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BIRDS OF THE MACQUARIE MARSHES, NEW SOUTH WALES

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Ornithologically the Macquarie Marshes, that vast area of low-lying country adjacent to the Macquarie River, and subjected to periodical floodings, is as little known to-day as it was at the beginning of the century.

Very few, if any, accounts have been published of the prolific bird life of the area, and for some unknown reason, it has been overlooked by present day ornithologists. How different is the position regarding the swamps of the Moree Watercourse, the Riverina, and the Murray River!

The main references to the bird life of this area, are contained in A. J. North, "Nests and Eggs of Birds found Breeding in Australia and Tasmania", 1901-1914, (four vols.). Throughout the pages of these volumes references are made to correspondence with a Mr. S. Robinson.

Robinson lived at Bathurst, and made several visits to the Marshes at Bucklebury Station towards the end of 1896. His son was apparently living in the area, as Robinson mentions that "—when leaving for home I asked my son to keep a good lookout every week, and let me know the result. —" (North, Vol. IV., p. 7.). Unfortunately no complete account of Robinson's observations or collections appears to have been published, and obviously North would only have used notes that would be of interest to him.

In recent years, Mr. Lance B. Peacocke of Dubbo, has taken a very active interest in the Marshes and the protection of its avifauna. Peacocke, who is attached to the New South Wales Government Lands Department, is responsible for the Crown lands, and his knowledge of the area is unsurpassed. Fortunately for Australian Ornithology, he is an enthusiastic bird student. On detailed maps of the area he kindly marked the breeding grounds of the ibis and other water birds.

The Macquarie Marshes commence some 50 miles below Warren on the Macquarie River, and continue downstream until nearing the junction with the Darling River. After heavy rains, the Macquarie overflows its banks, and many square miles of land are inundated by its floodwaters. Of this vast area, approximately 44,000 acres has been declared a sanctuary for birds and animals.

The reserve is divided into two main sections, known as the Northern Marshes and the Southern Marshes, the area in between being privately owned. Little wheat is grown, the land being used for the grazing of sheep and cattle.

Further up the river, beyond the town of Wellington, a large dam is to be constructed to impound the waters of the Macquarie for irrigation purposes. After completion, it will take approximately five years of average rainfall, to fill the dam. This means that the Marshes will receive only local floodings, which are not sufficient to cover the normal areas. Consequently large tracts of lignum, on which the ibis nest, may die and these birds will either cease to nest or be driven from the district. A committee has been formed to endeavour to overcome this problem, and to maintain the floodings in the Marshes while the dam is filling.

In November, 1948, a party consisting of Messrs. N. Chaffer, J. S. P. Ramsay, and the author visited the area, spending three weeks in studying and photographing the birds. The swamps are so extensive, that in this short period we were, even with the information supplied to us by Mr. Peacocke, only able to cover a part of the area. Consequently our observations must be regarded as incomplete. It will be necessary for more visits to be made and observations published, before a comprehensive survey can be made.

The following list of observations of the species observed covers those found on the swamps or the adjacent country. Although a total of 136 species was recorded, it cannot be classed as a full list of the birds frequenting the areas, but will serve as a foundation on which future observers can build.

LIST OF BIRDS RECORDED

Dromaius novae-hollandiae (Latham). Emu. —Seen on many occasions. While driving across one of the barren areas of the stock route, we observed a bird about a quarter of a mile distant, moving slowly away as we approached. When the car stopped, the Emu also halted and stood gazing in our direction. Having heard many stories of how an Emu will be attracted by curiosity to an unusual object, we sat very quiet and one of us waved a handkerchief out of the window. Within a few minutes the bird began to walk slowly in our direction. When within 30 yards, it stopped and commenced to circle around the car. It finally became alarmed at our movements as we attempted to photograph it, and ran off at a fast speed. It did not run far, however, and twice more it was attracted to the car by the same deception. A number of family parties was seen, the stately adult marching ahead of a column of half-grown young. The latter varied in number from three to five birds, and all appeared to be about 2 feet high. Some were in the striped, juvenile plumage, while others, apparently no older, were in the grey of the adult. When crossing the paddocks on Willaneorah Station, one half-grown chick followed us for some distance.

Turnix velox (Gould). Little Quail.—As a result of the bounteous rains the paddocks were heavily grassed, and here the quail were very common. They would rise from almost under our feet and, after a rapid flight of 20 to 30 yards, drop down into the grasses again. The density of the cover and the short, rapid flight made identification difficult. There is no doubt that there was a number of species present, but we could only positively identify the Little Quail.

Geopelia striata (Linné). Peaceful Dove.—Between Warren and Buckiinguy Station, this species was very common and was observed in all the surrounding areas. Beyond Buckiinguy, although the flora appeared to be the same, it was not recorded; its place being taken by the Diamond Dove (*G. cuneata*). This latter species in turn, was not observed until after passing Buckiinguy, and it then became very common. This appeared to be most remarkable, as there is no reason why both species should not have mixed. No doubt the two species were in both areas but, by some mischance, they were not observed by us.

Geopelia cuneata (Latham). Diamond Dove.—Very common after passing Buckiinguy. (See notes under previous species.) A heavy growth of a weed, known locally as the Mustard Weed, was on each side of the main road between Roubaix and Bluelight Stations, leaving only sufficient room for a single vehicle to pass. The seed pods were ripening and thousands of seeds were scattered on the road. Such a plentiful supply of food was not overlooked by the birds, and many species were seen feeding along the road. The Diamond Dove was particularly common, and on two occasions many hundreds were observed. Nesting apparently had been completed for the season, as many of the birds were moving around in small flocks, while others did not give any indications of breeding.

Geopelia humeralis (Temminck). Bar-shouldered Dove.—At the Moree Watercourse, we had found this species to be common, and as the country at the Marshes was similar, we had expected it to be plentiful. However this was not the case, and it was only on rare occasions that we heard or observed it, and then only singly.

Ocyphaps lophotes (Temminck). Crested Pigeon.—Although this species was common between Dubbo and Narramine, it was only sparsely distributed around the Marshes. It was observed in a number of places but never in any quantity. No signs of nesting activities were recorded.

Porzana fluminea (Gould). Spotted Crake.—Observed among the lignum bushes at Bluelight Swamp. It was found where the lignum was growing in the mud, over which it would

run with great rapidity. A pair frequented one patch of lignum, and although I often heard and saw the birds, I could not locate a nest. The bushes were too dense for observation and too tough to push through. North records Robinson as having found the bird breeding at Buckiinguy Station and the Marshes, but does not mention having seen the Spotless Crake (*P. tabuensis*).

Tribonyx ventralis (Gould). Black-tailed Native Hen.—With the exception of the Ibis, this species was undoubtedly the most common bird. It occurred in flocks of hundreds and was freely distributed on the grasslands near the edge of the water. On the road between Willie and the Mole Stations, a flock of many hundreds was disturbed. A spur of the swamp came almost to the road and the surrounding paddocks had been well grazed. The birds were along the road for several hundred yards and also in the nearby paddocks. As we drove up they commenced to make for the protection afforded by the rushes in the swamps and soon they were in full retreat. Apart from their size and colour, it was difficult to appreciate that they were wild birds, for their actions were similar to a flock of domestic fowls that had been alarmed. Near our camp on the edge of the Bluelight Swamp, the birds were freely distributed all along the edge of the water, and they were always to be seen in the paddocks searching for food. When disturbed they made back for the reeds growing in the water. When we came out of the swamps we were between the birds, feeding in the paddocks, and the water, but invariably they would cut across our path at an angle and make for the reeds. We did not see any chickens or any signs of nesting: all the birds were fully grown.

Gallinula tenebrosa (Gould). Dusky Moorhen.—Not common. There was a large stretch of water near the Roubaix Homestead, and several Moorhens were seen along its edges. It was also observed in small numbers on the Bluelight Swamp.

Porphyrio porphyrio (Linné). Eastern Swampphen.—In the large swamp opposite the Mole Homestead, small numbers of Swampkens were seen. A few odd birds were also observed on the Bluelight swamps. Not recorded elsewhere.

Fulica atra (Linné). Coot.—Observed in several parts of the swamps, and also along the banks of the Macquarie River near Willancorah, but not in any large numbers.

Podiceps novae-hollandiae (Stephens). Little Grebe.—This was a common bird often being observed on the clear stretches of water.

Podiceps poliocephalus (Jardine and Selby). Hoary-headed Grebe.—In a quiet backwater of the Bluelight swamps, near the main road to Carinda, many waterfowl, including several of this species, were observed. This was the only time that we saw this grebe.

Phalacrocorax carbo (Linné). Black Cormorant.—On the Macquarie River, near Willancorah Homestead several of these birds were seen. Not recorded elsewhere.

Phalacrocorax sulcirostris (Brandt). Little Black Cormorant.—Freely distributed over most of the waterways. At Bluelight swamp, several parties were observed flying in formation overhead.

Phalacrocorax melanoleucos (Vieillot). Little Pied Cormorant.—Only observed on one stretch of the Macquarie River, where a small party was seen at Willancorah.

Anhinga rufa (Dandin). Australian Darter.—Although this species should have been seen throughout the marshes, we only recorded two birds from the Macquarie River at Willancorah Station. The male was in full plumage, the dark colouring showing strongly in the sunlight. Unable to locate nest.

Pelecanus conspicillatus (Temminck). Australian Pelican.—Often seen flying overhead. At the Ibis rookery on Bluelight swamp, I was in a "hide" endeavouring to photograph the Ibis, when two Pelicans landed on a stretch of water nearby. They took no notice of the "hide" and proceeded to swim about and thrust their long bills under the water. It was not possible to ascertain if they were catching fish. They mixed freely with the Ibis who made no attempt to attack them.

Chlidonias hybrida (Pallas). Whiskered (Marsh) Tern.—These birds were often seen flying over the paddocks at Willie Station. They were in large numbers and were often accompanied by Gull-billed Terns (*Gelochelidon nilotica*). As they flew they were widely dispersed and appeared to be feeding. North (Vol. 4, p. 302), records that they feed on centipedes, grasshoppers and other land insects in a similar manner as they feed over water. A small party of fifteen to twenty birds was also observed flying over the paddocks of the Mole Station. No signs of nesting were observed.

Gelochelidon nilotica (Gmelin). Gull-billed Tern.—This species was also seen in large numbers flying low over the paddocks on Willie Station, usually accompanied by Marsh Terns (*Chlidonias hybrida*). They would fly widely scattered and appeared to drift in one direction and shortly afterwards move

back again. Apparently they came from the swamp areas, but we did not see them on any of the waterways. On November 21st large numbers of both species were over the paddocks, although the temperature was over 100° in the shade, and most of the land birds were very subdued.

Erythrogonys cinclus (Gould). Red-kneed Dotterel.—Numbers of these birds were on the foreshores of the swamps and on the lignum islands at Bluelight, but were not recorded elsewhere. One pair was always observed at the point where we entered the swamps, but we could not locate the nest.

Lobibyx novae-hollandiae (Stephens). Australian Spur-winged Plover.—A large number of approximately one hundred birds was disturbed from the swamps opposite the Mole Homestead. They were often seen in the paddocks and on the edges of small waterholes at the side of the road. One pair was accompanied by three half-grown young birds. Often heard calling at night.

Zonifer tricolor (Vieillot). Banded Plover.—Often seen in the short grassy paddocks. Sometimes they were in singles or pairs, and occasionally in flocks of up to twenty birds.

Charadrius melanops (Vieillot). Black-fronted Dotterel.—Only recorded in small, very widely distributed, numbers. One pair was nesting on a patch of bare, black soil, surrounded by trees on the banks of the Macquarie River. The nest was only 50 yards from the Homestead at Willancorah. It is amazing how these birds always construct such a perfectly camouflaged nest. Quite a substantial collection of pieces of black soil had been gathered together to form the nest, and the three eggs were marked in keeping with the surroundings.

Himantopus himantopus (Linné). White-headed Stilt.—This species was not as common as we had expected. On the Bluelight swamps, a small party of up to fifteen birds would alight in a clear stretch of water to feed. They were observed here on a number of occasions, and they usually arrived in one party. When disturbed they flew away, but not always in the same direction. I was particularly anxious to find their nests, but saw no birds away from this spot. When we first entered the swamp the birds arose, uttering their curious barking notes, before we were aware of their presence. We fully expected to find that they had been disturbed from their nests, but this was not the case. Subsequently, I spent many hours watching these birds but, discovered, curiously enough, their constant return to this area was only for food.

Stiltia isabella (Vieillot). Australian Pratincole.—We had looked forward to seeing this species for many years. As Ramsay remarked, it was remarkable that, with a combined total of almost 90 years of bird observing and extensive wanderings in the inland, not one of us had seen a pratincole. Consequently, when we observed one of these birds standing on the road, in the path of the car, it did not need any urging for the driver to apply his brakes suddenly and hard. Robinson (North) found them nesting at Buckinguy Station during October, 1896, and collected four sets of eggs from nests built on the bare ground, and all within a circle of 30 yards diameter. During our trip we observed them on several patches of bare ground on the stock route, and also found a half-grown and two very young birds. We spent many hours observing and photographing these interesting birds, but as the notes have been published in full by Chaffer (*Emu*, vol. 49, pp. 1-3), they will not be repeated here.

Choriotis australis (J. E. Gray). Australian Bustard.—We did not observe these birds during our visit, but MacLeash of Willancorah Station and Winter of Willie Station, confirmed their presence in the district. They both observed them near Willie Station while we were away at Bluelight.

Grus rubicunda (Perry). Brolga.—This was another species that we did not actually see, but there was no doubt, from the information given to us, that they occurred in the district. At Willancorah Station the birds regularly came into the paddocks within a few yards of the homestead, where they could be observed from the house.

Plegadis falcinellus (Linné). Glossy Ibis.—The finding of this species nesting was one of the highlights of the trip. We first saw the birds feeding in the dry paddocks on Willie Station, and later a party of twenty birds was seen in the swampy area opposite the Mole Homestead.

Robinson does not mention this species when writing to North, but states, "I am forwarding you an account of two species of ibis; the Straw-necked and the White, I found breeding towards the latter end of 1896 near Buckinguy, New South Wales." Peacocks (*in litt.*) has records of a number of breeding colonies throughout the area, which have been in use for many years.

Of the two large colonies of breeding ibis that we visited at Bluelight and Monkeygar Creek, the Glossys were only nesting at the latter place.

Previous reports mention that these birds build nests in trees similar to those constructed by herons and egrets, and are placed in upright forks or in bunches of twigs.

We found them nesting in the lignum in similar positions to many of the Straw-necked and White Ibis. All these species were nesting together, even in the same small clump of lignum. Where this occurred, the nests of the two larger species were constructed on the top of the bushes, and those of the Glossy placed on the sides and close to the water.

The nests were much more solidly constructed than those of the other species. Instead of being made of gum leaves, as found previously by earlier observers, they were constructed of pieces of shredded sags which were growing nearby. These were tightly woven into a solid nesting hollow, but were loosely placed towards the edges of the nest. Before constructing the nest proper the lignum was bent over to form a solid base on which the nest was placed. There was no possibility of the nest falling off, for the long pieces of materials were woven in and out of the lignum. One nest which I tried to remove, could not be shifted without almost totally destroying it.

A few nests had small bunches of gum leaves in the bottom of the nesting cavity, but these appeared as a lining and not as part of the main construction.

Most of the nests contained either two or three pale-blue eggs, of which surprisingly few showed any signs of mud markings from the feet of the birds. As the feeding habits of the three species are similar, and all were observed in the muddy areas, it would appear that the Glossy was more careful when settling on the eggs.

Following up this assumption, careful note was made of the manner in which the bird alighted on the nest. Eighteen nests were under observation from the hiding tent. On each occasion that a parent bird returned it was not seen to actually alight on the nest. Usually it landed on a low twig or in the shallow water and then walked up to the nest and settled on the eggs. It was always careful to see that it did not actually stand on the eggs.

Other nests contained young in various stages of growth, but no birds old enough to leave the nests were observed.

The colony was a comparatively small one, and apparently breeding had not been in operation long. Nests were being constructed in the lignum bushes on the outskirts of the colony as new arrivals commenced to build.

Most birds shield the young from the direct rays of the sun by means of their body, and outstretched wings raised so as to allow a passage of air to pass underneath. The Glossy, in addition to this action, provided another manner of cooling. After

sheltering the young for some time, they would step into the water and thoroughly wet themselves in the same manner in which most birds bathe. Returning to the nest they shook themselves vigorously and splashed the water over the young and then sheltered them from the sun again.

For long periods, while at the nest or resting nearby, the birds would sit with every feather raised, evidently to obtain all the air currents possible. This habit, or that of wetting the feathers, was not observed in either of the other species.

After arriving with food the parent would feed the young by regurgitation, and then commence to brood. Following a period of one half to one minute it would raise itself up and feed the young ones again. This procedure would be repeated, at approximately the same intervals until they were fed six to seven times. When all the food was gone the bird would step into the water, and laying its bill horizontally along the surface, allow the water to enter its throat. I have never seen any bird drink in this manner. Previously I have observed long-billed birds thrust their bills deep into the water and, after closing the bill, lift it vertically into the air, allowing the water to run down the throat.

Is this habit peculiar to the Glossy Ibis, or is it because of lack of field observations?

In flight the Glossy appears to be only about half the size of the White or the Straw-necked. The legs of all three species are carried straight out below the tail. Those of the latter two species are only a little longer than the tail, but in the case of the Glossy the legs are almost twice the length of the tail.

Threskiornis moluccus (Cuvier). White Ibis.—This species was common through the swampy areas. It was breeding in both the colonies (see previous species) and also in small numbers in isolated spots in the thick belts of lignum. At the Bluelight rookery *moluccus* kept apart from *spinicollis*, and bred thickly on island clumps of lignum. At Monkeygar Creek they bred freely on the same bushes as both the other species.

The call is similar to that of the Straw-necked Ibis, but is more powerful and deeper.

Breeding was in all stages—building, nests, eggs, young and young out of the nest. They were breeding in lesser numbers than *spinicollis*, being roughly in the ratio of one to ten.

Threskiornis spinicollis (Jameson). Straw-necked Ibis.—This was the common ibis of the marshes. They were observed on many occasions, both in the paddocks and in the swamps. At the nesting colonies they were in far greater numbers than the other species.

The feeding habits of the three species of ibis were similar, and all would feed the young five to six times, in between sheltering them from the sun.

The call is either a single or a double, deep note. Occasionally three to four notes are uttered. When the double note—the common one—is used the emphasis is on the last note, which is much deeper. The alarm call is a loud, single note, which is promptly taken up and acted upon by the nearby birds.

This species had been breeding for some time as many young birds were observed in the centre of the colony, walking about the waters and feeding themselves. They looked almost like the adults, except for the shorter, immature bill.

We had been informed by Peacocke that the birds would be nesting in thousands when we were present, but that later they would be nesting in hundreds of thousands. During our stay many new birds arrived and the nesting area rapidly expanded.

Platalea regia (Gould). Royal Spoonbill.—Not common. Near the Bluelight swamp one of each species of the spoonbills were seen flying together overhead. One pair was found by Ramsay, breeding in the sags near the ibis rookery on Monkeygar Creek.

Platalea flavipes (Gould). Yellow-billed Spoonbill.—Only a few records were made of this species. In a swampy area, near the Carinda-road, a number were seen in trees in the company of egrets, but there were no signs of nesting. The only other record was that recorded under *regia*. There was no doubt that both spoonbills were nesting in the area, which was most extensive, but we did not find their breeding places.

Egretta intermedia (Wagler). Plumed Egret.—We did not observe many of these birds. In the swamps near the "Mole" a party of six birds was feeding. Others were observed resting in trees near Carinda-road, beyond Bluelight. Robinson collected the eggs of this species in 1893 (North). After we left the area we received a letter, that had unfortunately missed us while we were at the Marshes, stating that they were nesting freely on Oxley Station.

Egretta alba (Linné). White Egret.—This species was only observed on a few occasions. It was apparently breeding on Oxley Station.

Notophojx novae-hollandiae (Latham). White-faced Heron.—Common throughout the area, being found on almost every stretch of water. It was not recorded by us as nesting, but we heard it was breeding on Oxley Station.

Notophojx pacifica (Latham). White-necked Heron.—This species was common, being seen on many of the swampy areas, and often flushed from pools of water alongside the road. Our camp on Bluelight Station was placed along the banks of the main creek, which at that time was flooded. Nearby large gums were growing and in their branches these herons were nesting freely. All the nests were placed at great heights, some being over 100 feet from the ground.

Nycticorax caledonicus (Gmelin). Naukeen Night Heron.—This was another species that we just missed finding nesting. We had intended visiting the nesting areas of the herons that Peacocke had informed us were often in use at Oxley Station. Unfortunately, each time we passed the main gates we had some other object in view, until our time ran out and we left the area. In the letter subsequently received we were informed that the Night Herons were nesting in greater numbers than ever previously recorded, and that the branches were weighed down with the weight of the nests and the birds. We recorded them in widely separated areas, usually in small numbers.

Chenonetta jubata (Latham). Maned Goose.—Rain had recently fallen and many pools of water had formed beside the roads. Although the area of water in the surrounding country totalled many thousands of acres, for some unknown reason the wood-ducks preferred to gather at the small roadside pools. We repeatedly came upon small parties of up to twenty birds, and they usually stayed until the car was within 50 yards before flying away. Beside the road to Willanconah Station, on a large pool of water, we counted 50 of these birds in the company of twenty Plumed Tree-ducks (*Dendrocygna cytoni*).

Cygnus atratus (Latham). Black Swan.—Uncommon. Several were seen in the Macquarie River near Willanconah Station; on Monkeygar Creek and on the water among the ibis nests at Bluelight. A dead bird was impaled on the barbed wire of a fence running through the rookery. It had apparently been caught as it was taking off the water and, being unable to free itself, had perished.

Dendrocygna cytoni (Eyton). Plumed Tree-Duck.—On a rainwater pool, beside the road near Willie Station, we observed approximately twenty of these birds in the company of 50 Wood-ducks (*Chenonetta jubata*.) As we approached both species bunched together. They appeared as a solid mass as they stood in the shallow water in the shade of the trees. When we stopped the car about 30 yards away the birds remained very still and it was

not until we drew much closer that they took flight. North quotes Robinson as having found these birds nesting in the long cane grass during the month of September, 1893.

Anas superciliosa (Gmelin). Grey (Black) Duck.—This species was observed in singles, pairs or small parties throughout most of the swampy areas. It was not recorded breeding in the Marshes although we observed one bird, with a brood of young ducklings, on a creek farther east.

Anas gibberifrons (S. Müller). Grey teal.—Small parties were seen on most of the open waters of either the swamps or creeks. A dead bird was noticed lying beneath a strand of barbed wire near the edge of water. It had evidently collided with the wire when alighting upon or leaving the pool.

Malacorhynchus membranaceus (Latham). Pink-eared Duck.—On a backwater of the Bluelight Swamp, near the Carindaroad, these ducks were first observed. Ten birds were swimming in the clear stretch of water, in the company of many other species of ducks and other water birds. Several were also seen on a large expanse of water near the Roubiax Homestead.

Aythya australis (Eyton). Hardhead (Australian White-eyed Duck).—The observations made of this species are identical with those recorded for the Pink-eared Duck. It was observed on both the backwater and at Roubaix, but not recorded elsewhere.

Biziura lobata (Shaw). Musk-duck.—Ten of these birds were seen on the Bluelight backwater previously mentioned. The nearby swamps had little open water, being mainly covered with lignum. This area was part of a drainage creek. It was lined with large gums with a clear stretch of water some 50 yards wide by 300 yards long. Good cover was on both sides of the water, and we saw more species of ducks here than anywhere else.

Uroaëtus undax (Latham). Wedge-tailed Eagle.—Very rare. Throughout the whole of the trip of over 1,000 miles, we only recorded one bird seen near the Marshes, and two birds, perched on a large tree, a few miles west of Lithgow.

Haliæëtus leucogaster (Gmelin). White-breasted Sea-eagle.—Several of these birds were observed flying overhead, in different parts of the Marshes. They nest in the area but, although I was informed of one nesting site, we did not have the opportunity to visit it.

Haliastur spheurnus (Vieillot). Whistling Eagle.—The most common bird of prey of the district. Breeding freely. At one nest, placed at a height of 60 feet in a gum tree, the young could

be seen standing on the edge. It was very common over the ibis rookeries, and undoubtedly took heavy toll of the eggs and young.

Elanus notatus (Gould). Australian Black-shouldered Kite.—Seen on several occasions hovering over the paddocks near the Marshes.

Falco longipennis (Swainson). Little Falcon.—One of these birds was observed sitting on a post of a culvert bridge. It did not fly as the car went past within a few yards.

Falco peregrinus (Tunstall). Peregrine Falcon.—Seen flying among the trees on Willie Station. It was later observed sitting quietly on a low limb of a Black Box (*Eucalyptus bicolor*). Although we stopped within 20 yards and surveyed it through field glasses, it did not take fright and fly away.

Falco berigora (Vigors and Horsfield). Brown Hawk.—Very common. Several nests were found, each being built high up in tall gum trees. While I was in the "hiding" tent among the ibis nests at Bluelight, a Brown Hawk settled in a nearby tree. The ibis uttered many cries of alarm, but made no effort to attack it.

Falco cenchroides (Vigors and Horsfield). Nankeen Kestrel.—Occurred in most of the areas visited, but was not common. Usually only one bird was seen.

Ninox novae-seelandiae (Gmelin). Boobook Owl.—Only heard once. At our camp between Wannon and Buckleingny one of the birds was heard calling during the night.

Kakatoë galerita (Latham). White Cockatoo.—Seen in small numbers at several places. Not common.

Katatoë roseicapilla (Vieillot). Galah.—These birds were very common, being seen throughout the entire western country through which we travelled. In the grasslands as well as the stubble lands they were seen feeding in large numbers. They were very wary and would not permit a close approach being made without taking flight. Many of the dead trees appeared to be clad in a raiment of pink and grey when a flock of birds alighted upon it. We watched many birds for indications of nesting, without result. Does this mean that they had already finished breeding (November), or that they had not yet commenced?

Leptolophus hollandicus (Kerr). Cockatiel.—Recorded in singles, pairs, or small parties throughout the area. Flocks of up to fifteen birds were often seen feeding in the grasslands or flying swiftly overhead. Many were found in pairs and several nests were recorded. One pair was apparently nesting in a hollow

spout at the top of a tall, dead gum tree. They would always flush when a stick was scraped along the trunk of the tree, but took no notice when the tree was hit.

Aprosmictus erythropterus (Gmelin). Red-winged Parrot.—Widely distributed throughout the timbered country in singles or pairs. No flocks seen. In a small grove of trees in front of Buckiinguy Homestead, a beautiful fully-plumaged male was seen feeding on the seeds. It did not show any alarm at my presence, but leisurely continued to extract the seeds from the pods while I stood within a few yards.

Barnardius barnardi (Vigors and Horsfield). Ringneck (Mallee) Parrot.—Odd birds were seen throughout the timbered country. One pair was nesting on Willie Station.

Psephotus haematonotus (Gould). Red-backed Parrot.—Very common, the species being widely distributed. Generally seen in small flocks feeding on the ground among the seeding grasses. Nesting in a hollow limb high up in a tall tree.

Psephotus haemotogaster (Gould). Blue Bonnet.—Another common species, usually seen in singles or pairs.

Melopsittacus undulatus (Shaw). Budgerygal.—Large flocks were often seen. At Willie Station continuous flooding had killed a large area of timber—a considerable amount of which was still standing. Here we expected to find parrots breeding freely, but excepting for a flock of Budgerygals feeding in the seeding grasses growing at the base of the trees, few parrots were seen.

Aegotheles cristata (Shaw). Owlet-Nightjar.—One of these birds roosted in a hollow in a tree near our camp at Bluelight. On several occasions we scratched the bark and the bird promptly came to the top of the hole and looked out. An examination of the hole did not reveal any signs of nesting. One evening, while at the shearers' hut at Willie Station, a bird was observed sitting upon a water pipe leading from a tank within a few feet of the doorway.

Dacelo gigas (Boddaert). Laughing Kookaburra.—Very common and widely distributed throughout the area.

Halcyon pyrrhopygia (Gould). Red-backed Kingfisher.—One of the most surprising features of the trip was the total absence of this species. We had recorded it on all previous trips west of the main Dividing Range, and it is generally classed as common in western New South Wales.

Halcyon sancta (Vigors and Horsfield). Sacred Kingfisher.—Two birds were seen feeding in an old gum tree and it was surprising the number of insects that they collected from the bark of the trunk and the larger limbs. They were also observed along a creek near Ronbaix Station; among trees at Bluelight Station, and a single bird was seen in one of the paddocks. We had not expected to find so many birds of this species.

Merops ornatus (Latham). Rainbow-bird.—In the yard at Buckingham Homestead these birds in a small colony were nesting within 25 yards of the house. The ground was slightly uneven and bare of grass. The birds had tunnelled into the sides of small depressions which were only an inch or two deep. They flew in and out of the tunnels, while we stood nearby, without taking any notice of our presence. Only a few birds seen elsewhere.

Hirundapus caudacutus (Latham). Spine-tailed Swift.—While we were camped at Bluelight large numbers of Swifts were observed flying overhead on two consecutive evenings. They did not appear until after the sun had set and were still flying about when it had become too dark to observe them any longer. On the first occasion only *H. caudacutus* was observed, but the next evening both the Spine-tailed and the Fork-tailed species were seen.

Apus pacificus (Latham). Fork-tailed Swift.—Numbers seen flying over the camp at Bluelight on the 17th.

Cuculus pallidus (Latham). Pallid Cuckoo.—Seen, either singly or in pairs, throughout most of the area. No cuckoos' eggs or young birds were in any of the nests found.

Misocalius osculans (Gould). Black-eared Cuckoo.—A rare species. A single bird was seen near the camp at Bluelight.

Chalcites basalis (Horsfield). Horsfield Bronze-Cuckoo.—Only one adult bird seen or heard. This was at Willie Station, and was observed among a stand of stunted timber growing in the main paddock. There were a number of different species of birds nesting in these trees but none had been parasitized by cuckoos. Among the grasses, out in the open paddocks, a pair of White-winged Wrens (*Malurus leuco-notus*) were feeding a young Bronze-Cuckoo (sp.) that had left the nest.

Hirundo tahitica (Gmelin). Welcome Swallow.—This species was very common and was often seen in large numbers around the buildings. Late one afternoon, while we were at the woolshed at Ronbaix, many hundreds of this species, Tree-martins, (*Hirundo nigricans*) and Fairy-martins, (*H. ariel*) were seen flying about. When we first arrived at about 5 p.m. no birds were observed, but within a quarter of an hour many

birds began to arrive. They could be seen flying in from several directions, and hundreds of birds were in the sky. The first arrivals soon began to settle on the ridge, the gutters, or any other protruding portion of the building, and some flew into the shed. All the time more birds were arriving and their flight was similar to a flock of Woodswallows migrating. We watched closely to see if there were any swarms of insects flying around that may have attracted the birds, but we could not locate any, either inside or outside the building. When we left the locality at 6 p.m. more birds were still arriving, and we were unable to obtain the slightest clue to this peculiar behaviour.

Hirundo nigricans (Vieillot). Australian Tree-martin.—Large numbers of these birds were seen in several areas. They were nesting near Marra Creek and also at Willie Station. Between Bluelight and Roubaix Stations the road was overgrown with Mustard Weeds which were seeding freely, the pods dried and bursting. The seeds were falling onto the road and many birds were observed feeding on the bountiful supply. Late one afternoon hundreds of Tree-Martins were seen on one section of the road. Many hundreds more were seen at the woolshed at Ronbaix, as recorded under the previous species.

Hirundo ariel (Gould). Fairy-martin.—A common bird which was nesting freely. The nests were under many of the culverts, and the birds would fly out as we drove along. Small nesting colonies were also located on the underside of large, leaning gums at Willancorah and Bluelight Stations. Many hundreds seen at the woolshed at Ronbaix Station. See also under Welcome Swallow.

Rhipidura leucophrys (Latham). Willie Wagtail.—Freely distributed throughout the area. Many nests were found, some being built while others contained eggs or young. Only one nest was constructed in close proximity to that of a Peewee (*Grallina cyanoleuca*).

Seisura inquieta (Latham). Restless Flycatcher.—A limited number of birds observed. One pair was constructing a nest in a large gum tree growing in the swamps, in the midst of the Ibis colony at Bluelight. The nest was being built within a few feet of an occupied nest of a White-breasted Wood-swallow (*Artamus leucorhynchus*).

Microeca leucophaea (Latham). Jacky Winter.—Occurred in the timber in most of the areas visited. A nest was found built in a horizontal fork of a limb of a gum tree. This species was more widely spread than we had anticipated.

Petroica goodenovii (Vigors and Horsfield). Red-capped Robin.—Although we had previously found this species widely distributed in similar types of country throughout Western New South Wales, only two birds were recorded on this trip. On the road past Willie Station a pair was seen in a small clump of trees—the male being in full plumage.

Melanodryas cucullata (Latham). Hooded Robin.—Although not occurring in any great numbers, these birds were seen in most of the timbered areas. A pair was constructing a nest on a piece of loose bark on the undersurface of a fallen tree. The log was held a few feet above the ground by having become wedged in the fork of another tree. This was in an area that had been subjected to periodical floodings and the water was still covering the ground underneath the nest.

Eopsaltria australis (Shaw). Southern Yellow Robin.—Very rare. Only one bird was observed and this was seen in the timber near our camp at Bluelight.

Pachycephala rufiventris (Latham). Rufous Whistler.—A solitary male bird was seen at Buckiinguy.

Colluricincla harmonica (Latham). Grey Shrike-Thrush.—Seen or heard at most of the main areas, but not common.

Grallina cyanolenga (Latham). Magpie-Lark.—Freely dispersed throughout all the timbered country. Very common and nesting freely. Only one nest was found built close to that of a Willie Wagtail (*Rhipidura leucophrys*). Many of the nests were built in trees that were growing some distance away from water, while others were built on limbs that were hanging over the swamps. Considerable difficulty was experienced when attempting to photograph a pair of these birds, which had a nest built in a gum tree at a height of 15 feet. The camera was placed on top of a tripod extension ladder, and a hide constructed some distance away for concealment. Although young were in the nest the male would not return, and the female visited the young only twice throughout the day.

Falcunculus frontatus (Latham). Eastern Shrike-tit.—Small numbers seen in the timbered areas.

Orcoica gutturalis (Vigors and Horsfield). Crested Bellbird.—Widely distributed, either singly or in pairs. We spent many hours observing these birds in an endeavour to locate their nests. One bird was watched for two hours and followed over a wide area, but it would not go near the nest.

Coracina maxima (Rüppell). Ground Cuckoo-shrike.—At Willie Station a party of five birds was seen on several occasions. A close examination showed it to be a family party of two adults and three young birds. The barrings of the immature birds were most noticeable. Several birds seen in other areas, but no nests were found.

Coracina novae-hollandiae (Gmelin). Black-faced Cuckoo-Shrike.—The common cuckoo-shrike of the district. It was freely distributed throughout all the timbered country and numerous nests were found.

Coracina robusta (Latham). Little Cuckoo-Shrike.—An adult bird was observed in a gum tree at Bluelight Station. It was fully plumaged, showing only the black marking through the eye, and there was no doubt as to its identity. It was not seen again nor were any other birds of this species.

Lalage sueurii (Vieillot). White-winged Triller.—Very common in the timbered country and nesting freely. One nest was constructed in the main fork of a small gum tree at a height of 7 feet from the ground and contained three eggs. Another nest was being built on a horizontal forked limb of a Wilga (*Geijera parviflora*) at a height of 5 feet. When first discovered the nest was being built and it was noticed that the male played an equal part with the female in its construction. The full clutch of three eggs was eventually laid, each egg being laid early in the morning of three consecutive days. Other nests were found at heights of up to 40 feet.

Pomatostomus temporalis (Vigors and Horsfield). Grey-occurred in groups of up to fifteen birds and always kept close together. On Willie Station one party of fourteen birds was nesting in a clump of small gum trees, and they had constructed eight large nests. From their actions it was almost impossible to ascertain which particular nest was being used for the rearing of the young, and the trees were too slender to permit a closer investigation.

Pomatostomus superciliosus (Vigors and Horsfield). White-browed Babbler.—Common in most of the areas and nesting freely. A small party of birds had young in a nest built in a Wilga. Five birds were seen at the nest with food, and while one entered the remaining four birds waited outside for their turn to feed the young. Nearby were six other nests which were being used by the same party. One of these was a particularly large structure, being almost three times the size of the other nests.

Epthianura albifrons (Jardine and Selby). White-fronted Chat.—This species was extremely common, and was found in all the areas where the habitat was suitable. There must have been many thousands of these birds scattered throughout the area. No attempts were made to locate their nests, nor were any special observations recorded. In certain areas they mixed freely with the Crimson (*E. tricolor*) and the Orange (*E. aurifrons*) Chats.

Epthianura tricolor (Gould). Crimson Chat.—We first observed this species on the side of the road between Marra Creek and Buckiingny Station—two males and two females being seen. No indication of nesting was shown. They moved freely about the ground in the low bushes, and when disturbed flew up into a nearby tree. One male had selected a small branch on a tree as a vantage point, and it was seen repeatedly to return to this position. After leaving Buckiingny they became very common and were to be seen in most of the roly-poly and saltbush areas. They also occurred in low shrubs and among tall grasses. In one of the paddocks at Willie Station the saltbush was only a few inches high. Here the three species of chats were often seen feeding, and as many as fifteen male Crimson Chats (*Epthianura tricolor*) five male Orange Chats (*E. aurifrons*), as well as females and young birds were observed at one time. They presented a delightful picture, as the brilliantly coloured birds moved among the blue-green saltbush, over the red-brown earth.

One of the paddocks, near the Macquarie River, had been flooded, and as the water had receded, a luxuriant growth of grasses and treefoil had sprung up. The treefoil was now dying and was a rich brown colour. In this area we found *tricolor* nesting. From our previous observations we had not expected to find these chats in this type of habitat and were somewhat surprised when we saw a male bird. At the time we were endeavouring to find the nest of one of the larks and did not pay very much attention to the chat. Previously we had spent many hours watching these birds and had decided, in view of the large number of plain birds seen, that breeding had finished. However, one of us noticed that it had food in its bill and the nest was soon found. It was built in a clump of brown treefoil and contained three young. Within 50 yards a second nest was located and in it were two young birds. This nest also was built in the dead treefoil. All the adult birds displayed great agitation at our presence and the broken wing trick, as well as fluttering along the ground in an apparent injured condition, was used to distract our attention from the nests. Next day a third nest, containing two young, was found. It also was built in a clump of dead treefoil. Unlike the other nests, which had been placed at the

base of the stalks, it was constructed near the top and immediately beneath the trunk of a fallen tree, which, at this point, was about a foot off the ground. The lip of the nest was only 2 inches from the bark of the tree and the birds had to crouch as they alighted. In no other area were any nests found or birds seen carrying food, or otherwise displaying nesting signs.

Epthianura aurifrons (Gould). Orange Chat.—Although the Orange Chat was seen in most areas it was in less numbers than either *albifrons* or *tricolor*. Many fully plumaged males were observed, often in the company of the White-winged Wren (*Malurus leuconotus*) and the Crimson Chat (*Epthianura tricolor*). Despite extensive observations, no nests were found. Many young birds were about and it would appear that the main breeding had been completed.

Aphelocephala leucopsis (Gould). Eastern White-face.—Of all the smaller birds the white-face was by far the most common. It occurred in almost every patch of timber or low bushes, often in scattered parties of up to 50 birds. A considerable amount of time was spent in observing this species and in trying to locate its nest. However, breeding appeared to have finished as not one bird was observed that showed any indication that a nest was nearby. It would have been interesting to have been present when nesting was at its height, as there did not appear to be many suitable nesting positions, that is, in relation to the number of birds seen, in the surrounding habitat.

Acanthiza uropygialis (Gould). Chestnut-tailed Thornbill.—Seen scattered about the area but not common. Several pairs were observed feeding young which had apparently only recently left the nest.

Acanthiza chrysorrhoa (Quoy et Gaimard). Yellow-tailed Thornbill.—This species was not common, only a few small parties being seen. No signs of nesting.

Cinclorhamphus cruralis (Vigors and Horsfield). Brown Songlark.—Freely distributed throughout the area, but not in any large numbers. We would regularly see single birds sitting on fence posts as we drove along the roads and often observed them in the paddocks. No signs of nesting.

Cinclorhamphus mathewsi (Iredale). Rufous Songlark.—One of the paddocks on Willie Station had recently been covered with the flood waters, most of which had now drained away. A heavy growth of Mustard Grass was underfoot, and there were many patches of dead Treefoil and tall green grasses. In this area the songlarks were very plentiful. We had been informed

that there were large numbers of the English Skylark (*Alauda arvensis*) in the district, but our informant evidently had confused this species with the Rufous Songlark, as no Skylarks were seen. We noticed a bird carrying food into a small area which was covered with 3 feet high Mustard Weeds. Excepting for the tall stalks of the weeds the ground was bare and we did not expect any difficulty in locating the nest. Despite our optimism all our efforts proved fruitless. We separated and watched from three different positions and tried to pinpoint the spot where the bird disappeared. Many times the bird brought food and it would arise within a few yards of where it alighted. Within this area it evidently fed the young, but we failed to find them. We searched every square inch on our hands and knees without success. As soon as we returned to our vantage points the bird would again drop down with food. I would not have thought it possible for a nest, or even young out of the nest, to be so cleverly concealed. It is possible that the young ones were hiding in some of the half-inch cracks that were in the ground and only came out when they heard the adult bird.

We later found a nest of this species a hundred yards distant, and it contained four young birds. Unlike the usual nests that are placed on the ground, this one was built in a very thick, prickly bush about 1 foot above the ground, and was exceptionally well concealed. It was only by watching the birds that it was located. The nest was typical of the species, excepting for the position in which it was built.

Despite the large numbers of these birds, we did not hear any of the long, sustained calls that are usually uttered when this species is nesting. Although the same notes, they were much shorter. The birds also appeared duller than those seen elsewhere, even in other inland areas. We took a full description for later verification with museum skins. We were all familiar with this species but the dullness of the birds, the shorter calls, and the unusual position of the nest found, made us doubtful of the correct identification.

Some days later, at Bluelight Station, Chaffer was fortunate to capture an adult bird, and we were able to definitely confirm our previous classification. The species was generally common in most of the grassy areas.

Megalurus gramineus (Gould). Little Grassbird.—Very common among the Lignum bushes and along the edges of the swamps in the tall grasses. On most of the waterways. Their plaintive call was heard continuously and they were often observed. Some birds were noticed carrying food, but no search was made for nests.

Cisticola exilis (Vigors and Horsfield). Golden-headed Fantail-warbler.—Although we visited many suitable habitats, this species was not heard or seen until we were crossing the plains to Monkeygar Creek. The country had recently been inundated with water and the grasses were now very thick and long. As we drove along many birds were flushed from the nearby grasses. Sometimes they would alight on the tops of the taller grasses or soar high up in the air, singing as they ascended.

Malurus cyaneus (Latham). Superb Blue Wren.—Between Sydney and Narramine this species was the common wren, no other wrens being observed. After passing Narramine the country changed from wheatlands to grazing areas and no further Blue Wrens were seen. They were replaced by the White-winged Wren (*M. leuconotus*). We did not record any overlapping in the areas of either of these wrens.

Malurus leuconotus (Gould). Blue-and-White Wren.—Common in all areas where the roly-poly or Saltbush was growing. A number of small parties, comprising a fully-plumaged male and four or five brown birds, was observed. Nests were found, all being placed in the centre of roly-poly bushes. We were somewhat surprised to find a fully-plumaged male and a number of brown birds (approximately four) all busily engaged in feeding the young ones in one nest. Previously, when watching these birds, we had taken it for granted that it was a family party and that nesting had finished. Apparently the brood of the first nest help in attending to the wants of the young in the second nest. At Willie Station a female wren was seen feeding a young Bronze Cuckoo (sp.) that had only recently left the nest.

Malurus lamberti (Vigors and Horsfield). Purple-backed Wren.—Small numbers were recorded. At the homestead at Buckiinguy Station a male was seen feeding among the bushes growing in front of the verandah. It was later joined by a small party of brown birds. Near the Ibis rookery on Monkeygar Creek a male was observed moving about in the nearby snags. Another pair was seen in the open paddock at Willie Station.

Artamus leucorhynchus (Linné). White-breasted Wood-Swallow.—This water frequenting species of *Artamus* was observed in singles or pairs along most of the waterways. One nest contained three young, which were almost ready to leave. It was built in the hollow formed by the division of the main trunk of a large gum tree into four limbs. Another nest was constructed in the broken off portion of a large limb of another gum tree. Both of these trees were growing in the swamps.

Artamus personatus (Gould). Masked Wood-Swallow.—Very common in some areas. The birds were still moving about and showed little signs of settling down to nest. In many places they would be in large numbers one day, yet a few days later not a bird would be seen. The only sign of nesting was at Willie Station where a nest, containing fresh eggs, was found built in the top of a stump. Many birds were about and it appeared that they had settled in the area to breed. A week later only a few birds, including those at the above nest, were recorded. At Bluelight Station not a bird was seen until November 19th. On that day we awoke to find many hundreds in the surrounding country and more arriving. This species was in the company of the White-browed Wood-Swallow (*A. superciliosus*) but, contrary to my previous records, in much greater numbers. This preponderance of *personatus* was general in all the areas.

Artamus superciliosus (Gould). White-browed Wood-Swallow. Movements of this species were typical of *personatus*. At Willie Station a few nests, containing eggs, were found, but generally the birds were moving about the country.

Artamus cinereus (Vieillot). Black-faced Wood-Swallow.—As we neared Buckiingny on the forward journey a number of *Artamus* were seen perching on the limbs of dead Wilga trees that were standing among a growth of low bushes. We were surprised to find all these species, *personatus*, *superciliosus*, and *cinereus*, present in roughly, the proportions of 3—2—2. *Cinereus* occurred throughout most of the more open types of timbered country, and in certain places was nesting freely. Nests were placed in various situations—tops of stumps; in thick clumps of mistletoe; low bushes, and in a dead stump that was covered with a thick growth of honeysuckle. One set of three eggs showed distinct variations in the markings. Two of the eggs were thickly marked at the larger ends with red, purple, and brown, forming a heavy zone. The third egg was lightly marked at the smaller end with the remainder white, very faintly spotted.

Artamus cyanopterus (Latham). Dusky Wood-Swallow.—A few birds were found in most areas. Usually two birds would be together and nesting was in full swing. The nests, which were built in the usual positions, contained either eggs or young. Several mottled young birds were observed, being fed, away from the nest.

Climacteris picumnus (Temminck). Brown Tree-Creeper.—This was the only species of tree-creeper observed. From Warren to Buckiingny and Willie Stations it was very common and nesting freely. Not recorded beyond Willie Station.

Dicaeum hirundinaceum (Shaw). Mistletoe-Bird.—Only observed at Marra Creek and Willie Station. They were often seen among the wilgas near Willie Homestead and were feeding on the mistletoes that parasitized these trees.

Pardalotus ornatus (Temminck et Laugier). Eastern Striated Pardalote.—Very few pardalotes were seen or heard. In the paddock at Bluelight Station a pair was found nesting in a hollow tree. The entrance was through a very small hole and the bird had difficulty in entering or departing. It contained young who were fed regularly with insects by both adult birds.

Zosterops lateralis (Latham). Grey-breasted Silvereye.—Not common. A small party seen in the Wilgas near Willie Homestead.

Grantiella picta (Gould). Painted Honey-eater.—Several birds seen feeding on the berries of mistletoes growing on Wilga trees. Uncommon.

Meliphaga virescens (Vieillot). Singing Honeyeater.—Several birds seen feeding on the blossoms of the Black Box (*Eucalyptus bicolor*). Widely distributed but not common.

Meliphaga penicillata (Gould). White-plumed Honeyeater.—Very common throughout the entire area. Generally seen in the large *Eucalypts* where they fed extensively on the flowers or insects. Breeding freely.

Myzantha melanocephala (Latham). Noisy Miner.—Common throughout the district. Occurred in roughly the same numbers as the Yellow-throated Miner, (*M. flavigula*). Several nests found.

Myzantha flavigula (Gould). Yellow-throated Miner.—Freely distributed over the entire timbered area. No nests recorded although regular observations were made.

Acanthagenys rufogularis (Gould). Spiny-cheeked Honey-eater.—Only one bird of this species was recorded. It was observed by Chaffer in a Black Box near Willie Homestead. In other parts of inland New South Wales, where the habitat was similar, we had found them to be common, so their lack of numbers in this area was surprising.

Eulomyzon cyanotis (Latham). Blue-faced Honey-eater.—Another uncommon species. One bird was seen in the trees near the entrance gates to Roubaix Homestead.

Philemon citreogularis (Gould). Little Friar-Bird.—I have not seen these birds in such numbers in any other part of inland New South Wales. We counted up to 30 birds in one party in a thick patch of trees. Our visibility was limited

by the surrounding foliage, and many other birds were undoubtedly in the area, widely distributed throughout the timbered areas and nesting freely. Many were seen carrying food to nests built high up in the gum trees.

Anthus novae-seelandiae (Gmelin). Australian Pipit.—Numbers seen in the open paddocks and along the edges of the road.

Zonaeginthus guttatus (Shaw). Diamond-Firetail.—Small numbers seen in several areas. Not common.

Poephila guttata (Vieillot). Zebra (Chestnut-eared) Finch. Small flocks.

Poephila modesta (Gould). Plum-headed Finch.—In the paddock of a property adjoining Bluelight Station a small party of six of this species was observed feeding in the tall grasses. Several males were present. They were very quiet and moved slowly among the grasses. I had been watching a Crimson Chat (*Epthianura tricolor*) for ten to fifteen minutes before I was aware that some small birds were among the grasses, in a direct line between the chat and myself. Even then I had to move closer and disturb the birds before it was possible to identify them. Not recorded elsewhere.

Oriolus sagittatus (Latham). Olive-backed Oriole.—Several birds seen, among heavy foliaged trees beside the road, when we were nearing Buckinguy. No other records.

Struthidea cinerea (Gould). Apostle-Bird.—Very common in the timbered country—nesting freely. A large party which contained many young ones, was always around the huts at Willie Station. They would come up to the door of the hut for scraps of food.

Chlamydera maculata (Gould). Spotted Bower-bird.—A number of bowers were found around homesteads and in the timber. A favourite site for the bower was under the branches of a tree, where they drooped low to the ground. At Bluelight a bird appeared to be sitting on a nest in a clump of mistletoe. It was near the top of a tall gum tree and the bird was seen frequently in the same position.

Corvus coronoides (Vigors and Horsfield). Australian Raven.—From records this is apparently the *Corvus* of the area. It was very common and widely distributed.

Corvus bennetti (North). Little Crow.—Near Narramine Ravens were common and were seen feeding on the carcasses of dead rabbits on the road. One bird appeared to be smaller, so we stopped the car for closer observation. It alighted on the

road and, in the company of Magpies, commenced to feed on a rabbit. It did not appear to be any larger than the Magpies, and when a Raven joined the group the difference in size was most noticeable. Another bird was observed flying. Not recorded elsewhere.

Corcorax melanorhamphus (Vieillot). White-winged Chough.—Parties of these birds were frequently seen in the timbered areas, general throughout the district. Several nests were found at which a number of birds were in attendance.

Cracticus nigrogularis (Gould). Pied Butcher-Bird.—Widely distributed in singles or pairs. More common than the Grey Butcher-Bird. (*C. torquatus*.) No signs of nesting.

Cracticus torquatus (Latham). Grey Butcher-Bird.—Small numbers seen in the south-eastern portion of the Marshes, around Buckleingny Station and Marra Creek.

Gymnorhina tibicen (Latham). Black-backed Magpie.—Very common. Occurred in all the paddocks and timber but rarely seen in the swamps. A number of nests found.

PLATES 1-18

1. The barren stock-route—haunt of the Pratincole.
2. Stunted saltbush plains.
3. Three foot high grass in paddocks typical of the whole area after the floods had receded.
4. A flooded backwater on the Carinda-road.
5. White Ibis feeding young in nest.
6. Straw-necked Ibis at nests.
7. Young Straw-necked Ibis.
8. Egg and Young of the Glossy Ibis.
9. Budgerygah at entrance to nesting hollow.
10. Glossy Ibis standing near the nest.
11. Nests of Glossy Ibis (lower left) and Straw-necked Ibis.
12. A newly hatched Glossy Ibis.
13. Pratincole on the edge of the stock-route.
14. Young Pratincole squatting in short grass.
15. Glossy Ibis on nests; Straw-necked Ibis nesting above.
16. Straw-necked, White, and Glossy Ibis in trees above nesting colony.
17. Straw-necked and White Ibis at nesting colony.
18. Peewee at nest in gum immediately above the swamps.



PLATE 1.



PLATE 2.



PLATE 3.



PLATE 4.



PLATE 5.



PLATE 6.



PLATE 7.



PLATE 8.



PLATE 9.



PLATE 10.



PLATE 11.



PLATE 12.



PLATE 13.



PLATE 14.



PLATE 15.



PLATE 16.



PLATE 17.



PLATE 18.