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## BIRDS RECORDED AT HERON ISLAND

by Jiro Kikkawa<sup>♂</sup>Introduction

Heron Island (latitude 23°26'S, longitude 151°57'E), one of the Capricorn Group of the Great Barrier Reef, lies about 50 miles northeast of Gladstone. Due south from the island the continental shoreline is met at Round Hill Head at about 50 miles and due west from the island Cape Capricorn of Curtis Island, on the fringe of the continent, is met at about 43 miles. The nearest coral islands are Wreck Island (8 miles NNE), Erskine Island (11 miles ESE), and One Tree Island (12 miles WSW).

Heron Island is about 40 acres in size and somewhat elongated from east to west. Apart from the buildings of the Guest House and the Research Station, much of it is covered with vegetation. Beaches are fringed with stranded vegetation which is bordered by a belt of Casuarina equisetifolia on the northern and eastern sides. The dense grove of Pisonia grandis extends to the edge of the bank about 4 m. above the beach on the southern side. Ficus opposita and Pandanus occur in patches and the ground cover varies greatly from place to place and from season to season.

The surrounding reef and the lagoon extend about 5 miles eastwards and on the southwestern side the neighbouring Wistari Reef lies close to the Heron Reef, forming

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a channel in between. At low tides reef crests are exposed on both sides of the channel.

Since the RAOU expedition to the Capricorn Group in October 1910 (Campbell & White 1910), Heron Island has been visited by a number of ornithologists. MacGillivray (1926, 1928) and Cooper (1948), in particular, listed a number of species observed on the island (early December records). Common species are also mentioned in non-ornithological publications (Nebe 1928, 1932; Gillham 1961) and summarized in popular books (Barrett 1919; Yonge 1930; Keast 1966). Some species on the island have received special mentions by D'ombrain (1964, a nest of the Silvereye), Mees (1969, a comprehensive systematic study of *Zosterops*), Miles (1964, departure of the Wedge-tailed Shearwater), Napier (1928, sea-eagles), Recher and Recher (1969, a study of the Reef Heron), Reid (1965, a new record of *Pterodroma hypoleuca* from Australia), Roberts (1957, presence of the Willie Wagtail), Shipway (1969, estimation of the numbers of the Wedge-tailed Shearwater and the White-capped Noddy), and Wheeler and Watson (1963, nesting of the Silver Gull). A total of 37 species have been recorded by these authors.

During the study of *Zosterops* on Heron Island I have noted the presence of other birds. This report brings the list of the Heron Island birds up to date with an addition of 38 species observed during the following visits: 1961: May 22-25; 1964: August 15-22; 1965: May 17-25, August 17-24; 1966: May 17-24, August 9-16, October 22-25; 1967: May 15-22, August 15-22, October 7-14; 1968: January 13-20, May 25-June 1, August 10-17, October 8-14; 1969: February 8-11, September 27-30; 1970: April 28-May 2.

Breeding Sea Birds

The Wedge-tailed Shearwater Puffinus pacificus and the White-capped Noddy Anous minutus are the most abundant breeding species on the island. Shipway (1969) estimated their numbers from the counts of nests in 6.1% of the total area of the island and gave 8,300 pairs for the shearwaters and 8,500 pairs for the noddies in December 1965. The Wedge-tailed Shearwater began to arrive at the end of the first week of October in each year of my visit, but Cooper (1948) reported late arrival of this species in December 1946. Most shearwaters left the island during May as noted by Miles (1964), though some juveniles remained till June. None of them remained through the months of June to September (see also Gillham 1961, Yonge 1930). The White-capped Noddy is found on the island all year round. Fresh eggs were found from October to March, though the peak seemed to occur in November or December. It is interesting that the 1910 RAOU expedition found only 53 nests occupied in early December and Cooper found only a small colony breeding in December 1946. During my visits tens of thousands of these birds returned to the island each day from the sea, and in the non-breeding season very few were found on the island during the day if the sea was not rough. In the breeding season a large number of them occupied the nests through the day. Many dead birds were found on the island after the cyclone in early 1967 and the population size was conspicuously reduced until the following breeding season.

The Black-naped Tern Sterna sumatrana breeds in a small colony on the wreck placed at the entrance to the channel (now a harbour) of the lagoon. Although they have been noted on the island in the past (MacGillivray 1928;

Cooper 1948) there is no record of their breeding on the island. They are now found all year round in small numbers on the beaches and the lagoons of Heron and Wistari Reef. The nesting season seemed to start in August and some fledged young were still fed in early May in some years.

#### Other Sea Birds

The Silver Gull Larus novaehollandiae was first recorded from the island in 1946 (Cooper 1948) and later reported to have bred on the island (Wheeler and Watson 1963). The number has increased greatly in recent years and now up to 300 birds may be seen, though they do not seem to breed on the island. Crested Terns Sterna bergii and a small number of Little Terns Sterna albifrons\* occur all year round, whereas Lesser Crested Terns Sterna bengalensis are present only during the summer months. However, none of these birds breed on the island. One Sooty Tern Sterna fuscata\* was observed on the island in October 1966 while some Roseate Terns Sterna dougalli\* were seen during February 1969 and January 1970 (recorded by Jan Wilson). One Bridled Tern Sterna anaethetus\* was found dead in October 1969 (recorded by Jan Wilson).

The Lesser Frigate-Bird Fregata ariel which had been recorded previously in December (1927, 1946) appeared in May (1961) and other months (1969). Up to 15 birds were seen together in February 1969 (recorded by Jan Wilson). The Greater Frigate-Bird Fregata minor recorded in the past (Cooper 1948) was not seen during my visits. One Brown Gannet Sula leucogaster\* appeared over the lagoon

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\* indicates species recorded for the first time from Heron Island.

during a storm in October 1966, and one Wilson Storm Petrel Oceanites oceanicus\* was observed in May 1961 near the island. It is interesting that MacGillivray (1931) also observed several Wilson Storm Petrels in May (1930) on the open sea of the Capricorn Group. Two White-winged Petrels Pterodroma hypoleuca examined by Reid (1965) on Heron Island in January 1962 were the first record of this species from Australia. This species was not noted during my visits.

Cormorants appeared occasionally in flocks. Little Black Cormorants Phalacrocorax sulcirostris were reported from Wistari Reef by MacGillivray (1928) in December 1927 and the Pied Cormorant Phalacrocorax varius\* was sighted in May 1961 (a flock of 20) and also by Jan Wilson during 1969.

#### Hérons

The island was named after the Reef Heron Egretta sacra which breeds on the island. Cooper (1948) reported the breeding of about 100 birds in December 1946. Recher and Recher (1969) counted about 160 herons in November 1967, but they found only 35 to 40 pairs actually nesting on the island, the rest being juveniles. Fresh eggs were found from August to February, but the peak laying occurred in September in most years. There were always more of the white phase than the grey phase and interbreeding between the phases was common. MacGillivray (1928) counted about 50 birds and gave the ratio of the white to the grey as 4 to 1 (1927), whereas Recher and Recher (1969) reported the ratio as 2 to 1 (1967). Ross Robertson counted 126 herons on the beach in May 1970 and found 89 white and 37 grey birds. He obtained a somewhat higher ratio of 164 to 52 on One Tree Island in May 1970. It would be interesting to find out if the young birds were imprinted on the colour of the parents

and if this colour-imprinting affected their mate selection in adult life. The effect of mate selection must inevitably appear in the ratio of the phases in the population, though it is generally known that the white phase is more abundant in proportion in tropical areas than in temperate areas.

The White-faced Heron Ardea novaehollandiae\* was the only other heron noted on the island (August 1964, May 1965 and August 1966).

#### Waders

MacGillivray (1928) noted the Red-capped Dotterel Charadrius ruficapillus and the Sharp-tailed Sandpiper Calidris acuminatus among other waders in December 1927. Cooper (1948) listed the Turnstone Arenaria interpres, Grey Plover Pluvialis squatarola, Eastern Golden Plover Pluvialis dominica, Mongolian Sand-Dotterel Charadrius mongolus, Eastern Curlew Numenius madagascariensis, Whimbrel Numenius phaeopus, Little Whimbrel Numenius minutus, Grey-tailed Tattler Tringa brevipes, Greenshank Tringa nebularia, Curlew Sandpiper Calidris ferrugineus, and Little Stint Calidris ruficollis in December 1946.

During my visits the most common of these was the Grey-tailed Tattler, more than a hundred of which appeared in a flock during migration. Turnstones, Golden Plovers and Mongolian Dotterels were also common and some of them were found also in winter months. Red-capped Dotterels, Little Whimbrels, Whimbrels, Bar-tailed Godwits Limosa lapponica\* and Terek Sandpipers Tringa cinerea\* were also recorded during migration.

The Pied Oystercatcher Haematopus ostralegus\* was recorded in August 1968 and during 1969 (Jan Wilson). The Black Oystercatcher Haematopus unicolor which once bred

on the island (Campbell & White 1910) was recorded only as a visitor in October 1967 and during 1969 (Jan Wilson).

One Australian Pratincole Stiltia isabella\* was found feeding in a clearing of the island in May 1968.

#### Other Water Birds

Other water birds which appeared on the island are obviously stragglers; single individuals of the Straw-necked Ibis Threskiornis spinicollis\* (May 1965), Eastern Swamp Hen Porphyrio melanotus\* (January 1968) and the Black Swan Cygnus atratus\* (December 1969) visited the island for varying lengths of time.

#### Breeding Land Birds

The Banded Land Rail Rallus philippensis was reported nesting in December 1927 (MacGillivray 1928), but was apparently absent in December 1946 (Cooper 1948). They were extremely scarce in 1964 and 1965, but gradually increased their numbers from 1966 onwards and became abundant in 1968 and 1969. Their increase coincided with the drastic decrease in numbers of rats and feral domestic fowl on the island following an extermination campaign. However, great fluctuations of the number of this species were noted also on other islands and the mainland. It is worth investigating the causes of such fluctuations.

As on North West Island (MacGillivray 1926, McBride 1969), feral Domestic Fowl Gallus gallus has been known to breed on Heron Island (Cooper 1948). They were abundant in 1964 and 1965, but the number was reduced to three or four in 1967. They have been increasing again since 1969. In addition to Domestic Fowl, Guinea Fowl (Numididae species\*) and the Pea Fowl Pavo cristatus\* have

been introduced to the island and both bred successfully in recent years. The increase of Guinea Fowl is now alarming.

The Bar-shouldered Dove Geopelia humeralis is another common ground feeder on the island and breeds from spring to summer. The Sacred Kingfisher Halcyon australasiae is another resident on the island and several pairs breed in summer.

One pair of the White-breasted Sea-Eagle Haliaeetus leucogaster used to breed on the island (MacGillivray 1928) and a nest was still used by adults in 1964 and 1965. This nest, made of sticks, was placed on one of the tallest Pisonia trees (15 m. high) on the island at about 13 m. from the ground. It was about 1 m. in height and had a flat platform measuring 1.5 m. (widest) x 1.2 m. (narrowest). In recent years, however, only juveniles have been sighted. In 1964 the skeletons found on the nest were collected by students of the University of New England for identification. Among fish skeletons Ric How found skulls of pipe fish (Fistularia), long tom (Athleunes), and Labrid fish. Some wing bones of birds, a skull of the Reef Heron and broken egg shells of the Wedge-tailed Shearwater were also included as well as small shells of cuttlefish.

The Pied Currawong Strepera graculina was found breeding in the past (Campbell & White 1910; MacGillivray 1928), but disappeared by 1946 (Cooper 1948). None has been sighted in recent years.

The Capricorn Silvereye Zosterops lateralis chlorocephala is the most abundant land bird on the island, varying in density between 400 and 600 in normal years. The number was reduced conspicuously after the cyclone in early

1967, but recovery was made in one breeding season. Their fresh eggs have been found from August to April with the peak laying in September or October. More than 1,000 birds have been colour-banded for behaviour studies. The measurements showed that older birds gained in the lengths of the wing and the tail. The fluctuation of the weight through a day was as great as 20% of the body weight in winter. The measurements of three eggs in one clutch laid by a three year old bird (October 1968) were 17.5 x 12.8, 17.4 x 12.8, 17.0 x 12.6mm (according to Mees (1969) no measurements of eggs of this race have been published before). The dense foliage of Celtis paniculata was the most favoured nest site, but nests were also found in Pisonia grandis (up to 8 m. in height), shrubs and pandanus. In 1966 the young of the first clutch fledged in the third week of October, whereas in 1967 when the density was low after the cyclone at the beginning of the year they fledged in September, and in 1968 in November.

The mainland race of Silvereyes, Zosterops lateralis familiaris Mees, appears on the island in winter. They are readily distinguishable by their smaller body size and particularly small bill and legs. Table 1, with a sample of measurements obtained from live specimens, shows the differences between the mainland form and the juvenile island form.

Table 1. Measurements of two races of Zosterops lateralis found on Heron Island in winter. The wing measurements were taken without flattening the wing.

	Island Birds (May 1966)						Mainland Birds (1966-70)					
	Adults (1 year or older)			Juveniles (after moulting)			sample size	range	mean $\pm$ S.E.	sample size	range	mean $\pm$ S.E.
	sample size	range	mean $\pm$ S.E.	sample size	range	mean $\pm$ S.E.						
wing (mm)	21	61.5-68	64.8 $\pm$ 0.36	165	59.5-65.5	63.0 $\pm$ 0.10	71	55	-61	58.2 $\pm$ 0.24		
tail (mm)	21	46-51	49.3 $\pm$ 0.32	143	46-51	48.0 $\pm$ 0.12	70	39.5	-47	43.7 $\pm$ 0.17		
tarsus (mm)	20	18.7-21.0	19.7 $\pm$ 0.16	165	17.7-21.0	19.7 $\pm$ 0.05	70	16.4	-18.5	17.3 $\pm$ 0.06		
exposed culmen (mm)	21	10.7-12.3	11.5 $\pm$ 0.09	163	10.4-12.3	11.5 $\pm$ 0.03	70	8.8	-10.5	9.5 $\pm$ 0.05		
weight in starved condi- tion (g)	20	12.2-16.0	14.1 $\pm$ 0.26	164	10.2-15.9	13.6 $\pm$ 0.07	54	8.0	-14.1	9.9 $\pm$ 0.20		

Of the mainland birds handled, 10 were caught in 1966, 5 in 1967, 51 in 1968, and 5 in 1970. The influx of mainland birds was most conspicuous in May 1968 when strong westerly winds blew. Table 2 shows the pattern of wind direction and velocity in May.

Table 2. The pattern of winds at the time of appearance of mainland Silvereyes on Heron Island.

Date (May 1968)	Wind at 9 a.m.		Wind at 3 p.m.	
	direction	velocity (knots)	direction	velocity (knots)
9	E	10	E	13
10	E	12	E	10
11	E	10	E	8
12	NE	10	NE	7
13	NNW	10	NNW	8
14	ESE	13	SW	10
15	SSW	12	SW	24
16	S	12	SSW	7
17	N	5	SW	8
18	WNW	12	WNW	10
19	SSW	22	S	13
20	SSE	12	SSW	9
21	SE	9	SSE	10
22	-	-	-	-
23	SSE	4	WNW	5
24	SSW	13	SW	10
25	S	17	SE	4
26	S	12	SSW	15
27	S	13	SW	5

Most mainland birds appeared in the latter half of May. Thus their arrival may be considered as a result of drift migration. Silvereyes migrating northwards in May along the continental shore can be easily blown away

from land. Strong southerly winds can take these birds from southern Queensland to the Bunker and Capricorn Islands which lie to the north or even northwest of the continental shore. Strong westerlies can also bring these birds from central Queensland during migration. The mainland birds were mostly of northern N.S.W./Queensland type in plumage, but four of them had dull yellow on throat, brown on flank, and grey or dark yellow on undertail coverts. The condition of mainland birds was generally poor and when the density was high in 1968 some birds showed injury on the head caused by the pecking of island birds. Most island birds disappeared by August, but a few of them did survive and remain on the island till the breeding season. However, neither the nesting of mainland birds nor the pairing of mainland birds with island birds has been observed. In these respects the two forms acted as good species. It is hard to imagine that the island form could have evolved in the Bunker and Capricorn groups of islands if the mainland form had often drifted to the islands in the past.

#### Other Land Birds

Five species of other land birds have been recorded in the past: Red-crowned Pigeon Ptilinopus regina (December 1946), Koel Eudynamys cyanocephala (October 1910), Spine-tailed Swift Chaetura caudacuta (December 1927), Willie Wagtail Rhipidura leucophrys (1957), and Rufous Whistler Pachycephala rufiventris (October 1910).

During my visits single Rufous Whistlers were sighted in May 1965 and April 1970, and one Red-crowned Pigeon was sighted in August 1967 and another was found dead in September 1969. Other migrants or stragglers recorded are: Golden Bronze Cuckoo Chrysococcyx lucidus\*

(October 1968, August 1969), Eastern Broad-billed Roller Eurystomus orientalis\* (October 1969), Noisy Pitta Pitta versicolor\* (May 1970, sighted by Bill Wyatt), Welcome Swallow Hirundo neoxena\* (May 1966, May 1968, April 1970), Fairy Martin Hylochelidon ariel\* (a flock of about 10 in May 1968), Black-faced Cuckoo-Shrike Coracina novaehollandiae\* (August 1964, May 1965, August 1966, May 1967, October 1968, May 1969), Little Cuckoo-Shrike Coracina robusta\* (April 1970), Australian Reed-Warbler Acrocephalus australis\* (August 1968, and one found covered with seeds of Pisonia in April 1970), Leaden Flycatcher Myiagra rubecula\* (May 1965, August 1966, April 1970), Satin Flycatcher Myiagra cyanoleuca\* (May 1967, August 1968, May 1969, April 1970), Black-faced Flycatcher Monarcha melanopsis\* (April 1970), Grey Fantail Rhipidura fuliginosa\* (May 1965, April 1970), Rufous Fantail Rhipidura rufifrons\* (April 1970), Brown Honeyeater Lichmera indistincta\* (May 1961, October 1969), Little Friar Bird Philemon citreogularis\* (May 1965), Olive-backed Oriole Oriolus sagittatus\* (May 1965, May 1968), Southern Figbird Sphecotheres vieilloti\* (April 1970), Spangled Drongo Dicrurus hottentottus\* (May 1965, May 1966), Magpie Lark Grallina cyanoleuca\* (May 1961, May 1965, May 1967, August 1969, April 1970), and Starling Sturnus vulgaris\* (August 1969, sighted by Jan Wilson). A single Emu Dromaius novaehollandiae, now removed from the island, had been introduced as a chick and grew to maturity. It was often seen bathing in sea water.

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THE BREEDING AND DISTRIBUTION OF  
ELANUS CAERULEUS IN NEW GUINEA

by V.J. Wood<sup>♠</sup>

The Black-winged Kite Elanus caeruleus, is distributed throughout the warmer parts of the Old World, with allied species in America and Australia. Four subspecific races of caeruleus have been described, with the nominate form ranging through southern Europe from Portugal to Africa, eastwards through India, Burma and Malaya. The race sumatranus is restricted to Sumatra, whilst the form hypoleucos is distributed from the Philippines to Borneo, Java and the Celebes. The subspecies Elanus caeruleus wahgiensis was described from a single specimen taken in the Wahgi Valley, New Guinea, by Mayr and Gilliard. Apart from the published notes relating to this actual specimen the form remained virtually unknown. Gilliard visited the Wahgi Valley some two years after the original specimen was taken and again encountered the species; on this occasion he successfully photographed the bird and took field notes.

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♠ Department of Agriculture, Stock & Fisheries, Sepik Plains Livestock Station, Urimo, via Wewak. T.P.N.G.

On March 9, 1969, I first observed the Black-winged Kite at Baiyer River, approximately 36 miles north of Mount Hagen and at the western extremity of the Wahgi Valley formation. A single bird perched on the uppermost branches of a dead tree in close proximity to my residence. It remained at this post for a period of about 15 minutes, continuously watchful of the surrounding country, after which it flew over a stand of kunai Imperata arundinacea. On three occasions it hovered and stooped to within 3 or 4 feet above the grass, and after flying a distance of about half a mile it climbed and flew in a direct manner towards the timberline of the western Baiyer mountains.

On March 15, 1969, a single bird was again observed at Baiyer River by Mr. W. Woodcock, who informed me of its presence; after a short search we located the bird; it was wary of our approach however, and moved out of the immediate locality.

Between March 21 and 27 presumably the same bird was observed daily, usually over the western grassed areas of the Baiyer Valley.

The next encounter with the species was on March 29, when I observed a bird capture a small rodent; it had been hovering for several minutes gradually dropping in altitude, until it finally plummeted into the grass, arising almost immediately. It then flew in a direct course over the Waak River towards the mountain timberline. I later journeyed into the fringes of the timberline on horseback, accompanied by a native agricultural trainee, but we failed to locate the bird.

On April 12, 1969, a native reported that a "wetpella tarangau" (a descriptive pidjin equivalent for

the bird) was nesting in the timberline of the western Baiyer Mountains. With native aid and accompanied by a native naturalist, Nogi of Ogelbeng, the nest was located in thick mountain scrub in a particularly precipitous section, being situated in the uppermost branches of an unidentified tree at the height of about 40 feet, the location revealed a commanding view of much of the Baiyer Valley. The bird moved away from the nest at our approach and did not return while we were in the vicinity. It was impossible to determine the contents of the nest at this stage because of its situation and, even with the most sophisticated climbing equipment, such an inspection would have been extremely dangerous. For this reason I forbade the native boys from attempting to climb to it. The nest itself was composed of dead sticks and I estimated about 20 inches across at the base. It appeared that this may have been the disused nest of another bird, for there were bird droppings over much of the area and, although the region was subjected to heavy daily rains, their signs were not obliterated. A full study of the nesting area over the next two days revealed very little except that the nest was almost certainly not built by the kites. However it appeared to be of accipitrine structure.

On April 15, I saw both birds for the first time; they quickly vacated the nesting area at our approach, exhibiting the same wariness as they had on all previous occasions. I concentrated on a search for food remnants on the ground but found very little that could positively apply to the birds' daily diet. On this occasion, however, a large Scrub Python Liasis amethystinus was found in an adjoining tree; this was captured and released later several miles from the nesting area.

I did not visit the nesting site again until April 20, but in the meantime a native boy had been recruited to visit the nest daily and report on any activities. On April 19, a partly eaten young Brown Quail Coturnix ypsilophorus was found directly under the nest and a portion of eggshell in a patch of undergrowth nearby. A clinical examination and reconstruction of the shell revealed that hatching had taken place some days before; the shell membrane was fragmentary and overlapped the amount of actual shell, and no blood streaking was present. The larger end of the ovoid, representing slightly less than half of the egg, was all that I examined and at its maximum width at the break measured 24mm. The section of the shell examined was heavily marked with broad streaks and blotches of brown, purplish-brown and burnt umber.

My visit to the nest on April 20 gave me the opportunity to observe a bird at close range for the first time, and although it was raining heavily the bird remained beside the nest during the inspection; it remained silent but obviously aware of the intrusion.

The general morphological features between caeruleus and the Australian Black-shouldered Kite Elanus notatus in the field are very much alike, but by comparison the New Guinea species, from my observations, revealed a broader, more compact bird than notatus; yet the flight characteristics are the same.

By May 1, 1969, the three young were out of the nest, perching on branches, and although immature, would flap their wings. The immature birds revealed the rufous colouring on the head and breast something similar to the

immatures of notatus. Within 10 days all young were flying but did not return to the nesting site.

Nogi of Ogelbeng informed me that this bird was not common in the Baiyer Valley, but each year he had seen odd birds, usually towards the end of the wet season and continuing into the dry.

On June 1, 1969, I recorded the Black-winged Kite at Urimo, on the Sepik Plains Livestock Station, located about 25 miles south of Wewak; a single bird was observed hovering beside a station road. According to the natives of the region, the bird was uncommon, although a few birds were regularly observed. A native from the village Chebovia, who has spent most of his life on and around the Sepik flood plains, assured me that he had seen this bird over much of the region, but mainly in the dry months from early May through to September. Native naturalists determine this species and the Nankeen Kestrel Falco cenchroides from the other raptors by their ability to hover.

Neru, a Senior Agricultural Officer at Urimo, who originally came from Goroka in the central highlands, informed me that he had seen the species on several occasions at Bena Bena Livestock Station about 12 miles southeast of Goroka.

Mr. Rob Shaw, Manager of the Sepik Plains Livestock Station, said that he had observed both the Black-winged Kite and the White Goshawk Accipiter novaehollandiae over much of the station, and thought that both species were permanent residents.

Day to day surveys taken over the Sepik Plains Livestock Station throughout June covered about 10,000

acres and revealed a total of six birds. This total constituted what appeared to be 2 pairs and 2 odd individuals. Although extensive searches were conducted throughout many scrub patches and forested regions around Urimo, no evidence of nesting by the species was found.

#### Discussion

According to recent literature, the Black-winged Kite appears to be almost unknown in New Guinea. Except for the original description and collection notes by Mayr and Gilliard, together with the follow-up material by Gilliard, Rand and Gilliard stated that wahgiensis is known only from the Wahgi Valley in the eastern highlands. It can now be established that wahgiensis is distributed over a greater part of New Guinea than at first realised. A breeding species in the western highlands, it appears to be distributed along the greater part of the Wahgi Divide rather than only the central highland region. It seems to also be distributed over the Sepik plains.

It may be said that the birds distributed over the northern lowlands could be a different population and racially distinct from those of the highland Wahgi Valley. Such a supposition is unlikely, even though New Guinea, with its extremes in geomorphological features, lends to zoological subspeciation more so than most countries. The direct distance between the two series of observations would be about 180 miles; the distance, however, between the Baiyer Valley and the Sepik plains is only about 50 miles due north. It should be noted that the course of the Baiyer River and the neighbouring Jimi River follow natural valley formations, which continue on a descending

course and join the Yuat River to the northeast. The Yuat in turn joins the Sepik just north of Kundima. These valley formations constitute a series of kunai-covered river flats which range up to 3,000-4,000 feet in elevation. The bordering mountain ranges, however, extend to an altitude of 7,000-8,000 feet.

Due to the geographical formation between the Sepik plains and the central and western highland valleys, the river courses provide easy access for many species of birds, particularly the raptors. It is therefore logical to assume that wahgiensis ranges from the northern Sepik plains into the mountain valleys of the central and western highlands. On the other hand, an invasion of stragglers of the western insular race hypoleucos along the northern lowlands is remote.

Two possible vacuums still exist in the range of the Black-winged Kite in New Guinea; these constitute the eastern and western limits. It would appear likely that the western extremities of the range could stretch over the northern lowlands into West Irian, incorporating the flood plains of the Sepik and Idenburg Rivers. The eastern limits of the range could be equally extensive, continuing into the kunai plains adjacent to the Ramu Valley.

To date no accurate analysis of the status, distribution and movements of the Black-winged Kite in New Guinea has been conceived, but it would appear that the species has been overlooked by ornithological workers in the Papuan Subregion.

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### MAGPIE LARK, GRALLINA CYANOLEUCA, BORN WITHOUT EYES

by Douglas D. Dow<sup>♂</sup>

On December 29, 1969, Mr. A.D. Wood, a local veterinarian, gave me a live young Magpie Lark Grallina cyanoleuca normal in every respect but without obvious eyes. Apparently the young bird had been found on the ground below its nest near Brisbane about eight days earlier, at the

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stage when normally expected to fledge. It is not known how many siblings occupied the nest or whether they possessed normal eyes. Nor were the parents' responses to the food-begging behaviour of the blind fledgling noted.

The bird appeared to be in good health, eating voraciously when fed by hand. It died, for no obvious reason, three days after I received it. I had hoped to study various aspects of its maintenance behaviour, i.e. bathing, preening, and general body care, as well as its general motor patterns as these developed. The opportunity to study the development of behaviour in a bird sightless from birth is one rarely encountered.

In fact, I have never observed a totally blind, free-living bird of any species. At an early age such individuals should, of course, provide easy targets for predators or die from starvation. In the course of trapping many thousands of birds in various banding programmes, I have seen about six individuals blind in one eye, presumably victims of accidents. These were all North American species and all passerines except one Ring-billed Gull Larus delawarensis. In all of these the eye appeared opaque or the eyeball was collapsed; sometimes the eyelids were torn.

In the Magpie Lark, although the bony edges of the orbital region could be clearly felt, there was no sign of an eyeball nor any visible opening in the surface of the skin, which formed fully feathered depressions in the sides of the head in the positions normally occupied by the eyes.

How rare are such occurrences? As mentioned

above, such individuals cannot be expected to live long after fledging, but they should survive nest life without much difficulty. I would be most interested in hearing of any similar observations or accounts of total blindness in the Magpie Lark or in any other species.