km west of Kopperamanna Bore among coolibahs on 13/10 (LP, LJ).

CINNAMON QUAIL-THRUSH

Cinlosoma cinnamomeum.

One between Lake Eyre South and Muloorina on 18/10; two 142 km south of Birdsville, on gibbers, on 20/10; two 106 km south of Birdsville on 21/10; two 90 km south of Innamincka on 24/10; one 112 km south of Moomba on 24/10 (LP); two on gibbers 2 km

south of the Cooper's Creek-Birdsville Track crossing on 4/8; up to 20 in groups of several birds on gibbers 15 km south-east of Cowarie (specimen); several in sandhills 6 km south-west of Cowarie on 7/8; two 20 km south of Clifton Hills on 9/8, about shrubs in gully in gibber-plain (DC, JC); several 5 km south of Kooncheri Waterhole on 15/8; two 20 km south south-west of Kooncheri Waterhole on 15/8; c12 24 km north of Clifton Hills on 24/8 (specimen); common on gibbers about Mt. Gason on 28-29/8; two 5 km south of Kopperamanna Bore on 30/8 (JC); a pair 2 km south of Clayton R. on 14/10 (LP, LJ).

CHESTNUT-CROWNED BABBLER

Pomatostomus ruficeps.

Eight (specimen) in lignum and scrub with Coolibahs 15 km south-west of New Kalamurina on 5/8, at least two other flocks in this area up to 7/8; five near Karawinnie Waterhole on 16/8; common in *acacia* and lignum about Coongie and Tootoowaranie Lakes on 17-22/8; several in low scrub about Andrewilla Waterhole on 26/8 (DC, JC).

LITTLE GRASSBIRD *Megalurus gramineus*.

Several at Mirra Mitta Bore on 9/8 (DC, JC); common in lignum and sedge at Kooncheri Waterhole on 12-14/8; two at Pandiburra Bore on 13/8; several in dense vegetation about Coongie Lake on 17-22/8; five at Mt. Gason Bore on 28/8; two at Kopperamanna Bore on 30/8; several at Cannuwaukaninna Bore on 30/8; those about bores inhabited the dense aquatic vegetation along the drains (JC); six-plus in lignum and reeds at Kopperamanna Bore on 13/10 (LP, LJ).

CLAMOROUS REED WARBLER

Acrocephalus stentoreus.

Some at Frome Creek, Muloorina on 18/10 (LP); at least two at Pandiburra Bore on 11-13/8, in reeds; a few about Kooncheri Waterhole, including one seen in lignum, on 12-14/8; several at Kopperamanna Bore on 30/8 in reeds; several at Cannuwaukaninna Bore in reeds on 30/8 (JC); two at Clayton Bore, three-plus at Cannuwaukaninna Bore on 12/10; several at Kopperamanna Bore on 13/10 (LP, LJ).

BROWN SONGLARK

Cinlorhamphus cruralis.

Six 138 km south of Birdsville on 21/10; several 75 km north of Innamincka on 23/10; one 70 km north of Innamincka on 23/10; one 40 km and four 90 km south of Innamincka on 24/10 (LP); two in sand-dunes 10 km south of New Kalamurina on 8/8; several at Mirra

Mitta Bore on 9/8 (DC, JC); several at Kooncheri and Pandiburra Bore on 11-14/8; two near Karawinnie Waterhole on 16/8; several about Coongie Lakes, in sandhills and on grassy plains, on 17-22/8 (JC); a few near Kopperamanna Bore on 13/10; several 15 km east of Petermorra Creek on 14/10 (LP, LJ).

RUFOUS SONGLARK

Cinclorhynchus mathewsi.

10 at Innamincka on 23/10; two at Muloorina on 18/10 (LP); many in trees along the Warburton 15 km downstream from New Kalamurina on 6-7/8 (DC, JC); one at Karawinnie Waterhole on 16/8; two near Lake Karangie on 17/8; several about Coongie Lake on 17-22/8 (JC).

CRIMSON CHAT *Ephthianura tricolor*.

Two 105 km south of Birdsville on 21/10; four 56 km north of Innamincka on 23/10; six at Innamincka on 24/10; two near Moomba on 24/10; three 105 km south of Moomba on 24/10 (LP); several at New Kalamurina on 5/8; 12 5 km north of Cowarie on 7/8; six 20 km south of Clifton Hills on 9/8; many about Goyder's Lagoon Waterhole on 9-10/8 (DC, JC); many including one flock of c60 at Kooncheri on 11-14/8; many near Karawinnie Waterhole on 16/8; many about Coongie Lake on 17-22/8, including one flock of 40 birds 5 km south-west; 12, 2 km north of Clifton Hills on 28/8. This species was not as numerous as the next, being outnumbered by about 2-1, and showed a preference for foraging on the ground on sandhills or on bare ground between lignums and higher vegetation near watercourses (JC); one male 15 km north-east of Etadunna and three 4 km west of Kopperamanna Bore on 13/10 (LP, LJ).

ORANGE CHAT *Ephthianura aurifrons*.

Numerous near Lake Eyre on 18/10; several at Dulkaninna on 19/10; 10 south of the Cooper's Creek-Birdsville Track crossing on 19/10; four at Mt. Gason Bore on 20/10; four 140 km, two 95 km, two 70 km, three 50 km and one 90 km south of Innamincka, and several 55 km south of Moomba on 20-24/10 (LP). Common during August 1975, with birds seen continuously between and at the following localities: Marree, Dulkaninna, near Mungernie, Cowarie, near Clifton Hills, Goyder's Lagoon Waterhole, Kooncheri, Karawinnie Waterhole, Lake Oolgoopiarie, Lake Karangie, Coongie, Lake Goyder, Damperanie, Andrewilla, Dickory Waterhole, Pandie Pandie and Mt. Gason (JC, DC). This was one of the commonest birds in the region, being evenly dis-

tributed over gibber plains with some vegetation, grassy plains and lake shores; usually in small parties and preferring more open less vegetated areas than the preceding species. Two near Marree, several pairs at Lake Harry and two 15 km north of Clayton on 12/10; two near Kopperamanna Bore on 13/10 (LP, LJ).

GIBBER CHAT *Ashbyia lovensis*.

One near Cowarie on 4/8; five 10 km south-east of Cowarie on 6-7/8; 10 near Clifton Hills on 11/8 (DC, JC); many between 5 km south of Kooncheri Waterhole to 30 km south-south-east — odd birds distributed evenly over the gibber plains — on 15/8 (JC).

SOUTHERN WHITEFACE

Aphelocephala leucopsis.

About 10 amongst shrubs and small acacias — away from the river — 15 km south-west of New Kalamurina on 5/8 (JC); up to five at the same place on 6-7/8 (DC, JC); three about 30 km south south-east of Kooncheri Waterhole in saltbush on gibber plains on 15/8 (JC).

CHESTNUT-BREASTED WHITEFACE

Aphelocephala pectoralis.

Three seen near some of the above species and other small passerines about 30 km south south-east of Kooncheri Waterhole on 15/8. They were in low saltbush growing in an isolated patch on a gibber plain between high sandhills. Observed through binoculars at 30 m. the brown breast band was clearly seen. Prolonged observations were not made, because immediately after they were identified it was attempted (unsuccessfully) to secure a specimen. All three birds flew directly away very high up for a long distance and could not be found again; the Southern Whiteface, by comparison, flew only a short distance. The location is just within the range of the species according to the distribution map in Slater (1974), but Condon (1969:75) said they occur west of the Flinders Ranges and Lake Eyre, not mentioning their range as extending into the North-East (JC).

CHESTNUT-RUMPED THORNBILL

Acanthiza uropygialis.

Five at Karawinnie Waterhole on 16/8 in trees and shrubs near water; 10 at the Cooper's Creek-Birdsville Track crossing on 29/8, foraging in the foliage of trees growing amongst lignum (JC).

CALAMANTHUS *Sericornis fuliginosus*.

Two on a saltbush plain surrounded by gibbers between Mt. Gason and nearby hills, they kept mainly to denser growth along a gully — 29/8 (JC).

GREY GRASSWREN *Amytornis barbatus*.

Found at Kooncheri and Pandiburra Bore (specimens) in August 1975; details are published (Cox 1976).

WHITE-WINGED WREN

Malurus leucopterus.

10-plus at Mt. Gason Bore on 20/10; five 100 km north of Innamincka on 23/10; and others seen many times (LP). During August 1975 this was probably the most abundant bird. Parties were found in cane-grass and other vegetation on sandhills: every 100 m. along a dune a party of six to 10 birds could usually be found, on every dune walked along. Others frequented any small patch of vegetation on the gibber plains and even occurred in the less dense areas of lignum. They appeared to avoid only wooded areas and places with dense, higher vegetation. Birds were seen continuously en route from Marree to Mungaranie, Cowarie, New Kalamurina, and to the Warburton; from Mungaranie to Clifton Hills, Goyder's Lagoon, Kooncheri and to Coongie; from Clifton Hills to Andrewilla and the Queensland Border and Pandie Pandie and Damperanie (DC, JC). Several at Lake Harry, many in canegrass on sandhills near Clayton on 12/10; numerous groups in lignum near Kopperamanna Bore on 13/10 (LP, LJ).

VARIEGATED WREN *Malurus lamberti*.

Five-plus by Frome Creek, Muloorina, on 18/10; eight 20 km east of the Blanchewater ruins on 25/10; uncoloured birds, probably this species, at the Cooper's Creek-Birdsville Track crossing on 19/10 (LP); six at Dulkaninna Creek on 4/8; several parties in lignum and other shrubs along the Warburton 15 km downstream from New Kalamurina on 5-7/8; four at Cowarie on 7/8; several parties at Goyder's Lagoon Waterhole on 9-10/8; eight at Clifton Hills Bore on 11/8 (DC, JC); many in mainly dense lignum at Pandiburra Bore and Kooncheri on 11-14/8; four at Karawinnie Waterhole on 16/8; common about Coongie Lake on 17-22/8; six at Damperanie on 27/8; to parties of about six 2 km north of Clifton Hills on 27/8; many at the Cooper's Creek-Birdsville Track crossing on 29/8 (JC). This species occurred mainly in areas of dense vegetation about water or watercourses, but also at bores and in thickets between on sandhills. Several groups at Clayton River on 12/10; several groups at Blanchewater Creek on 14/10 (LP, LJ).

WILLIE WAGTAIL *Rhipidura leucophrys*.

One at, and one 75 km north of, Innamincka on 23/10; two at Petermorra Creek on 25/10;

others seen not recorded (LP). Recorded at all localities visited during August 1975 and was very common, occurring in most places where some trees or shrubs were present, and also often along tracks in quite bare areas (DC, JC). A few 5 km north of Etadunna and among collibahs near Kopperamanna Bore on 13/10; two at Blanchewater Creek on 15/10 (LP, LJ).

GREY FANTAIL *Rhipidura fuliginosa*.

One in dense lignum by water at Kooncheri on 13/8; two in Red Gums at Coongie Lake on 17/8 (JC).

RESTLESS FLYCATCHER *Myiagra inquieta*.

One at Innamincka on 23/10, seen and heard (LP); one at Cowarie on 7/8 (DC, JC); one on 17/8, two on 19/8 and one on 20/8 at Coongie Lake (JC). All birds were seen in trees by water. Condon (1969:86) included only the southern half of South Australia as within the range of this species.

RED-CAPPED ROBIN *Petroica goodenovii*.

One male 65 km south of Moomba on 24/10 (LP); one at New Kalamurina on 5/8; several along the Warburton 15 km downstream on 6-7/8 (DC, JC); many at Kooncheri on 11-14/8; in lignum bordering upon trees; several at Coongie Lake on 17-22/8; one at Damperanie on 27/8; two at the Birdsville Track-Cooper's Creek crossing on 29/8 (JC).

HOODED ROBIN *Melanodryas cucullata*.

One male and one female in low scrub near Karawinnie Waterhole on 16/8 (JC).

RUFIOUS WHISTLER

Pachycephala rufiventris.

One in Coolibahs at Dulkaninna Creek on 4/8 (DC, JC); two in high lignum and *acacia* at Kooncheri on 12/8 (JC).

GREY SHRIKE-THRUSH

Colluricincla harmonica.

Common in trees about water at Coongie Lakes on 17-22/8; two at Andrewilla Waterhole on 25/8, in Coolibahs with thick understory; three in thick vegetation and high trees along the Diamantina 10 km south of Pandie Pandie on 26/8 (JC).

CHIRRUPING WEDGEBILL

Psophodes cristatus.

Four 6 km north of the Cooper's Creek-Birdsville Track crossing in low, dense vegetation on sides of sandhills, on 4/8; one 15 km downstream from New Kalamurina along the Warburton in areas of lignum on 5/8 (DC, JC); two in low scrub and lignum near Kara-

winnie Waterhole on 16/8; three in similar habitat at Coongie Lake on 17/8 and two on 21/8; two in lignum and Coolibahs at the Cooper's Creek-Birdsville Track crossing on 29/8; two in lignum and low, dense vegetation at Cannuwaukaninna Bore on 30/8 (JC).

BROWN TREECREEPER

Climacteris picumnus.

At least one at Innamincka on 23/10 (LP); common in Coolibahs about Coongie Lake on 17-22/8 (JC).

MISTLETOEBIRD *Dicaeum hirundinaceum*.

Two in Coolibahs between Cowarie and Mungeranie on 7/8 (DC, JC); common in trees about water at Coongie Lake on 17-22/8; several at Eight Mile Waterhole on 25/8; several in trees along the Diamantina 10 km south of Pandie Pandie on 26/8 (JC).

RED-BROWED PARDALOTE

Pardalotus rubricatus.

Several 15 km and 30 km downstream along the Warburton from New Kalamurina on 5/8, and others at the first locality on 6-7/8; c10 at Goyder's Lagoon Waterhole on 9-10/8 (DC, JC); widely distributed at Coongie Lake with birds often seen on 17-22/8; five along Diamantina 10 km south of Pandie Pandie on 26/8; one at Damperanie on 27/8 (JC); two 15 km north-east of Etadunna, and two near Kopperamanna Bore, on 13/10 (LP, LJ). All were seen in coolibahs along water-courses.

SINGING HONEYEATER

Lichenostomus virescens.

Two 15 km south of Clifton Hills in saltbush and other shrubs by a watercourse on 9/8; several at Clifton Hills in low scrub by bore on 9/8 (DC, JC); several in saltbush near Pandiburra Bore on 11-13/8, and a few in sparse lignum near Kooncheri during same period; several in low scrub near Karawinnie Waterhole on 16/8; many in scrub and low bushes beyond the three-line about Coongie Lakes on 17-20/8; several in low shrubs 2 km north of Clifton Hills on 28/8; common about Mt. Gason in saltbush and scattered *acacia* scrub on 28-29/8 (JC).

WHITE-PLUMED HONEYEATER

Lichenostomus penicillatus.

Numerous at Frome Creek, Muloorina, on 18/10; numerous at Innamincka on 23/10 (LP); several in Coolibahs at Dulkaninna Creek on 4/8; several in Coolibahs at Mungeranie Creek on 4/8; many in trees by water from Cowarie, New Kalamurina to 15 km and

30 km downstream along the Warburton on 4-8/8; many in Coolibahs at Goyder's Lagoon Waterhole on 9-10/8 (DC, JC); many in trees about Kooncheri Waterhole on 12-14/8; many in trees about Coongie Lake on 17-22/8; many in trees about Andrewilla Waterhole on 24/8; many at Eight Mile and Dickory Waterhole in Coolibahs on 25/8; many in Coolibahs along the Diamantina 10 km south of Pandie Pandie on 25/8; several at Damperanie on 26/8; several in trees by water 2 km north of Clifton Hills on 28/8; several at the Cooper's Creek-Birdsville Track crossing on 29/8 (JC); numerous at Clayton River and 15 km north-east of Etadunna; many in coolibahs near Kopperamanna Bore and nuemorus at Blanchewater Creek in October 1976 (LP, LJ).

YELLOW-THROATED MINER

Manorina flavigula.

Two at Clayton on 19/10; two adults feeding small young in nest at the Cooper's Creek-Birdsville Track crossing on 20/10; two 80 km north of Innamincka on 23/10 (LP); several at Dulkaninna on 3/8; six at Mungeranie on 4/8; many near Cowarie on 6-7/8; many parties along the Warburton 15 km downstream from New Kalamurina on 5-8/8; several at Goyder's Lagoon Waterhole on 9-10/8 (DC, JC); several at Kooncheri on 12-14/8; many near Karawinnie Waterhole and Lake Oolgoopiarie on 16/8; many about Coongie Lake on 17-22/8; five 39 km north of Goyder's Lagoon Waterhole on 24/8; two 24 km north of Andrewilla on 25/8; several at Pandie Pandie on 26/8; eight at Damperanie on 26/8; many at the Birdsville Track-Cooper's Creek crossing on 29/8 (JC); numerous at Clayton on 12/10; numerous 15 km north-east of Etadunna and near Kopperamanna Bore, on 13/10 (LP, LJ). This species appeared to show no preference in habitat except the presence of some trees.

SPINY-CHEEKED HONEYEATER

Acanthagenys rufogularis.

Three at Muloorina on 18/10 (LP); two in trees by Coongie Lake on 17/8 (JC).

ZEBRA FINCH *Poephila guttata*.

A flock of 500-plus feeding in dry grass at Muloorina on 17/10; several 100 km north of Innamincka on 23/10; c15 at Patchawarra Bore on 23/10; c10 20 km east of Blanchewater ruins, including pair feeding two young just out of the nest on 20/10 (LP); c20 at Cowarie on 6-7/8; c50-plus 15 km south-west of New Kalamurina on 5-8/8; c30 at Mirra Mitta Bore and c40 at Clifton Hills on 9/8; c100 at Goyder's Lagoon Waterhole on 9-10/8 (DC,

JC); c10 at Clifton Hills on 11/8 (DC); c200 at Kooncheri on 12-14/8; c50 near Karawinnie Waterhole on 16/8; common about Coongie Lake on 17-22/8; c60 at Lake Tootoowaranie on 22/8; c20 at Andrewilla on 23/8; c20 at Damperanie on 27/8; c80 2 km north of Clifton Hills on 27/8; c500 in several large flocks at Mt. Gason on 29/8 (JC); one at Lake Harry; c40 at Clayton R.; c60, 12 km north of Clayton and about 100 at Cannuaukaninna Bore on 12/10; a few 15 km north-east of Etadunna and 10 at Kopperamanna Bore, on 13/10; six at Blanchewater Creek on 15/10 (LP, LJ).

HOUSE SPARROW *Passer domesticus*.

Four at New Kalamurina homestead on 7/8 (DC, JC); seven at Andrewilla homestead on 25/8 — all about buildings (JC); several at Marree on 12/10 (LP, LJ).

MAGPIE-LARK *Grallina cyanoleuca*.

Two at Frome Creek, Muloorina, on 18/10; one at the Cooper's Creek-Birdsville Track crossing on 20/10; six at Innamincka on 23/10 (LP); two at Dulkaninna on 4/8; four at Mungeranie on 4/8; six at Cowarie on 6-7/8; several along the Warburton 15 km downstream from New Kalamurina and two at New Kalamurina on 5-8/8; several at Goyder's Lagoon Waterhole on 9-10/8 (DC, JC); two at Clifton Hills on 11/8; c10 at Kooncheri Waterhole on 12-14/8; several at Karawinnie Waterhole and Lake Oolgoopiarie on 16/8; many at Coongie Lake on 17-22/8; six at Andrewilla on 25/8; two 24 km north of Andrewilla on 25/8; two 10 km south of Pandie Pandie on 26/8; two at Damperanie on 27/8; several 2 km north of Clifton Hills on 28/8 — most birds in pairs near threes by watercourses or about homesteads (JC); several at Clayton on 12/10; two, 15 km north-east of Etadunna and a few near Kopperamanna Bore on 13/10; two at Blanchewater Ck. on 15/10 (LP, LJ).

WHITE-BREASTED WOODSWALLOW

Artamus leucorhynchus.

Several at Frome Creek, Muloorina, on 18/10; four, and nest in use, high up over waters edge at Innamincka on 23/10 (LP); eight flying high over sandhills 5 km south-west of Cowarie on 7/8; c10 at Goyder's Lagoon Waterhole on 9-10/8 (DC, JC); two at Kooncheri Waterhole on 11 and 14/8; two at Coongie Lake on 17/8; 15 at the Cooper's Creek-Birdsville Track crossing on 29/8; apart from those near Cowarie, all birds were seen near water (JC). Two at Clayton R. on 12/10 (LP, LJ).

BLACK-FACED WOODSWALLOW

Artamus cinereus.

Two at Etadunna on 19/10; three at 70 km south of Birdsville on 21/10; five 90 km north of Innamincka and one 80 km north of Innamincka on 23/10; four at Dulkaninna on 19/10; six 20 km east of Blanchewater ruins on 25/10; six at Muloorina on 18/10; two 90 km south of Innamincka on 24/10 (LP). Common in open areas and regions of low scrub during August 1975, with birds seen at the following localities and often continuously between: Lake Harry, Dulkaninna, near Cowarie, 15 km south-west of New Kalamurina, Clifton Hills, Goyder's Lagoon Waterhole, Kooncheri, near Karawinnie Waterhole, Lake Karangie, Coongie Lake, Damperanie, Andrewilla, Pandie Pandie, Mt. Gason, the Cooper's Creek-Birdsville Track crossing (DC, JC), about 12 at Clayton on 12/10; two 15 km north-east of Etadunna and numerous among coolibahs near Kopperamanna Bore on 13/10 (LP, LJ).

BLACK-BACKED MAGPIE

Gymnorhina tibicen tibicen.

WHITE-BACKED MAGPIE

Gymnorhina tibicen leuconota.

Seen at Mungeranie on 20/10; near Innamincka on 24/10 and 104 km south of Moomba on 24/10, and others seen elsewhere — all *tibicen tibicen* (LP). During August 1975 seen at Marree, Dulkaninna, Cowarie, New Kalamurina, Goyder's Lagoon Waterhole, Clifton Hills, Kooncheri, Coongie, Mt. Gason, the Cooper's Creek-Birdsville Track crossing — all *tibicen tibicen*. One apparent female *tibicen leuconota* clearly seen perched on a fence with two nominate *tibicen* at Dulkaninna on 4/8 — this had a completely white back lightly marked with grey (DC, JC); two at Clayton on 12/10; two pairs 15 km north-east of Etadunna, one at Etadunna H.S. and several pairs among coolibahs near Kopperamanna Bore on 13/10; two at Petermorra Ck. and two feeding young in a nest at Blanchewater Ck. on 15/10 — all *tibicen tibicen*, seen singly or in isolated pairs. All magpies were very timid (LP, LJ).

AUSTRALIAN RAVEN

Corvus coronoides.

Many 'crows' were seen throughout the region, the vast majority not being identified. All records below are of birds identified mainly by call notes and throat hackles — the nasal call of the Little Crow being distinct from the more guttural call of the Australian Raven, and the latter often being seen to have bushy, long throat hackles as compared to the inconspicuous

throat hackles of the Little Crow. Unidentified birds are not listed.

Two at Blanchewater ruins on 25/10; two at the Cooper's Creek-Birdsville Track crossing on 20/10; one at Frome Creek, Muloorina, on 18/10 (LP); several at Dulkaninna and four at Mungeranie on 4/8; several at Cowarie on 6-7/8; several at New Kalamurina on 4-8/8; many (specimen) at Goyder's Lagoon Waterhole on 9-10/8 (DC, JC); several at Kooncheri on 12-14/8; many at Coongie on 17-22/8; two at Lake Goyder on 22/8; four at Andrewilla, two 24 km north of Andrewilla and several at Pandie Pandie on 25/8; several at Mt. Gason on 28/8 (JC); several at Lake Harry and six, including juveniles, at Clayton on 12/10; numerous near Koppermanna Bore on 13/10; several at Blanchewater Creek on 15/10 (LP, LJ).

LITTLE CROW *Corvus bennetti*.

See comments above. Six south of Muloorina on 17/10, defending nest containing four large young; 30 at Big Bore, Muloorina, on 18/10; several at Frome Creek, Muloorina on 18/10; one at Blazes Well on 19/10; two 106 km south

of Birdsville on 21/10; 15 near Moomba on 24/10 (LP); 40 at Mungeranie Creek on 4/8; 50 at Mirra Mitta Bore on 9/8; 40 at Goyder's Lagoon Waterhole on 9-10/8 (DC, JC); 20 at Clifton Hills on 11/8; 60 at Kooncheri on 12-14/8; many at Lake Oolgoopiarie on 16/8; several flocks at Coongie on 17-22/8; 80 at Pandie Pandie on 25/8; two, and nest 15 m high in Coolibah and containing young, 2 km north of Clifton Hills on 18/8; 20 at Mt. Gason on 29/8 (JC) a few at each of Lake Harry, Clayton, Etadunna, Koppermanna and Blanchewater, and others between these places on 12-15/10 (LP, LJ).

REFERENCES

- Condon, H. T. 1969. A Handlist of the Birds of South Australia, 3rd ed. S.A. Orn. Ass.
 Cox, J. B. 1976. Grey Grasswrens and Grass Owls at Goyder's Lagoon, South Australia. S. Aust. Orn. 27:96-100.
 Eckert, J. 1975. Range of the Bourke Parrot. S. Aust. Orn. 27:18-19.
 Matheson, W. E. 1974. The irruption of Native Hens in South Australia in 1972-73. S. Aust. Orn. 26:151-156.
 Parker, S. A. 1970. Critical notes on the status of some Northern Territory Birds. S. Aust. Orn. 25:115-125.
 Slater, P. 1974. A Field Guide to Australian Birds 2 Rigby.
 Storr, G. M. 1973. List of Queensland Birds. Spec. Publ. West. Aust. Mus. 5.

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