

BIRDS OF THE GAWLER RANGES, SOUTH AUSTRALIA

J. B. PATON

Accepted March, 1975

The Gawler Ranges are ancient hills of porphyry lying across the north of Eyre Peninsula and rising about 150 metres above the plain. They extend for about 150 km west from Corunna and up to 160 km north and south. They are broken up by a complex network of dry creek beds and wide intervening plains covered mainly with blue-bush, saltbush and grasses and myall, but interspersed with stands of black oak, mallee, and in the north, mulga. Many of the hillsides are well covered with triodia and on some a good deal of original scrub remains. Grazing has sometimes been extreme but there are also areas covered with the original vegetation. Particularly in the north there are a number of salt lakes which are usually dry and surrounded by samphire flats.

Rainfall in the north of Eyre Peninsula and on the southern slopes of the Gawler Ranges occurs mainly in winter and averages about 400 mm p.a. On the northern side of the Ranges the average rainfall falls rapidly to less than 250 mm p.a. and occurs irregularly throughout the year. The Ranges therefore act as a barrier between the relatively well-vegetated areas of Eyre Peninsula and the sparsely-covered-dry interior.

Until about 1970 few people visited the Gawler Ranges, but they have now become a popular area for tourists. It is therefore an appropriate time to review what is known of the avifauna of the area.

In 1972 the Nature Conservation Society of South Australia conducted a biological survey in the western part of the Ranges and has prepared a report (NCSSA, 1974) which includes information on the history, geology, soils, vegetation, ants, reptiles, mammals and

birds of the area. The material covered in this paper was used in the preparation of this report.

HISTORICAL REVIEW

During the last century very little was written about the birds of the Gawler Ranges even though most explorers were expected to make notes in their journals about the natural history of the areas through which they passed. Hack, for example, when given instructions for his expedition in 1857 was told specifically that "animals and birds seen should be described and the direction of flight of flocks of the latter noted." (Bonney, 1858). Yet all that is in his report is a passing reference to Crows, Spur-winged Plover, Rose-breasted Cockatoos *Cacatua roseicapilla*, large parrots, a large kind of swallow (possibly a Woodswallow, *Artamus*, sp?) Brush turkey, (this would be the Mallee Fowl *Leipoa ocellata*) and Black Magpies (*Currawong Strepera* sp?), which are all large conspicuous birds, and to "many small birds." He named Cockatoo Springs from the number of Rose-breasted Cockatoos which were disturbed nearby. (Hack, 1858).

Bonnin (1907) in 1862 saw "great numbers of paraquets shell parrots (Budgerygah, *Melopsittacus undulatus*) Cockatoo parrots (Cockatiel, *Nymphicus hollandicus*) and two pheasants" (Mallee Fowl) near Yarinda. Near Yarlbrinda in the north-west he says "two Pink Cockatoos (*Cacatua leadbeateri*) and a turkey," presumably a Bustard (*Ardeotis australis*). Emus were mentioned on several occasions; "I shot an emu yesterday, the legs of which we kept as food; rather unpalatable." Then, three days later he added "Boiled some of our emu to see if it would eat nicer, and it did a little, but not much." At Waroonda Hill he obtained

water by digging and wrote "Emus know this place, for the creek was full of their traces and we could see places where they had scraped away sand to get at the water." Nearby they shot a wallaby and a pigeon "which we relished very much after the emu."

Possibly the capture in 1867 of a live Night Parrot *Geopsittica occidentalis* and its transfer to Adelaide and eventually to London provoked F. W. Andrews, a collector and taxidermist attached to the South Australian Museum, to visit the Gawler Ranges in 1871, and he returned again in 1880, 81, and 83 making Nonning his headquarters. His observations on Mallee Fowl *Leipoa ocellata* near Moonarie were published posthumously (Andrews 1885) but unfortunately he did not give a list of birds seen or specimens collected. It is believed that the only specimen of the Speckled Warbler *Chthonicola sagittata* in the South Australian Museum and one of the very few records for the State was collected by him from Coralbignie, just south of Nonning, in 1883.

EARLY ORNITHOLOGY

To the ornithologist the Gawler Ranges is probably most famous as the home of the Night Parrot *G. occidentalis*. Of the fifteen known skins twelve are from S.A. and ten of these from the Gawler Ranges (Wilson, 1937). Most of the South Australian skins were obtained by Andrews and almost all the information about this species is derived from a paper written by him in which he states that these birds were "pretty generally distributed through the north and north-west of this colony" and were usually to be found in thick patches of shrubby samphire and near triodia, the latter supplying both staple food and safe retreat (Andrews, 1883).

The Night Parrot was comparatively abundant only between 1865 and 1885, and although this could have been the result of exceptionally-favourable-breeding conditions, Foreshore (1969) suggests it was more likely to be due to disturbance of the bird by the commencement of pastoral activities in the interior. In the Gawler Ranges these began in the 1860s and the first Night Parrot known from the area was caught on what is now Nonning in 1867. At this time the sheep were shepherded, and because shepherds remained with their flocks they were quite likely to see any birds disturbed by the sheep. It was not till the 1880s that some of the properties were fenced and shepherds were no longer needed. About the same time the numbers of dingoes (another

possible cause of destruction of the parrots) increased causing considerable loss of stock.

There have been no authenticated reports of the Night Parrot in S.A. this century, but the most promising (Powell, 1967) was of birds disturbed while droving sheep. There is other circumstantial evidence that the Night Parrot is still present in and near the Gawler Ranges either in the triodia-covered hillsides or on the samphire flats near salt lakes. In the absence of further information about the requirements and indeed the existence of the Night Parrot it is difficult to suggest recommendations for the preservation of its habitat. The possibility of its presence in the Gawler Ranges is, however, sufficiently strong to warrant careful consideration of any means of preventing the further deterioration of its probable habitat.

In 1902 Dr. Chenery made a journey to the Gawler Ranges especially to find the Night Parrot, but did not see it. His movements in the Ranges were, however, restricted because of drought. The birds seen by him are given in the Table.

The most extensive ornithological excursions to the area were made by Capt. S. A. White in 1912, after an attempt to visit the area in 1911 was abandoned because of drought. White spent nearly two months in the field, recording the presence of 75 species of birds and collecting many specimens, the stomach contents of which were preserved and later examined by Lee from the South Australian Museum. At the conclusion of the expedition he wrote (White, 1913 a) "I doubt if there be much in the ornithological life left for others to work, for we gave over 600 miles of country a thorough search" and "Although our chief objective — to meet and study the fast disappearing Night Parrot — was not fulfilled . . . we have also worked the Gawler Ranges in a thorough and, I hope, scientific way, and I doubt if any form of bird life has missed our observation." An account of places visited and an annotated list of the birds seen was published in The Emu (White 1913 b). A list of the birds seen by White is included in the Table. In addition White also made a large collection of plants, insects, bats and reptiles which was given to the Museum.

Because of his thorough examination of the Gawler Ranges and his well-documented account of the birds seen, his report makes an excellent base line for comparison of the current status of birds of the Gawler Ranges.

Except for Sutton's account of a trip to Eyre Peninsula (Sutton, 1923), which includes the

Gawler Ranges there have been only a few casual observations of individual species since then. A list of birds seen by Sutton is included in the Table.

RECENT OBSERVATIONS

The list of birds seen during the Nature Conservation Society of S.A. survey in October 1972 (see Table) was compiled by D. Williams and R. Shearer from observations in mallee, *Calitris* and mulga just east of Lake Everard, and by Williams, Shearer and myself in mallee, myall or black oak and associated open country near Yardea, Scrubby Peak and south-west of Lake Gairdner. Some additional information was given by other members of the party. Subsequently I visited the Gawler Ranges for three days in May, 1973, travelling west through Siam, Kolendo, Thurlga, Yardea to Mt. Friday and again for seven days in August, 1973, visiting Nonning and areas south to Bittali Dam and north past Angle Swamp, Conical Hill and Fresh water Swamp. In October, 1972, conditions in the Ranges were very dry, whereas there were heavy rains early in 1973 and again in the middle of the year, so that in most parts the average annual rainfall had already been exceeded by August. Species seen by me in 1973 are therefore listed separately in the Table. In addition sightings of birds by other ornithologists who visited the area in 1972 or 73 are given also in the Table.

Emus have been recorded on all visits to the area and were widely distributed and fairly common in open country.

In the past the number of waterfowl and water-loving birds has been restricted by the scarcity of permanent water-holes. Now, in good seasons, when dams are full and extensive swamps exist, waterfowl are plentiful and may breed. As the flood waters dry these birds move to better watered areas. The duck population, which depends particularly on surface water, was widespread in 1973 and included Mountain Duck *Tadorna tadornoides* and Pink-eared Duck *Malacorhynchus membranaceus* which had not been recorded previously. The Hoary-headed Grebe *Podiceps poliocephalus* which is partial to brackish water has been seen regularly, but the Little Grebe *P. novaehollandiae*, which prefers fresh water, has been seen less frequently. Surprisingly no Cormorants have been seen in the Gawler Ranges although they have been recorded from the Flinders Ranges, near Lake Eyre and at Dalhousie

Springs in the north of the State. Ibis and Spoonbills were absent also.

Birds of prey have been surprisingly scarce. A few Kestrels *Falco cenchroides* have been seen by most recent visitors but were not common. They were not recorded at all by Chenery (1902) or White (1913) despite the very thorough work of the latter. J. Forrest (pers. com.) has pointed out that the soil in the Gawler Ranges is unsuitable for small burrowing rodents, but these birds could surely find a living from grasshoppers and other large insects. Similarly the Black-shouldered Kite *Elanus notatus* has been seen only once. A few Brown Falcons *F. berigora* and one Little Falcon *F. longipennis* have been seen, but no other Falcons. There are records for a few Brown Goshawks *Accipiter fasciata*, Collared Sparrowhawks *A. cirrocephalus*, Little Eagle *Hieraetus morphoides*, and one Spotted Harrier *Circus assimilis* and two Swamp Harriers *C. approximans*.... The only birds of prey seen consistently, and then in only small numbers, is the Wedge-tailed Eagle *Aquila audax*.

Chenery (1902) saw a Bustard *Ardeotis australis* and collected eggs of the Little Quail *Turnix velox* but did not see the parent bird. Stubble Quail *Coturnix pectoralis* have also been seen occasionally. Mallee Fowl were noted by Sutton (1923) and seen again in 1972 near Hiltiba in the south-west.

Most of the Australian resident species of waders are present where water is available. Banded Plover *Vanellus tricolor*, Red-capped and Black-fronted Dotterels *Charadrius alexandrinus* and *C. menlopis* have been seen consistently and the first two have been found breeding. Spur-winged Plover *V. miles novaehollandiae* Black-winged Stilts *Himantopus himanthopus* and Avocets *Recurvirostra novaehollandiae* have been seen on a number of occasions and breed. White's specimen of the Oriental Dotterel *Charadrius veredus* is one of the very few for the State. Stone Curlews *Burhinis magnirostris* have not been recorded since Sutton heard one in 1923, whereas the Silver Gull *Larus novaehollandiae* and the Marsh Tern *Chlidonias hybrida* appear to be recent arrivals.

Crested Pigeons *Ocyphaps lophotes* are now widespread throughout the Gawler Ranges and one of the common birds. Though they were seen in 1911 (White, 1913 a) it is interesting to note White's comment "Although we met with the crested pigeon a few miles west of

Port Augusta in 1911, none were seen on our last trip and I am assured on good authority that it is only in recent years they have appeared west of Port Augusta."

The Pink Cockatoo *Cacatua leadbeateri* though listed as a rare species in S.A. has been seen on all occasions. Sutton (1923) remarked that the Galah *C. roseicapilla* had been seen only recently in the area and it is not listed by either Chenery or White. Nevertheless Cockatoo Springs was named after "Rose-breasted Cockatoos" seen there by Hack in 1857. It is difficult to believe that White could have overlooked this conspicuous and noisy bird, so one can only surmise that there was a very marked drop in the Galah population at the beginning of the century.

Port Lincoln Parrots *Barnardius zonarius*, Mulga Parrots *Psephotus varius* and Blue Bonnets *Northiella haematogaster* have all been recorded regularly though rarely in large numbers. White (1913 b) was surprised to find the Port Lincoln Parrot so far north and says "Reliable old residents assured us it was only in the last few years that these parrots have been seen in the district." The current range for this species is throughout western S.A. including the north-west, and through most of W.A.

Red-rumped Parrots *P. haematonotus* have been seen only recently west of Port Augusta, Spencers Gulf or the Flinders Ranges. At present this species seems to be increasing in number and extending its range. It is therefore of particular interest that R. Green (pers. com.) of the National Parks and Wildlife Service saw a group of five including immature birds within a few miles of Nonning in August, 1973. This species was also recorded near Siam in May, 1974 (M. Cooper, pers. com.).

Of the smaller bush birds, Thornbills and Fairy Wrens are well-distributed though not present in large numbers. The Spotted Scrub-Wren *Sericornis frontalis mellori* seen at Pine Lodge in the south-west must be near the northern limit of its range. All three species of Chats have been seen recently. They were present in small groups not large flocks. Though White refers to the Thick-billed Grass Wren *Amytornis modestus* this would now be referred to probably as the Western Grass-Wren *A. textilis* (Parker, 1972).

The Flycatchers are well represented also and widely distributed except for the Yellow Robin *Eopsaltria australis* which seems to be restricted to the southern mallee, and the

Golden Whistler *Pachycephala pectoralis* seen only once in the north. The White-browed Treecreeper *Climacteris affinis* was seen also only in the north and usually in black oak, whereas the Rufous Tree-creeper *C. rufa*, a western form, was seen in mallee usually in the southern part of the Ranges. Most of the Honeyeaters have been seen fairly regularly with the exception of the highly nomadic Pied and Black Honeyeaters *Certhionyx variegatus* and *C. niger* and the Tawny-crowned Honey-eater *Phylidonyris melanops* seen by White in the south.

Many partial migrants or nomads are present from time to time. They include Black-tailed Native Hen *Tribonyx ventralis*, Cockatiel *Nymphicus hollandicus*, Budgerygars *Melopsittacus undulatus*, Red-backed Kingfishers *Halcyon pyrrhopygia*, Bee-Eaters *Merops ornatus*, Song-larks *Cincloramphus sp.* and Woodswallows *Artamus sp.*

Two introduced species, Sparrows *Passer domesticus*, and Starlings *Sturnus vulgaris*, have been recorded only recently but some early ornithologists made a practice of not recording introduced species. Sparrows were seen at most homesteads and have probably been there for many years. Starlings were present but not in large numbers, near Nonning, Kolendo and Yardea. In all 142 species have been recorded from the Gawler Ranges, almost twice the number recorded by White sixty years ago. Much of the increase may be accounted for by wading birds which is no doubt related to the increase in permanent water in dams, and the fact that visits to the area followed flooding which caused extensive swamps.

Two species, the Night Parrot and Speckled Warbler, have not been seen for certain this century. Five more, the Little Quail, Bustard, Stone Curley *Burhinus magnirostris*, Elegant parrot *Neophema elegans* and Fairy Martin *Petrochelidon ariel*, have not been seen since 1912, whilst three more, the Whistling Kite *Haliastus sphenurus*, Little Eagle *Hieraetus morphnoides* and Scrub Robin *Brymades brunneopygia* have not been seen since 1923. Evidence for breeding of 55 species has been found of which 33 are recent observations.

The birds of the Gawler Ranges are not present in high density but they include interesting species many of which are near the limit of their range in South Australia.

* Comment

With few exceptions the information so far available has been collected in the spring and, in most cases when conditions were reasonably good or, as in 1973, exceptionally wet. There is therefore some seasonal bias in the observations.

ANNOTATED LIST OF BIRDS OF THE GAWLER RANGES 1972-73

Place names can be found on Yardea and Port Augusta maps, R 502 Series.

1.* Emu *Dromaius novaehollandiae*

Widely distributed, though not in large numbers. Recorded east of Lake Acraman, near Yardea and Yardea Dam, Paney and on the Scrubby Hill road north of Nonning. Some chicks seen October, 1972.

11. Little Grebe *Podiceps novaehollandiae*

Not recorded in 1972, but seen in May, 1973, at Progress Dam west of Yardea, and there were one or two on most dams visited near Nonning in August.

12. Hoary-headed Grebe *P. poliocephalus*

Recorded on all visits, usually in ones and twos, but sometimes in large numbers e.g. 20-30 on Ucarro Dam (S. of Nonning) in August, 1973. There were two nests here apparently of this species, each with eggs, but birds were not seen sitting on them.

53. White-faced Heron *Ardea novaehollandiae*

One bird seen at Artiming Dam (N. of Yardea) in October, 1972, and one each on several dams near Nonning in August, 1973.

80. Black Swan *Cygnus atratus*

One pair with 5 cygnets at Artiming Dam in October, 1972, and more cygnets were seen at Angle Swamp (N. of Nonning) and several adults on other dams in August, 1973.

83. Mountain Duck *Tadornis tadornoides*

Seen by J. Finnegan (pers. com.) on Fresh Water Swamp in the south-west (1973).

84. Black Duck *Anas superciliosa*

Twenty birds on Artiming Dam (1972) and a few pairs or single birds on dams near Nonning in 1973.

86. Chestnut Teal *Anas castanea*

One on Artiming Dam (1972), ones and twos on most dams and swamps near Nonning (1973), and 12 near Paney and about 30 on Fresh Water Swamp in the south-west.

87. Grey Teal *Anas gibberifrons*

About 80 on Artimating Dam and more on Fresh Water Swamp in 1972. A few on most of the dams and swamps near Nonning, at Angle Swamp and Yardea and Progress Dams in 1973.

88. Blue-winged Shoveller *Anas rhynotis*

Two at Angle Swamp, 1973.

91. Pink-eared Duck *Malachorhynchus membranaceus*

Eleven birds at Angle Swamp, 1973.

92. White-eyed Duck *Aythya australis*

About 100 at Angle Swamp, six at Ucarro Dam and 15 on Fresh Water Swamp, 1973.

94. Wood Duck *Chenonetta jubata*

One at Ucarro Dam, 4 at Bittali Dam (S. of Nonning), and one near Paney, 1973.

99. Black-shouldered Kite *Elanus notatus*

One bird near Siam homestead, May, 1973.

107. Brown Goshawk *Accipiter fasciatus*

Two birds east of Lake Acraman (1972), a pair at Nonning, and another bird in mallee 25 km north of Angle Swamp (1973).

108. Collared Sparrowhawk *A. cirrhocephalus*

One bird at Thurlga and another pair nesting near Yardea, 1972.

110. Wedge-tailed Eagle *Aquila audax*

Widely distributed but *not very common*, usually in pairs. Seen at Yardea, and between Lakes Acraman and Gairdner (1972), and at Nonning, Angle Swamp, Coralbignie Rocks, Bittali Dam, Yardea, Progress Dam, Paney and five near Scrubby Peak (1973). An apparent roosting spot littered with fur-filled pellets and containing some Port Lincoln Parrot feathers was found on the cairn on top of Coralbignie Rocks.

113. Spotted Harrier *Circus assimilis*

One bird apparently this species seen quartering the ground north of Angle Swamp, 1973.

114. Swamp Harrier *C. approximans*

Two at Fresh Water Swamp, 1972.

118. Brown Falcon *Falco berigora*

One pair near Yardea woolshed and single birds at Thurlga and east of Lake Acraman, 1972. In 1973 seen at Angle Swamp and about 25 km north of this.

119. Little Falcon *F. Longipennis*

One bird at Hiltiba, 1972.

121. Nankeen Kestrel *F. cenchroides*

Widely distributed but not common. Seen both north and south of Yardea in 1972; at Nonning, Siam, Thurlga and Yardea and Progress Dams in May, 1973, and at Nonning, Bittali Dam, Angle Swamp and further north in August, 1973.

123. Mallee Fowl *Leipoa ocellata*

One bird seen between Hiltiba and Scrubby Peak (M. Reid and others, pers. com.), September, 1972.

124. Stubble Quail *Coturnix pectoralis*

A few flushed near Yardea woolshed, Artimating and Tanners Dams and Teatree Wells, and at Hiltiba and Thurlga (1972). One bird seen in 1973 near Angle Swamp.

137. Black-tailed Native Hen *Tribonyx ventralis*

In 1972 these birds reached almost plague proportions in the southern parts of South Australia. In the Gawler Ranges numbers estimated at 70 and 130 were seen near Artimbing Dam, about 25 near Chinaman Dam (S. of L. Acraman) and 13 at Tandea. In 1973 three only were seen, at Sisters Dam near Nonning.

140. Coot *Fulica atra*

About 90 were at Angle Swamp, and another ten at Ucarro Dam (1973).

145 a and b. Spur-winged Plover. *Vanellus miles*

Not common. In 1972 several were seen at Artimbing Dam and two at Fresh Water Swamp. In 1973 several were seen at Angle Swamp and Ucarro and Sisters Dams. One bird with others at Sisters Dam did not have the dark shoulders typical of the Spur-winged Plover *V.m. novaehollandiae* and was presumably a Masked Plover *V.m. miles* found typically in northern and Western Australia.

146. Banded Plover *Vanellus tricolor*

Usually seen on stony ground with little ground cover, not necessarily near water. Not many birds seen either in 1972 or 1973. One nest with eggs found at Hiltiba (1972).

150. Red-capped Dotterel *Charadrius alexandrinus*

About ten birds were along the swamp edge at Artimbing Dam in 1972 and two on Yardea Dam in 1973.

155. Black-fronted Dotterel *C. melanops*

Seen usually in pairs along the edges of swamps and dams. Seen at Artimbing Dam (1972), Yardea Dam (May 1973), and Nonning Angle swamp, Sisters Dam, McKay Dam, and Bittali Dam in August, 1973.

156. Red-kneed Dotterel *C. cinctus*

Three birds at Sisters Dam in August, 1973.

164. Greenshank *Tringa nebularia*

Two birds seen at Angle Swamp and one heard at Fresh Water Swamp, August, 1973.

173. Sharp-tailed Sandpiper *Calidris acuminata*

Five birds at Artimbing Dam, October, 1972.

181. Black-winged Stilt *Himantopus himantopus*

Eight at Artimbing Dam and 20 at Fresh Water Swamp (1972). In 1973 they were seen at Fresh Water Swamp (10) Angle Swamp, Sisters Dam, and Ucarro Dam. At the last named there were about 15 birds and three nests with two, four and four eggs respectively. The nests were moored to reeds and attached to the bottom in shallow water about 0.5 m deep along the extended edge of the dam.

More than two inches of rain had fallen during the previous week and in one case the water level reached the bottom of the egg cavity.

183. Red-necked Avocet. *Recurvirostra novaehollandiae*

There was one bird each at Thurlga and Artimbing Dam in 1972, and at Sisters Dam in 1973. In May, 1973, at Yardea Dam, a pair of birds had four recently hatched chicks.

190. Silver Gull *Larus novaehollandiae*

In 1972 one bird was seen flying over Yardea woolshed, several were at Artimbing Dam and fifteen at Fresh Water Dam. They were not seen in 1973.

194. Marsh Tern *Chlidonias hybrida*

One bird seen quartering the swampy area at Artimbing Dam in 1972. Another was seen at Angle Swamp in 1973.

207. Common Bronzewing *Phaps chalcoptera*

Not very common. Seen in areas between Lakes Acraman and Gairdner and south of Yardea, 1972, and near Nonning and 25 km north of Angle Swamp in 1973. Usually single birds.

211. Crested Pigeon *Ocyphaps lophotes*

Reasonable common both north and south of the Nonning-Yardea road as far as Mt. Friday, at Angle Swamp and further north.

217. Pink Cockatoo *Cacatua leadbeateri*

Seen consistently, usually in pairs and more commonly in the south-west. Recorded at various places between Scrubby Peak and L. Gairdner, including one flock of 30-40 birds close to L. Acraman. One pair was examining a hollow in a tree at Pine Lodge (1972). In 1973 they were seen at Nonning, Yardea Dam, (flock of 12), Progress Dam and Mt. Ive, and near Thurlga South one bird was watched digging out some wood-boring insect from a mallee stem.

218. Little Corella *Cacatua sanguinea*

One small flock of about a dozen birds seen at Nonning, and some at Ucarro Dam (1973).

220. Galah *Cacatua roseicapilla*

Common and widespread. Seen in most habitats on all visits. Breeding at Thurlga (1972).

223. Purple-crowned Lorikeet *Glossopsitta porphyrocephala*

Recorded only in mallee. One pair south of Yardea (1972) and some near Bittali Dam in the south-eastern part of the Ranges (1973).

225. Cockatiel *Nymphicus hollandicus*

A few small flocks seen at Nonning, Bittali Dam, Sisters Dam and 25 km north of Angle Swamp (1973).

232. Port Lincoln Parrot *Barnardius zonarius*

Common and widely distributed. Seen from Scrubby Peak to L. Gairdner in 1972, and from Nonning to Mt. Friday in May, 1973, and at Nonning, Angle Swamp, 25 km north of Angle Swamp, Coralbignie Rocks, Bittali Dam, Yardea and Thurlga in August, 1973.

233. Red-rumped Parrot *Psephotus haematonotus*

Five birds including immatures seen by R. Green in August, 1973, a few miles north of Nonning. This species had not been recorded west of Pt. Augusta until seen near Kimba in the last four or five years. More were seen near Siam in May, 1974 (M. Cooper pers. com.).

234. Mulga Parrot *Psephotus varius*.

Not very common but widely distributed. Seen near Yardea and between L. Acraman and L. Gairdner in 1972; at Mt. Ive and Mt. Friday in May, 1972, and at Fresh Water Swamp, Nonning and north of Angle Swamp in August, 1973.

235. Blue Bonnet *Northiella haematogaster*

A few seen near L. Acraman and Yardea (1972) and at Thurlga, Nonning, Angle Swamp and 25 km further north in 1973.

243. Budgerygah *Melopsittacus undulatus*

Only two small flocks were seen near Yardea in 1972. In 1973 one or two small flocks were seen near Nonning.

246. Pallid Cuckoo *Cucullus pallidus*

Eight birds seen in all near Yardea or between L. Acraman and L. Gairdner in 1972. Single birds were seen at Progress Dam in May, and at Nonning, Sisters Dam, Ucarro Dam, and 25 km. north of Angle Swamp in August, 1973.

247. Fantail Cuckoo *Cacomantis pyrrhophanus*

One bird only recorded from the south-west in June, 1973, (Finegan, pers. com.).

249. Horsfield Bronze-Cuckoo *Chrysococcyx basalis*

An occasional bird seen or heard near Yardea in 1972, seen at Nonning and heard at Progress Dam in May, 1973, and seen at Nonning, near Bittali Dam and 25 km north of Angle Swamp in August, 1973.

254. Boobook Owl *Ninox novaeseelandiae*

One bird heard near Progress Dam, May, 1973.

257. Tawny Frogmouth *Podargus strigoides*

Near Thurlga, September, 1972, (G. Chambers, pers. com.).

258. Owlet Nightjar *Aegotheles cristatus*

A single bird appeared regularly in the bathroom at night at Nonning shearing quarters in August, 1973. It appeared to be catching moths attracted to the light.

264. Red-backed Kingfisher *Halcyon pyrrhopygia*

Several birds seen north of Yardea and at Thurlga in 1972. None seen in 1973.

266. Australian Bee-eater *Merops ornatus*

Eight to ten birds seen at Artiming Dam and some at Pine Lodge in 1972.

270. Pacific Swallow *Hirundo tahitica*

Common near dams, windmills, homes and sheds. A nest with eggs was found on Wallaby Hill in the far west in 1972.

271. White-backed Swallow *Cheramoeca leucosternum*

Two at Artiming Dam in 1972. Not seen in 1973.

272. Tree Martin *Petrochelidon nigricans*

Four or five birds seen near Scrubby Peak in 1972, and some were nesting near Thurlga. In 1973 a few small flocks were seen at Nonning, Angle Swamp, Sisters Dam and Bitalli Dam.

274. Pipit *Anthus novaeseelandiae*

Widely distributed and reasonably common in open country on all visits. In August, 1972, two birds were seen feeding a fledged chick near Conical Hill.

275. Ground Cuckoo-Shrike *Pteropodocys maxima*

Three adults and two young birds were seen near Yardea woolshed in 1972, and eight birds at Thurlga in May, 1973. In August a nest was found about 10 miles east of Nonning. It contained two young chicks on August 28. Parents were not seen near the nest on August 31 after heavy rain over the previous few days.

276. Black-faced Cuckoo-Shrike *Coracina novaehollandiae*

Fairly common in 1972 and seen from Yardea to L. Acraman and L. Gairdner. Not quite as common in 1973 but seen in most areas in May and August.

278. White-winged Triller *Lalage sueurii*

Quite common near Yardea in 1972, and seen in August, 1973, at Sisters Dam, Angle Swamp and 25 km north of Angle Swamp, but not south of Nonning.

282. Chestnut-backed Quail-Thrush *Cinclosoma castanotum*

One bird in mallee in the south-west in June, 1973. (Finegan, pers. com.)

284. Cinnamon Quail-Thrush *C. cinnamomeum*

A Quail-Thrush presumably this species was seen near Angle Swamp in stony country with some blue-bush and saltbush.

286 (b). White-browed Babbler *Pomatostomus superciliosus*

Several groups were seen between Yardea, and Lakes Acraman and Gairdner. Near Yardea woolshed two young birds with very short tails were being fed by adult birds. (1972). They were seen in most areas between Nonning and Mt. Friday in May, 1973, and in most areas north and south of Nonning in August, 1973. One nest was found in a dead shrub high on a rocky hillside covered with spinifex and shrubs near Nonning Gorge. Birds were watched by R. Green carrying five kangaroo pellets into the nest when it was nearly complete. The pellets were not broken up in any way, and it is difficult to suggest what purpose they served except possibly as a source of scavenging insects or micro-organisms to maintain nest sanitation.

288. Little Grass Bird *Megalurus gramineus*

Two birds at Angle Swamp, 1973.

291. Brown Songlark *Cincloramphus cruralis*

A few birds between Lakes Acraman and Gairdner and more near Yardea woolshed, but by no means common. Only one bird was seen in 1973, near Sisters Dam.

292. Rufous Songlark *C. mathewsi*

Not recorded in 1972 but plentiful near Nonning in August, 1973. Also seen at Angle Swamp and 25 km further north.

293. White-fronted Chat *Ephthianura albifrons*

Fairly numerous in small flocks mainly in blue-bush (1972); at Thurlga and White Dam and Progress Dam in May and near Nonning, Sisters Dam and Angle Swamp in August, 1973. A nest with three eggs was found at the base of a saltbush close to Nonning.

294. Crimson Chat *Ephthianura tricolor*

A few small flocks near Yardea and further north in 1972, but not seen in 1973.

295. Orange Chat *E. aurifrons*

Two birds in samphire near L. Acraman and a few small flocks near Yardea in 1972, but none seen in 1973. The absence of Crimson and Orange Chats in 1973 probably reflects good conditions in the interior following rains earlier in the year.

297. Whiteface *Aphelocephala leucopsis*.

Widely distributed in open country but not many birds seen in 1972. It was also seen in most areas visited in 1973. This bird is commonly seen near buildings where it uses the eaves and crevices as nesting sites. At Nonning in August 1973 a pair had built a nest in the eaves of the shearers quarters and were feeding young.

302. Weebill *Smicrornis brevirostris*

A few birds seen in areas of mallee near Yardea (1972), Siam Progress Dam and Mt. Friday in May, 1973, and at Nonning, Coralbignie Rocks and 25 km north of Angle Swamp.

305 (b). Yellow-tailed Thornbill *Acanthiza chrysorrhoa*

Common and widely distributed in open country. Birds were nesting near Nonning and Coralbignie Rocks.

Samphire Thornbill *A. iredalei*

One small flock seen in bluebush near Tea Tree Well (N.E. of Yardea woolshed).

308. Chestnut-tailed Thornbill *A. uropygialis*

Fairly common and widely distributed. Seen in most areas visited. One pair had built a nest in the orbit of a horse's skull on a hillside near Nonning, and this had four eggs. The birds had built a cup-shaped nest within the orbit and had made a grass "brow" over the entrance.

310 (d). Red-tailed Thornbill *A. pusilla*

In 1972 these were seen only in the southwest near Scrubby Peak, Conical Hill and Pine Lodge, and in 1973 a nest was found near Conical Hill. It was built low in an Acacia, was decorated with white and with green spider egg-cases, lined with feathers and contained one egg.

In 1973 birds were also seen at Nonning, Coralbignie Rocks, Bittali Dam and 25 km north of Angle Swamp. All these are areas where the Chestnut-tailed Thornbill was seen. The birds had pale rumps usually held there tails at a steep angle typical of *A. apicalis* as described by McGill (1970). At Nonning a feather-lined nest containing two chicks was found in a bluebush.

311 (d). Spotted Scrub-Wren *Sericornis frontalis*

A few birds seen in shrubs near Pine Lodge in 1972. This is probably near the northern limit for this species.

314 (e). Rufous Field-Wren *Calamanthus fuliginosus*

A few birds were seen singing from the tops of shrubs on the bluebush flats near Nonning in August, 1973.

315. Redthroat *Pyrrholaemus brunneus*

One group of four birds (two apparently immature) were seen on several occasions on a rocky shrub-covered hillside at Nonning. A few short snatches of song were heard.

317. Western Grass-Wren *Amytornis textilis*

A Grass-Wren believed to be this species was seen running across a track through bluebush near Rockwater Hill, S.-E. of Nonning. White referred to the specimens he found as *A. modestus*, the Thick-billed Grass-Wren but Parker (1972) considers it should be *A. textilis*.

326. Turquoise Wren *Malurus callainus*

Not common. A few families seen near Pine Lodge and L. Gairdner in 1972, and at Nonning, Coralbignie Rocks, near Rockwater Hill and at Mt. Friday in 1973.

327. Blue and White Wren *M. leucopterus*

A few flocks seen mainly amongst bluebush near the Nonning Yardea road, and at Nonning, Sisters Dam, Angle Swamp and Rockwater Hill track in 1973. One occupied nest was found at Sisters Dam built into the base of a saltbush.

328. Purple-backed Wren *M. lamberti*

Not very common. A few seen in areas of black oak or myall on Yardea in 1972 and at Nonning in 1973.

330. Grey Fantail *Rhipidura fuliginosa*

One bird only seen in 1972 west of L. Gairdner. Also recorded from Hiltiba area in 1972 and in the south-west in 1973 (J. Finegan).

332. Willie Wagtail *R. leucophrys*

Common and widely distributed. Seen on all visits and in most areas. A bird was sitting on a nest in myall near Sisters Dam in August, 1973.

335. Restless Flycatcher *Myiagra inquieta*

Quite widely distributed and probably near the north-westerly limit of its range in S.A. Seen near Scrubby Peak, Conical Hill and Artiming Dam in 1972, and at Nonning, Angle Swamp and 25 km further north; at Bittali Dam in the south and Progress Dam and Mt. Friday in the west in 1973. A nest with one egg was found in a myall in August, 1973, and a bird was flushed from an empty nest at Bittali Dam.

336. Jacky Winter *Microeca leucophaea*

A few birds seen in wooded areas of Yardea in 1972, and at Mt. Friday and Pondana Dam

in 1973 in May. In August they were seen at Coralbignie Rocks, Bittali Dam, near Rockwater Hill and 25 km north of Angle swamp.

338. Red-capped Robin *Petroica goodenovii*

Fairly common and widely distributed. One nest with two chicks was found in August, 1973, 25 km north of Angle Swamp.

341. Hooded Robin *P. cucullata*

Fairly common and widely distributed. Found in myall and black oak between Lakes Acraman and Gairdner in 1972, and Nonning and Rockwater Hill road in 1973.

342 (b). Western Yellow Robin *Eopsaltria australis*

A few birds seen in mallee near Bittali Dam, probably near the north-easterly limit of its range.

343. Golden Whistler *Pachycephala pectoralis*

One bird only seen in black oak and mallee 25 km north of Angle Swamp in August, 1973. As with some other flycatchers this seems near the limit of its northern and western range in S.A.

344. Rufous Whistler *P. rufiventris*

Widely distributed and reasonably common. Seen near Lakes Acraman and Gairdner, and Pine Lodge and areas between in 1972, and at Progress Dam, Mt. Friday, Coralbignie Rocks, Bittali Dam, and 25 km north of Angle Swamp in 1973.

346. Gilbert Whistler *P. inornata*

One bird seen in mallee west of L. Gairdner in 1972 and others at Bittali Dam and Nonning in 1973. A nest with 4 eggs was found at Nonning in an Acacia on a rocky hillside with fairly dense scrub cover.

348 (c). Western Shrike-Thrush *Colluricinclla harmonica*

Not very common. Seen in several areas on Yardea (1972) and at Kolendo, Nonning, Bittali Dam and 25 km north of Angle Swamp. A bird was seen on a nest at the last named place.

350. Crested Bellbird *Oreocica gutturalis*

Fairly widely distributed but more frequently heard than seen. Recorded for many areas on Yardea (1972) and for most areas near Nonning (1973).

353. Black-capped Sitella *Neositta chrysoptera*

A few flocks seen near Yardea (1972), at Mt. Friday and in black oak 25 km north of Angle Swamp. These birds looked paler round the head than birds seen in the Mt. Lofty Ranges.

355. Rufous Treecreeper *Climacteris rufa*

A pair each in mallee west of Lake Gairdner and south of Yardea in 1972. In 1973 quite a number were seen near Bittali Dam, and two nests were found, one with one chick and the other with two.

357. White-browed Tree-Creeper *C. affinis*

One bird seen near L. Acraman in 1972, and several amongst black oak 25 km north of Angle Swamp in August, 1973. Here a nest with three eggs was found in a hollow in *Myoporum platycarpum*.

358. Mistletoe Bird *Dicaeum hirundinaceum*

Common and widely distributed. Seen on all visits in most areas.

360. Yellow-tailed Pardalote *Pardalotus xanthopygius*

Seen only in the sand dune-mallee area near Conical Hill in 1972. Probably near the northern limit of its range.

362. Striated Pardalote *P. striatus*

Common where eucalypts occur: on Yardea, Nonning, Siam, Mt. Friday, Coralbignie Rocks, Bittali Dam, Sisters Dam and 25 km north of Angle Swamp. Breeding was recorded at Hiltiba and Thurlga (1972).

365. Silvereye *Zosterops lateralis*

Several birds in the sandhill scrub near Conical Hill in 1973.

368. Singing Honeyeater *Meliphaga virescens*

Common and widely distributed. Seen on all visits and in most areas. A nest with 3 eggs was slung from the outer canopy of a myall at Sisters Dam, and another seen in mistletoe at Coralbignie Rocks.

370. Yellow-fronted Honeyeater *M. plumula*

A few birds seen at Scrubby Peak including some young birds with yellowish bills (1972). Seen also 25 km north of Angle Swamp in 1973.

375. Yellow-plumed Honeyeater *M. ornata*

Many were working the flowering eucalypts in the sandhill country near Conical Hill in 1972. In 1973 seen in mallee at Sisters Dam, 25 km north of Angle Swamp, Coralbignie Rocks, Bittali Dam, and Rockwater Hill Road. Not very common.

376. White-eared Honeyeater *M. leucotis*

Feeding with other honeyeaters at eucalypt flowers near Conical Hill, and several birds seen between Lakes Acraman and Gairdner where it is probably near the northern limits of its range west of the Flinders Ranges. Not seen in 1973.

378. Brown-headed Honeyeater *Melithreptus brevirostris*

A few birds seen with other honeyeaters in flowering mallee at Conical Hill, 1972. In 1973 seen at Mt. Friday, Coralbignie Rocks and Bittali Dam.

384. White-fronted Honeyeater *Phylidonyris albifrons*

Feeding with other honeyeaters at flowering eucalypts near Conical Hill, 1972. One bird was seen near the Thurlga turn-off on the Yardea road in May, 1973, and several more were at Nonning in August.

391. Yellow-throated Miner *Myzomela flavigula*

Common and widely distributed. Seen on all visits and in most areas. Near Tarinda Water they were working the myall flowers. Two nests were found near Teatree Wells. Both were in the outer canopy of a myall, and each contained two almost fledged chicks, August, 1973.

397. Red Wattle-Bird *Anthochaera carunculata*

A few birds seen near Yardea and Conical Hill, 1972; at Nonning, Yardea Dam, Progress Dam and Mt. Friday, May, 1973; and at Nonning, Coralbignie Rocks and Bittali Dam, August, 1973.

398. Spiny-cheeked Honeyeater *Acanthagenys rufogularis*

With the Singing Honeyeater is probably the most common and widely distributed of the honeyeaters. Seen on all visits in most habitats.

403. Zebra Finch (*Poephila guttata*)

Seen only at Angle Swamp (2 birds) and a few miles further north (8 birds).

403(a). House-Sparrow *Passer domesticus*

A few birds seen at Nonning and Yardea homesteads.

403(c). European Starling *Sturnus vulgaris*

A few small flocks seen at Nonning, Angle Swamp, Kolendo and Yardea.

405. Magpie Lark *Grallina cyanoleuca*

Seen near most dams and hence widespread though not present in large numbers. Nests with birds on them were seen at Nonning and Sisters Dam in August, 1973.

407. White-winged Chough *Corcorax melanorhamphus*

Seen in larger mallee near Conical Hill, 1972, Mt. Friday and Progress Dam, May, 1973, and at Nonning, Coralbignie Rocks and

Bittali Dam, August, 1973. One bird was seen on a nest at Nonning, and another nest with young was at Coralbignie Rocks.

409. Masked Woodswallow *Artamus personatus*

Seen with other woodswallows near Yardea woolshed in 1972, occasionally flying in a flock very high.

411. Black-faced Woodswallow *A. cinereus*

Common and widely distributed. Seen on all visits and in most areas.

412. Dusky Woodswallows *A. cyanopterus*

Not quite as common as the Black-faced Woodswallow but widely distributed. Not seen in May, 1973.

414(c). Grey Currawong *Strepera versicolor*

One bird seen in mallee near L. Gairdner in 1972, and one at Coralbignie Rocks in 1973. One bird was heard calling near Mt. Friday in May, 1973.

416. Grey Butcher Bird. *Cracticus torquatus*

Fairly widespread but not very common. Seen on Yardea in 1972, and at Nonning, Yardea and Progress Dams, Kolendo and 25 km north of Angle Swamp in 1973. At Scrubby Peak in 1972 a recently fledged bird was being fed close to a nest. In 1973 a nest with young was found 25 km north of Angle Swamp. Birds were also breeding at Hiltiba and Thurlga, 1972.

417. Australian Magpie *Gymnorhina tibicens*

Not common but fairly widely distributed. Both Black-backed and White-backed Magpies were seen.

1 Dashwood Road, Beaumont, S.A. 5066.

Australian Raven *Corvus coronoides*

Widely distributed but not very common. At Nonning a bird was seen sitting on a nest. The call, and sometimes the presence of hackles, was used to identify this species.

* Nos. as listed in Condon's Handlist of Birds of S.A. (1968).

ACKNOWLEDGEMENTS

I should like to thank all those who helped me to complete these records by lending me their field notes. In particular I should like to thank members of the Nature Conservation Soc. of S.A. who attended the survey in 1972, Mrs. Muriel and Miss P. Reid, Mrs. Connie Chambers, Miss Jean Finegan, David Paton and students who attended the Department of Adult Education, (University of Adelaide) Spring School held at Nonning, August, 1973.

REFERENCES

- Andrews, F. W. (1883): Trans. Roy. Soc. of S.A. 16, 29.
- Andrews, F. W. (1885): Southern Science Record Series 2.
- Bonney, C. (1858): S.A. Parliamentary Papers. Proceedings and Papers 1857-58 Vol. 2 No. 156.
- Bonnin, Joshua (1907): Explorations; North-Western District. Proc. Roy. Geog. Soc. of Australasia (S.A. Branch) 10, 67.
- Chenery, A. (1903): Emu 2, 167.
- Condon, H. T. (1968): A Handlist of Birds of South Australia, S. Aust. Orn. Assoc.
- Foreshaw, J. M. (1969): Australian Parrots. Lansdowne Press.
- Hack, S. (1858): Explorations by Mr. S. Hack, S.A. Parliamentary Papers Proceedings and Papers 1857-58 Vol 2 No. 156.
- McGill, A. R. (1970): Australian Warblers. Bird Observers Club, Melbourne.
- Nature Conservation Society of S.A. 1974 The Gawler Ranges. A Report on a Survey, October, 1972.
- Parker, S. A. (1972): Emu 7, 157.
- Powell, B. (1970): S. Aust. Orn. 17, 118.
- Sutton, J. (1928): S. Aust. Orn. 17, 118.
- White, S. A. (1913a): The Gawler Ranges. An Ornithological Expedition. Thomas, Adelaide.
- White, S. A. (1913b): Emu 13, 16.
- Wilson, H. (1937): Emu 37, 79.

TABLE. BIRDS OF THE GAWLER RANGES OF SOUTH AUSTRALIA 1902-1973

Species*	1902	1912	1923	Oct. 72	May 73	Aug. 73	Observer Code
1. Emu	x	x	x	x	x	x	F.H.T.Y.
11. Little Grebe	—	—	—	—	x	x	F.
12. Hoary-headed Grebe	x	x	x	x	x	xb	F.
53. White-faced Aeron	—	x	—	x	—	x	F.H.
80. Black Swan	—	—	—	xb	—	x	
83. Mountain Duck	—	—	—	seen in 1973			F.
84. Black Duck	—	—	x	x	x	x	
86. Chestnut Teal	—	—	—	x	—	x	F.
87. Grey Teal	x	x	x	x	x	x	T.
88. Blue-winged Shoveller	x	x	—	—	—	x	
91. Pink-eared Duck	—	—	—	—	—	x	
92. White-eyed Duck	—	x	—	—	—	x	
94. Wood Duck	x	—	x	—	—	x	F.T.
99. Black-shouldered Kite	—	—	—	—	x	—	
105. Whistling Kite	x	—	x	—	—	x	
107. Brown Goshawk	—	—	x	x	—	x	H.Y.

Species*	1902	1912	1923	Oct. 72	May 73	Aug. 73	Observer Code
108. Collared Sparrowhawk	—	—	—	xb	—	—	T.
109. Little Eagle	—	x	x	—	—	—	
110. Wedge-tailed Eagle	x	x	x	x	x	x	F.H.T.Y.
113. Spotted Harrier	—	—	—	—	—	x?	
114. Swamp Harrier	—	—	—	x	—	—	
118. Brown Falcon	x	xb	x	x	—	x	F.T.
119. Little Falcon	—	—	seen September, 1972	—	—	—	H.
121. Kestrel	—	—	x	x	x	x	F.H.T.Y.
123. Mallee Fowl	—	—	x	—	—	—	H.
124. Stubble Quail	—	x	—	x	—	x	H.T.
128. Little Quail	x	—	—	—	—	—	
137. Black-tailed Native Hen	—	—	—	—	—	x	
140. Coot	—	—	—	—	—	x	
141. Australian Bustard	x	—	—	—	—	—	
145. (a & b) Spur-winged Plover	—	—	x	x	—	x	F.
146. Banded Plover	x	xb	xb	x	x	xb	F.H.T.Y.
150. Red-capped Dotterel	x	x	xb	x	x	x	
154. Oriental Dotterel	—	x	—	—	—	—	
155. Black-fronted Dotterel	—	x	x	x	x	x	H.Y.
156. Red-kneed Dotterel	—	—	—	—	—	x	
157. Australian Dotterel	x	—	—	—	—	—	
164. Greenshank	—	—	—	—	—	x	
173. Sharp-tailed Sandpiper	—	—	—	x	—	—	
181. Black-winged Stilt	—	—	—	x	—	xb	T.
183. Red-necked Avocet	—	—	x	x	xb	x	F.T.
184. Stone Curlew	—	—	heard	heard	—	—	
190. Silver Gull	—	—	—	x	—	—	F.T.
194. Marsh Tern	—	—	—	x	—	x	
207. Common Bronzewing	xb	—	xb	x	x	x	F.H.T.
211. Crested Pigeon	—	—	x	x	x	x	F.H.T.Y.
217. Pink Cockatoo	x	xb	x	x	x	x	H.T.Y.
218. Little Corella	—	—	—	x	x	x	
220. Galah	—	—	x	x	x	x	
223. Purple Crowned Lorikeet	x	—	x	x	—	x	
225. Cockatiel	—	x	—	—	—	x	
232. Port Lincoln Parrot	x	xb	x	x	x	x	F.H.T.Y.
233. Red-rumped Parrot	—	—	—	—	—	x	R.G.
234. Mulga Parrot	x	x	x	x	x	x	F.H.T.Y.
235. Blue Bonnet	x	xb	x	x	x	x	T.Y.
236. Scarlet-breasted Parrot	—	—	seen 1961	—	—	—	R.E.
240. Elegant Parrot	x	—	—	—	—	—	
243. Budgerygah	—	x	x	x	—	x	
246. Pallid Cuckoo	x	x	x	x	x	x	H.T.
247. Fantail Cuckoo	x	—	—	—	—	—	F.
248. Black-eared Cuckoo	x	—	—	—	—	x	Y.
249. Horsfield Bronze-cuckoo	—	—	—	—	—	—	
254. Boobook Owl	—	—	heard	—	heard	—	
257. Tawny Frogmouth	—	—	x	—	—	x	
258. Owlet Nightjar	—	—	x	—	—	—	
264. Red-backed Kingfisher	—	—	—	x	—	—	T.
266. Bee-eater	—	—	—	—	—	—	
270. Pacific Swallow	x	x	x	xb	x	x	F.H.T.Y.
271. White-backed Swallow	x	xb	x	x	—	x	F.
272. Tree Martin	x	x	x	x	—	x	F.H.T.Y.
273. Fairy Martin	—	nests	x	—	—	—	

Species*	1902	1912	1923	Oct. 72	May 73	Aug. 73	Observer Code
274. Pipit Anthus	x	x	x	x	x	x	F.H.T.Y.
275. Ground Cuckoo-shrike	—	—	—	xb	x	xb	F.T.
276. Black-faced Cuckoo Shrike	x	x	x	x	x	x	F.H.T.Y.
278. White-winged Triller	x	—	—	x	—	x	H.
280. Southern Scrub Robin	—	—	xb	—	—	—	
282. Chestnut Quail Thrush	x	xb	xb	—	—	—	F.
284. Cinnamon Quail Thrush	—	x	—	—	—	x?	
286. (b) White browed Babbler ...	x	xb	xb	xb	x	xb	F.H.T.Y.
288. Little Grassbird	—	—	—	—	—	x	
291. Brown Songlark	—	x	x	x	—	x	H.T.
292. Rufous Songlark	x	—	—	—	—	x	
293. White-fronted Chat	x	x	xb	x	x	xb	F.H.T.
294. Crimson Chat	—	xb	—	x	—	—	H.T.
295. Orange Chat	x	x	—	x	—	—	H.T.
297. (b) White Face	x	xb	x	x	x	xb	F.H.T.Y.
302. Weebill	x	—	x	x	x	x	F.H.T.Y.
305. (b) Yellow-tailed Thornbill	x	x	xb	x	x	xb	
307. (c) Samphire Thornbill	x	—	x	x	—	—	
308. Chestnut tailed Thornbill	x	xb	x	x	x	xb	H.T.Y.
310. (d) Red-tailed Thornbill	x	—	xb	x	x	xb	H.T.Y.
311. (d) Spotted Scrub Wren	—	—	—	x	—	—	
314. (e) Rufous Field Wren	x	xb	—	—	—	x	
315. Redthroat	x	x	x	—	—	x	
317. Western Grass Wren	x	x	x	—	—	x?	
326. Torquoise Wren	x	x	x	x	x	x	H.
327. Blue and White Wren	x	x	x	x	x	xb	Y.
328. Purple-backed Wren	x	xb	x	x	x	x	H.Y.
330. Grey Fantail	—	x	—	x	—	—	F.H.
332. Willie Wagtail	x	x	x	x	x	xb	F.H.T.Y.
335. Restless Flycatcher	x	x	x	x	x	xb	F.H.T.Y.
336. Jacky Winter	x	x	x	x	x	x	F
338. Red-capped Robin	x	x	xb	x	x	xb	H.T.
341. Hooded Robin	x	x	xb	x	—	x	F.T.Y.
342. (b) Western Yellow Robin	x	—	xb	—	—	x	
343. Golden Whistler	—	—	—	—	—	x	
344. Rufous Whistler	x	x	x	x	x	x	H.Y.
346. Gilbert Whistler	x	x	xb	x	—	xb	
348. (c) Western Shrike-thrush ...	x	xb	xb	x	x	xb	F.H.T.Y.
350. Crested Bell Bird	x	xb	xb	x	x	x	F.H.T.Y.
353. Black-capped Sitella	x	x	xb	x	x	x	F.H.
355. Rufous Treecreeper	x	xb	x	x	—	xb	T.
357. White-browed Treecreeper ...	x	x	x	x	—	xb	
358. Mistletoe Bird	x	x	x	x	x	x	H.T.Y.
360. Yellow-tailed Pardalote	x	—	—	x	—	—	
362. Striated Pardalote	—	xb	x	x	x	x	F.H.T.Y.
364. Silvereye	x	x	—	—	—	x	H.
367. Pied Honeyeater				seen 1968			M.R.
368. Singing Honeyeater	x	xb	xb	x	x	xb	F.H.T.Y.
370. Yellow-fronted Honeyeater ...	xb	x	x	x	—	x	T.Y.
375. Yellow-plumed Honeyeater	x	x	x	x	—	x	H.H.T.
376. White-eared Honeyeater	—	—	—	x	—	—	F.H.T.
378. Brown-headed Honeyeater ...	x	—	x	x	x	x	H.T.Y.
384. White-fronted Honeyeater ...	x	x	x	x	x	x	H.T.
385. Tawny-crowned Honeyeater	—	x	—	—	—	—	
391. Yellow-throated Miner	x	x	xb	xb	x	x	H.T.Y.

MARCH, 1975

Species*	1902	1912	1923	Oct. 72	May 73	Aug. 73	Observer Code
397. Red Wattlebird	x.	x	x	x	x	x	F.H.T.Y.
398. Spiny-cheeked Honeyeater ..	x	x	xb	x	x	x	F.H.T.Y.
403. Zebra Finch	x	—	—	x	x	x	F.H.T.Y.
403. (a) House Sparrow	—	—	—	x	x	x	F.H.
403. (c) Starling	—	—	—	x	x	xb	F.H.T.Y.
405. Magpie Lark	x	—	x	x	x	xb	F.H.T.Y.
407. White-winged Chough ..	x	x	x	x	x	—	F.H.
409. Masked Woodswallow ..	x	x	—	x	x	x	H.T.
411. Black-faced Woodswallow ..	x	xb	x	x	x	—	H.T.Y.
412. Dusky Woodswallow ..	—	xb	x	x	—	x	T.Y.
414. (c) Grey Currawong	x	—	—	x	x	x	F.H.T.
416. Grey Butcher Bird	x	x	x	xb	x	xb	F.H.T.
417. Australian Magpie	x	x	x	x	x	x	F.H.T.
420. Australian Raven	x	x	x	x	x	xb	F.T.

KEY TO SYMBOLS

1902. A. Chenery.
 1912. S. A. White.
 1923. J. Sutton
 1972. Nature Conservation Society, South
 Aust., Oct. 1-9.
 May, 1973. J. B. Paton, May 24-25.
 August, 1973, J. B. Paton et al, August 22-31.
 F. J. Finegan, June 9-10, 1973 (pers. com.).
 Nonning, Yardea and South-west.
 H. M. Reid et al, September 3-8, 1972 (pers.
 com.). Hiltiba Area.
 T. C. Chambers, September 2-10, 1972 (pers.
 com.). Thurlga Area.
 Y. P. Reid, December 12, 1971-January 16,
 1972 (pers. com.). Yardea Area.
 RG. R. Green, August, 1973 (pers. com.).
 RE. R. Ellis, October, 1961 (pers. com.).
 MR. M. Ragless, 1968 (pers. com.).
 x. Present.
 xb. Present and breeding.

TABLE 1.

* MONTHLY MEANS FOR 24 COMMON SPECIES IN 1972

SPECIES	AREA							
	A. HIGH SALINITY				B. LOW SALINITY			
	March	April	May	June	March	April	May	June
Hoary-headed Grebe (<i>Podiceps poliocephalus</i>)	0	0	0	0	4.0	31.7	89.5	49.5
Pelican (<i>Pelecanus conspicillatus</i>)	0	0	0	0	5.0	12.7	21.5	8.2
Little Black Cormorant (<i>Phalacrocorax sulcirostris</i>)	0	0	0	0	3.5	95.7	115.5	70.5
Little Pied Cormorant (<i>P. melanoleucus</i>)	0	0	0	0	3.0	1.2	45.0	4.7
White-faced Heron (<i>Ardea novaehollandiae</i>)	0	0	0	0.25	4.5	4.5	15.3	16.2
Little Egret (<i>Egretta garzetta</i>)	0	0	0	0	1.0	1.5	5.5	2.0
White Egret (<i>Egretta alba</i>)	0	0	0.25	0	0	0	14.0	1.7
Royal Spoonbill (<i>Platalea regia</i>)	0	0	0	0	6.5	9.2	23.5	19.5
Black Swan (<i>Cygnus atratus</i>)	0	0	0	0	34.5	46.0	34.5	53.2
Mountain Duck (<i>Tadorna tadornoides</i>)	4.0	6.2	6.5	14.2	20.5	31.0	14.7	2.0
Chestnut Teal (<i>Anas castanea</i>)	0	0.75	0	0	25.5	70.0	156.0	31.0
Grey Teal (<i>Anas gibberifrons</i>)	4.0	0	0	0	248.0	257.7	392.2	273.7
Spur Winged Plover (<i>Vanellus miles novaehollandiae</i>)	16.5	8.2	7.5	2.2	2.0	7.5	12.2	0.5
Red-capped Dotteral (<i>Charadrius alexandrinus</i>)	30.0	87.5	119.2	78.0	20.5	7.5	6.7	22.5
Red-kneed Dotteral (<i>Charadrius cinctus</i>)	0	0	0	0	0	0	2.2	10.2
Greenshank (<i>Tringa nebularia</i>)	17.5	20.2	2.2	0	9.0	22.0	16.2	31.0
Curlew Sandpiper (<i>Calidris ferruginea</i>)	613.0	1.2	0	0	88.5	6.2	4.7	7.5
Red-necked Stint (<i>Calidris ruficollis</i>)	613.0	311.0	74.2	5.5	683.5	247.2	36.2	52.2
Sharp Tailed Sandpiper (<i>Calidris acuminata</i>)	22.5	1.2	0	0	231.5	68.7	0.2	0.2
White-headed Stilt (<i>Himantopus himantopus</i>)		9.8	32.2	45.2		50.7	741.2	26.0
Banded Stilt (<i>Cladorhynchus leucocephalus</i>)	127.0	913.2	303.7	775.0	1.0	78.7	177.5	14.2
Red-necked Avocet (<i>Recurvirostra novaehollandiae</i>)	0	25.7	0	1.5	0	8.4	16.2	37.7
Whiskered Tern (<i>Chlidonias hybrida</i>)	0	0	0	0	3.0	1.2	45.0	4.7
Fairy Tern (<i>Sterna neters</i>)	0	0	0	0	21.0	10.7	11.5	12.2

* Total number of Census during the period was 14.

CORRECTIONS FOR BIRDS OF THE GAWLER RANGES
 (SAO, Vol. 26, part 8, by Joan Paton)

<i>Page</i>	<i>Column</i>	<i>Paragraph</i>		
180	2	last	line 6	saw
181	1	last	line 4	FORSHAW
182	2	3	line 5	<i>melanops</i>
			line 9	<i>himantopus</i>
183	1	3	line 1	<i>haematonotus</i>
	2	2	line 7	<i>cinclorhamphus</i>
		4	line 4	Curlew
			line 8	<i>Haliastur</i>
			line 9	<i>Drymodes</i>

Handlist No.

184	92	Ucarro
	119	<i>longipennis</i>
186	249	<i>Chrysococcyx basalis</i>
	254	<i>novaeseelandiae</i>
187	310	line 13, their
189	358	<i>hirundinaceum</i>
	378	<i>Melithreptus</i>
	391	last line, Oct. 1972 (not August 1973)
	397	line 5, Coralbignie
	398	<i>Acanthagenys</i>
	403	omit brackets
190		(references) FORSHAW
193		third to last line, G. R.: G. Ragless

CORRECTIONS TO TABLE

Handlist No.

- | | |
|-----|--|
| 11 | Present 1912 |
| 53 | Heron |
| 94 | Absent 1923 |
| 137 | Present Oct. 72 |
| 184 | Present 1902 |
| 190 | Present 1923 |
| 243 | Present 1902, 1912, absent 1923 |
| 248 | Absent 1902, present 1923 |
| 249 | Present 1912, 1923, Oct. 72, May 73, Aug. 73, HT |
| 257 | Present 1902, 1912 and T |
| 266 | Present Oct. 72 |
| 271 | H not F |
| 274 | Omit <i>Anthus</i> |
| 292 | Absent 1902, present 1923 |
| 297 | Add breeding 1923 |
| 305 | Add FHTY |
| 308 | Add breeding 1923 |
| 367 | GR not MR |
| 375 | Breeding 1923, FHT not HHT . |
| 416 | Present Y |
| 417 | Present Y |
| 420 | Present H |