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THE SUNBIRD

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RELOCATION OF AUSTRALIAN BRUSH-TURKEYS

M.G. KEYS

ABSTRACT

Australian Brush-turkeys Alectura lathami cause damage to young Hoop Pine Araucaria cunninghamii plantations along the edges of retained vineforest and plantations. Turkeys were trapped, banded and relocated on 125 occasions in an attempt to control damage.

Five relocated turkeys (4% of the sample) were retrapped, 4 at their trapping site and one 7 km away. These turkeys had travelled 5 to 12 km from release sites, possibly over periods of 9 to 23 or more days. No turkeys released 12 km away returned.

It is suggested that turkey damage may be reduced by initially planting areas well away from forest edges during the normal Hoop Pine planting season. Then, later in the season, those sites prone to damage along forest edges be planted when turkey damage subsides as natural foods become available.

INTRODUCTION

Australian Brush-turkeys cause damage to Hoop Pine trees planted in State Forests at Yarraman. The turkeys excavate the root systems of trees up to four years after planting and eat the cortical layer. During the two years after planting this results in tree deaths and destabilises older trees, thus inducing fungal attack. Damage is most prevalent during late winter and spring, when rainfall is low and other foods are perhaps scarce. Hoop Pine planting commences in October, when newly planted trees, especially those adjacent to vineforest and mature-aged plantations, have been attacked. An example of a severe attack occurred in October 1986, when 30 percent of the pines within 10 rows of vineforest were destroyed within one week of planting. Replanting of this area was necessary at a cost of \$150 to \$200 per hectare. In this study, turkeys were relocated in an attempt to minimize damage and to determine if relocated turkeys returned to their capture site.

METHODS

Turkeys were trapped in wire netting cages, $1m \times 2m \times 1m$ high with a funnel entrance at one or both ends. Corn was used as a bait. The traps were located in vineforest adjacent to Hoop Pine plantations planted in 1987 and 1988. Trapping and release sites are described below, and the distance between these sites is shown in Table 1. Trapping and banding were carried out as follows :

9.11.87 to 3.12.87, turkeys relocated to other sites; 14.7.88 to 23.8.88, turkeys released at their trapping sites; 27.9.88 to 20.10.88, turkeys relocated to other sites because damage had started.

The trapping sites were:

Yarraman (Cpt.206A; S26°50' 35", E151° 57' 00"); Meandu (Cpt. 201, S26°51' 45", E151° 53' 15").

The release sites were:

Grimstone (Cpt. 5; S26° 51′ 40″, E151° 59′ 35″; mature pine planted 1949/50); King (Cpt. 8; S26° 56′ 00″, E151° 48′ 20″, vineforest); Dean (Cpt. 10; S26° 47′ 20″, E151° 56′ 30″, vineforest); Middle (Cpt. 3; S26° 51′ 15″, E151° 41′ 20″, vineforest).

FINDINGS

175 individual turkeys were captured on 199 occasions. Individuals were relocated to new sites and released on 125 occasions, or were released at their trapping site on 74 occasions. A breakdown of these figures by sites is shown in Table 2.

22 individual turkeys were retrapped, two of them twice. Five of the retrapped birds had been relocated. These were three males and two females. Three turkeys returned to their trapping site by travelling 5 km, of which 4 km was over open farmland. One turkey was recaptured at its trapping site 10 days after relocation. There was 6 km of continuous forest between its release and recapture sites. The remaining turkey had travelled 12 km toward its trapping site at Yarraman when it was recaptured at Meandu, 7 km away from its original capture site. Recapture times ranged upwards from 9 days, whilst an average of 23 days elapsed for the nine birds that were captured and recaptured during a period of continuous trapping. The other thirteen birds were recaptured after a break in the trapping.

Trapping sites							
Release sites	Meandu	Yarraman	Intervening vegetation				
Middle Creek	21	27	open country				
Grimstone	10	5	open country				
King	12	18	continuous forest				
Dean	10	6	continuous forest				
Meandu	0	7	continuous forest				

Table 1. Distance (km) between trap and release sites.

Table 2. The number of Australian Brush-turkeys captured and released at each site, including retrapped individuals.

Capture			Relea				
site	Y'man	Meandu	Dean	Grimstone	King Middle Creek		
Yarraman	51	0	26	20	2	6	11
Meandu	0	23	8	15	1	0	9

DISCUSSION

The findings show that relocated Australian Brush-turkeys will travel up to 6 km to return to their capture site, and that intervening open country does not hinder their return. Relocation distances exceeding 6 km may prevent their return, or at least delay their return sufficiently to allow food resources in an area to improve sufficiently to alleviate the need for turkeys to eat young Hoop Pines. However, more work is necessary to determine the time taken and the maximum distance turkeys can travel to return to home ranges. Jones (1987) found that Australian Brush-turkeys have home ranges varying in size from 0.22 to about 8 ha at Mt Tamborine in south-east Queensland. He also noted that males were protective of their nest mound during the breeding season. This season coincides with the best period for planting Hoop Pine. Thus relocated turkeys may have a strong desire to return to their home ranges.

Other control measures could be the artificial feeding of the turkeys to attract them away from young Hoop Pines. Feeding would need to be maintained until natural food sources improved sufficiently to replace the newly planted Hoop Pine in the turkeys' diet. However artificial feeding tends to concentrate turkeys, as has occurred at the Yarraman garbage dump. Here large flocks of 20 to 30 birds can be seen. Artificial feeding would be expensive if substantial damage to young plantations were to be avoided. A cover crop of oats and millet could be grown to provide feed, and thus reduce the Hoop Pine damage. Another measure would be to delay planting until later in the season. This may avoid the period of damage since this occurs when food for the Australian Brush-turkeys is otherwise scarce. The growth of Hoop Pine is maximised by planting in October, and any planting delay is likely to result in reduced growth rates.

Turkey damage occurs mainly along edges next to vineforest and mature plantations. In situations where large planting areas can be adopted, planting should occur in stages. The first plantings should be made some distance away from the adjacent forest (as fewer birds would be inclined to cross the open space to feed). Later plantings closer to the surrounding forest might be less vulnerable if other food supplies have improved by this time.

ACKNOWLEDGEMENTS

The author wishes to thank Don Secton for his guidance and encouragement during this project. Without him, this project would not have commenced. Jim Porter is thanked for his revision of the manuscript.

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FURGLING BY RED-BACKED FAIRY-WRENS

MICHAEL STRONG

On 1 October 1989, while under observation, a pair of Red-backed Fairywrens *Malurus melanocephalus* exhibited an unusual pre-mating display. They were observed in light forest, in association with a small party of Variegated Fairy-wrens *M. lamberti*, at distances of between 3 and 8 metres. The time was 0830 and the birds were watched for about 20 minutes under ideal clear and sunny conditions.

The adult male Red-backed Fairy-wren was seen holding a red object in his beak. Although the precise nature of this object remained uncertain, it was probably the seed-fruit of the Snake Vine *Hibbertia scandens*, which is a fairly common creeper growing in this locality. It has large golden yellow single flowers and a dry red fruit, often forming whilst the flower is present. In 1984, Variegated Fairy-wrens were observed in the same area in the first recorded display of petal-carrying involving a closely related plant species, *H. vestita* (Strong & Cuffe 1985).

Jack (1949) has recorded the Red-backed Fairy-wren as indulging in what Rowley (1965) calls petal-carrying, and the display is not restricted to yellowcoloured petals. Hindwood (1948, 1950) also records a similar display by the Superb Fairy-wren *M. cyaneus* and other species. Quite recently, Hughes (1988) has recorded the Red-backed Fairy-wren carrying both red and yellow fruits and petals. Loaring (1948) recorded a Splendid Fairy-wren *M. splendens* carrying a pink petal. This behaviour is a form of kleptogamy (literally 'marriage theft') known as furgling (Beale 1989).

In this particular instance, the male was observed from about three metres, holding the red object in his beak. He was crouching slightly, partially extending his wings, and rapidly ruffling the back feathers. He flew several metres to a low bush *Tristania conferta*, where he remained motionless for several minutes, in itself an uncommon posture for the usually active wrens. The male then approached a female foraging in an open patch of ground, still holding the object in his beak. Another male, presumably the dominant male in the group, immediately challenged the gift-bearer and drove him away. The first male made two secondary attempts to approach the female, before the dominant male escorted the female into thick bushland, where they were lost to sight. The Variegated Fairy-wrens in the vicinity were also carrying on an excited pre-nesting display, with three fully-plumaged males vying for the attention of several females. However, no unusual behaviour was observed. The long dry weather at the time may have delayed breeding and contributed to the urgency of the behaviour.

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THE SUB-SPECIFIC IDENTITY OF GREY GRASSWRENS AMYTORNIS BARBATUS IN THE LAKE MACHATTIE BASIN, SOUTH-WEST QUEENSLAND

RICHARD SCHODDE

Since Schodde & Christidis (1987) demonstrated that the populations of Grey Grasswrens *Amytornis barbatus* on the Bulloo overflow and at Goyder Lagoon on the lower Diamantina River had differentiated subspecifically, the identity of the third main population in the Lake Machattie system on Eyre Creek in far south-west Queensland (Joseph 1982) has required resolution. Following the collection of one adult male and three adult females there, 17km south of Glengyle Station, in October 1988, I can now make this determination. The specimens are lodged as study skins in the Australian National Wildlife Collection, CSIRO, Canberra.

Dorsally, the series from the Machattie system are intermediate between Goyder Lagoon and Bulloo overflow populations in dorsal tone, but closer to Goyder Lagoon specimens in their thinner and more blurred black streaking on the sides of the feather shafts. Although cinnamon toning is deeper than in the other populations, it has none of the grey cast and denser streaking that at once distinguishes the Bulloo population. Ventrally, the Machattie series is as sparsely and finely streaked with black as specimens from Goyder Lagoon. In size, too, the Machattie specimens are large like those from Goyder Lagoon: male, wing 61, tarsus 26.2, exposed culmen 10.7 mm; females, wing 57-61, tarsus 24.7-25.6, exposed culmen 9.6-10.2mm (cf. Table 1 in Schodde & Christidis 1987). Tails in the Machattie series have not been measured because they are either in moult or have been broken at the tips.

Apart from differences in the depth of cinnamon toning dorsally, the Machattie series is indistinguishable from the population at Goyder Lagoon, and so identified with it. Such a connection was predicted by Schodde & Christidis (1987) because both populations occur in the same drainage system involving the Diamantina and Georgina rivers linked by Eyre Creek. In view of similar variation within the Eyrean Grasswren *Amytornis goyderi* (Schodde 1982), the differences in dorsal tone between the Machattie and Goyder Lagoon samples are probably ecophenotypic and of no taxonomic consequence.

ACKNOWLEDGEMENTS

I am grateful to the Queensland National Parks and Wildlife Service for

permission to collect material of the Grey Grasswren at Lake Machattie, in order to determine the distinctiveness of the regional population there.

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THE BIRDS OF SANDY CAPE AND OTHER NORTHERN PARTS OF FRASER ISLAND, QUEENSLAND.

PETER SUTTON

Sandy Cape, at the northern end of Fraser Island, is about 80km east of Bundaberg (24° 52'S, 152° 21'E) and 80 km south of Lady Elliot Island. Between January 1979 and April 1982, as Lightkeeper of the Sandy Cape Lightstation, I kept a record of all birds noted. Data obtained during the last eighteen months of my stay were submitted for the RAOU Atlas (Blakers *et al.* 1984). For this RAOU survey, special emphasis was given to the area between Wathumba Creek and Waddy Point, though efforts were made to visit as many of the northern lakes as possible. All four Atlas areas involved were checked at least once in each 3 - month period, so many hundreds of kilometres of beach driving and many hours of bushwalking were involved.

After about fifteen months of regular observations, it became clear that Sandy Cape experiences only one pronounced migration each year, when birds are heading north in autumn. While not relevant for nocturnal migrants travelling on a broad front, the alignment of Fraser Island seems to explain this phenomenon (see Fig. 1). For birds heading south along the mainland coast in spring, the northern tip of Fraser Island is beyond the visible horizon, whereas the crossing from the mainland at Inskip Point in the south is not a significant barrier. Birds moving north take advantage of any south-easterly airflow when faced with the Sandy Cape crossing. If, however, there is little or no wind, they may wait for days for a build up. Overnight they would disappear, apparently with the aid of the south-easterly wind. In some cases, notably with Silvereyes *Zosterops lateralis*, birds congregate into a larger flock and head south, as observed in each of the three autumns spent at the Lightstation.

The occurrence of various species tends to be seasonal, dependent upon the flowering of eucalypts and paperbarks, and Celerywood *Polyscias elegans* berries are attractive to Topknot Pigeons *Lopholaimus antarcticus* and other species. Seasonality is an important feature of the annotated list in Appendix 1, where dates are included for many species.

The northern end of Fraser Island, mostly gazetted as National Park, contains many perched dune lakes, some of them remaining wet during the longest draught. Vegetation ranges from dry sclerophyll forest, banksia and diverse heathland to tall stands of Blackbutt *Eucalyptus pilularis* and pockets of vine scrubin various valleys. There are also several open sandblows.

Vernon & Barry (1972) and others have documented the birds of Fraser Island. But the data included here are unusual in terms of the localised nature of the area investigated and the special opportunity for daily observations over an extended period. Many beachwashed birds were recorded when patrolling the ocean beach each day at low tide, while several casualties at the Tower are of considerable interest.

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APPENDIX 1 ANNOTATED SPECIES LIST FOR SANDY CAPE

Great Crested Grebe Podiceps cristatus. Recorded at Lake Wannah.

- Australasion Grebe Tachybaptus novaehollandiae. Seen on several lakes.
- Yellow-nosed Albatross Diomedia chlororhynchos. Probable sighting on 13 January 1980.
- Southern Giant-Petrel Macronectes giganteus. Beachwashed bird, late 1979.
- Black-winged Petrel Pterodroma nigripennis. Beachwashed bird on 19 October 1980.
- Antarctic Prion Pachyptila desolata. Probably this species seen at close range in car headlighs at Sandy Cape on 20 April 1979.
- Wedge-tailed Shearwater Puffinus pacificus. Beachwashed specimens each year.
- Short-tailed Shearwater Puffinus tenuirostris. Beachwashed specimens each year; far more common than the previous species.

Australian Pelican Pelecanus conspicillatus. Occasional.

Australasian Gannet Morus servator. Frequent; sometimes months

between sightings.

Masked Booby Sula dactylatra. Beachwashed bird on 21 October 1981.

Brown Booby Sula leucogaster. Fairly common.

- Australian Darter Anhinga melanogaster. Regular; only one or two each time.
- Pied Cormorant Phalocrocorax varius. Common off both coasts of the island.
- Little Pied Cormorant Phalocrocorax melanoleucos. Small numbers at various lakes; nesting at Lake Wannah.
- Great Cormorant Phalocrocorax carbo. Less common than Pied Cormo rant.
- Little Black Cormorant Phalocrocorax sulcirostris. Noted at some lakes; not common.
- Great Frigatebird Fregata mino. Not common; a reliable prophet of bad weather.
- Least Frigatebird Fregata ariel. As above; 39 present just before Cyclone Simon.
- Pacific Heron Ardea pacifica. Two at Sandy Cape on 13 April 1980.
- White-faced Heron Ardea novaehollandiae. Present in each 3-month period; low numbers.
- Cattle Egret Ardeola ibis. A single bird recorded at Lightstation on 14 April 1979 and in each subsequent April.
- Great Egret Egretta alba. Recorded at some lakes and beaches; not common.
- Little Egret Egretta garzetta. Occasional at some lakes and beaches.
- Intermediate Egret Egretta intermedia. One at Wathumba Creek on 2 February 1982.

Eastern Reef Egret Egretta sacra. Occasional individuals at Ngkala

Rocks and Waddy Point; white phase on 9 May 1981.

- Striated Heron Butorides striatus. Single birds at Wathumba Creek on 10 August 1981 and Waddy Lagoon on 13 April 1981.
- Black Bittern Dupetor flavicollis. One at Bool Creek on 29 October 1981.
- Australasian Bittern Botaurus poiciloptilus. Uncommon at Wathumba Creek.
- Black-necked Stork Xenorhynchus asiaticus. Occasional single birds; a recently fledged young bird at Waddy Point early in 1982.
- Sacred Ibis Threskiornis aethiopica. Occasional single birds.
- Royal Spoonbill Platalea regia. Uncommon; mainly at Wathumba Creek.
- Black Swan Cygnus atratus. Nesting on a small lake in January 1981.
- Black Duck Anas superciliosa. Small numbers at Bool Creek and other lagoons.
- Musk Duck Biziura lobata. One or more on every lake large enough to support them.
- **Osprey** Pandion haliaetus. Regular; successful nesting at least twice at Sandy Cape.
- Black-shouldered Kite Elanus notatus. One from 8 June to 23 August 1981.
- Square-tailed Kite Lophoictinia isura. One on 9 May 1979.
- Brahminy Kite Haliastur indus. Several resident; nested successfully.
- Whistling Kite Haliastur sphenurus. Present in small numbers; bred in autumn and spring 1981.
- Brown Goshawk Accipiter fasciatus. One near Station Hill on 27 April 1980.
- **Collared Sparrowhawk** Accipiter cirrhocephalus. Several records, but not seen after 3 fledglings were taken by a goanna in December 1980.

- Grey Goshawk Accipiter novaehollandiae. A few sightings of each phase.
- White-bellied Sea-Eagle Haliaeetus leucogaster. A widespread breeding resident.
- Wedge -tailed Eagle Aquila audax. Up to 3 birds together; mostly im matures and irregular.
- Little Eagle *Hieraaetus morphnoides*. A probable sighting at Rooney Point on 24 November 1980.
- Black Falcon Falco subniger. Seen in the Lightstation area in September 1980; a few subsequent records.
- Peregrine Falcon Falco peregrinus. Very few records; singly or in pairs.
- Australian Hobby Falco longipennis. No more regular than the above species.
- Brown Falcon Falco berigora. A widespread resident.
- Australian Kestrel Falco cenchroides. Few records, including one on the front steps on 22 April 1980.
- Brown Quail Coturnix australis. Very few seen or heard.
- King Quail Coturnix chinensis. Seen at the Tower shed on 23 October 1981; also noted on 19 January 1981.
- Red-backed Button-quail Turnix maculosa. Dead bird at Tower in February 1979; other undated dead birds at Tower and sighted else where.
- Painted Button-quail Turnix varia. One survived hitting the Tower in February 1979.
- Black-breasted Button-quail Turnix melanogaster. Seen in one par ticular area in the nearby valley on 6 June 1980 and 28 November 1981.
- Little Button-quail Turnix velox. One dead at the Tower on 31 May 1980.
- Red-chested Button-quail Turnix pyrrhothorax. Undated records as a

casualty at the Tower; also seen on 19 January 1981.

- Buff-banded Rail Rallus philippensis. One at Bool Creek on 25 April 1979.
- Lewin's Rail Rallus pectoralis. Seen at Bool Creek on 25 April 1979 and on a few subsequent occasions.
- Dusky Moorhen Gallinula tenebrosa. Very few noted.
- Purple Swamphen Porphyrio porphyrio. Very few noted.
- Eurasian Coot Fulica atra. Not recorded before 27 April 1980; later there were hundreds at Ocean Lake and at other lakes.
- Brolga Grus rubicundus. A regular pair on the beach near Orange Creek.
- Bush Thich-knee Burhinus grallarius. Infrequent; more often heard than seen.
- Beach Thick-knee Esacus magnirostris. Up to a dozen were regular on the beach, mainly between Waddy Point and Wathumba Creek.
- **Pied Oystercatcher** *Haematopus longirostris*. Regular; numbers decreased alarmingly as vehicle numbers increased.
- Masked Lapwing Vanellus miles. Few noted; breeding at Waddy Point.
- Grey Plover Pluvialis squatarola. Seen at Wathumba Creek in varying numbers each year; first record on 28 April 1979.
- Lesser Golden Plover Pluvialis dominica. Regular in varying numbers; more numerous than the previous species.
- Mongolian Plover Charadrius mongolus. Regular; mostly at Rooney Point or Wathumba Creek.
- **Double-banded Plover** Charadrius bicinctus. First recorded on 23 May 1979; similar numbers and habitat as the above species.
- Large Sand Plover Charadrius leschenaultii. One seen 6 km south of Sandy Cape on 31 January 1981.
- Oriental Plover Charadrius veredus. One seen near Bool Creek on 19 October 1980.

- Red-capped Plover Charadrius ruficapillus. Previously numerous, but numbers decreasing as vehicle numbers increase.
- Black-fronted Plover Charadrius melanops. One at Sandy Cape on 2 September 1981.
- Black-winged Stilt Himantopus himantopus. A few noted in December 1979.
- Ruddy Turnstone Arenaria interpres. Up to 3 seen together; only five records between March 1980 and April 1982; not common.
- Eastern Curlew Numenius madagascariensis. Widespread in small numbers throughout the year.
- Whimbrel Numenius phaeopus. More numerous than the previous species, particularly at Wathumba Creek.
- Little Curlew Numenius minutus. First recorded in May 1980; up to 3 together at Rooney Point or Wathumba Creek.
- Grey-tailed Tattler Tringa brevipes. Regular in small numbers, mainly at Wathumba Creek.
- Wandering Tattler Tringa incana. Often present at Waddy Point, usually single birds; once at Six Mile Rocks.
- **Common Sandpiper** *Tringa hypoleucos*. First recorded on 23 April 1979; regular, mostly from Rooney Point to Wathumba Creek.
- Greenshank Tringa nebularia. Regular from Rooney Point to Wathumba Creek.
- Marsh Sandpiper Tringa stagnatilis. Several records.
- Terek Sandpiper Tringa terek. Several records.
- Latham's Snipe Gallinago hardwickii. One on 24 November 1979.
- Black-tailed Godwit Limosa limosa. One on 1 September 1980.
- Bar-tailed Godwit Limosa lapponica. Regular from Rooney Point to Wathumba Creek.

Red Knot Calidris canutus. A bird banded in New Zealand was found

dead at the Tower on 1 April 1981; others were seen.

- Sharp-tailed Sandpiper Calidris acuminata. Widespread in small numbers.
- Red-necked Stint Calidris ruficollis. First recorded on 10 November 1979; regular, mostly at Sandy Cape.
- Curlew Sandpiper Calidris ferruginea. Regular, mostly at Rooney Point or Wathumba Creek.
- Sanderling Calidris alba. First recorded on 15 April 1979; annual at Sandy Cape.
- Broad-billed Sandpiper Limicola falcinellus. Noted at Waddy Point on 15 August 1981, at Wathumba Creek on 23 August 1981, and at Bool Creek on 24 January 1982.
- Great Skua Stercorarius skua. One in flight at Sandy Cape on 4 September 1981.
- Arctic Jaeger Stercorarius parasiticus. One south of Eurong Village on 5 March 1979, and one at Sandy Cape on 24 May 1979.
- Pomarine Jaeger Stercorarius pomarinus. A light phase bird at Sandy Cape on 24 January 1982.
- Silver Gull Larus novaehollandiae. Present throughout the year; flying young at Sandy Cape each spring.
- Whiskered Tern Chlidonias hybrida. Always noted at Lake Wannah; also a few noted at Sandy Cape.
- White-winged Tern Chlidonias leucoptera. First recorded on 2 March 1980; single birds, mostly at Rooney Point or Sandy Cape.
- Gull-billed Tern Gelochelidon nilotica. Recorded in most months; wide spread, up to 7 together.
- Caspian Tern Hydroprogne caspia . Seldom recorded.
- Common Tern Sterna hirundo. First recorded on 29 September 1979; frequent in small numbers.

- Roseate Tern Sterna dougallii. Seen fairly often, particularly at Sandy Cape.
- White-fronted Tern Terna striata. Recorded at Sandy Cape between 8 March and 30 November 1980.
- Black-naped Tern Sterna sumatrana. Five at Sandy Cape in December 1980 and three on 9 November 1981.
- Sooty Tern Sterna fuscata. Single birds on 12 February 1980, 20 December 1980,14 February 1981 and 26 October 1981.
- Bridled Tern Sterna anaethetus. A beachwashed bird after Cyclone Simon in early March 1980.
- Little Tern Sterna albifrons. Widespread in all months.
- Crested Tern Sterna bergii. The most common seabird.
- Lesser Crested Tern Sterna bengalensis. Occasional.
- **Common Noddy** *Anous stolidus*. Regular in small numbers; absent in winter, appearing before November.
- Black Noddy Anous minutus. As the above species, but sometimes hundreds involved.
- Grey Ternlet *Procelsterna albivittata*. One at Sandy Cape on February 1981; seen as close as 2.5m.
- Superb Fruit-Dove Ptilinopus superbus. Occasionally heard in the nearby valley.
- Wompoo Fruit-Dove Ptilinopus magnificus. Heard in the nearby valley on 25 April 1979.
- Topknot Pigeon Lopholaimus antarcticus. Regular flocks of up to 35 birds at Sandy Cape, feeding on Celerywood berries.
- Feral Pigeon Columba livia. Five or six records at Sandy Cape over three years.
- Spotted Turtle-Dove Streptopelia chinensis. A bird which arrived on 10 February 1982 stayed until early April.

- Brown Cuckoo-Dove Macropygia amboinensis. Up to 4 together; mostly in the nearby valley, once at the bird bath.
- Peaceful Dove Geopelia placida. Regular in small numbers.
- Bar-shouldered DoveGeopelia humeralis. Widespread in small numbers.
- **Emerald Dove** Chalcophaps indica. Sometimes heard; at the bird bath at least once.
- Red-tailed Black-Cockatoo Calyptorhynchus magnificus. Probable sighting on 11 April 1979.
- Yellow-tailed Black-Cockatoo Calyptorhynchus funereus. Up to 25 together; seldom seen or heard.
- Sulphur-crested Cockatoo Cacatua galerita. Irregular in small flocks.
- Rainbow Lorikeet Trichoglossus haematodus. A widespread and com mon resident; sometimes hundreds involved.
- Scaly-breasted Lorikeet Trichoglossus chlorolepidotus. Small flocks; irregular, sometimes with previous species.
- Little Lorikeet Glossopsitta pusilla. Regular in flowering gums.
- Australian King-Parrot Alisterus scapularis. Up to 5 together at Sandy Cape; regular.
- Ground Parrot Pezoporus wallicus. Roy and Val Jacklin saw one north of Ocean Lake on 7 December 1981.
- Oriental Cuckoo Cuculus saturatus. Single birds recorded in the spring of 1979,1980 and 1981.
- Pallid Cuckoo Cuculus pallius. First recorded on 17 October 1979; one or two birds recorded each year on similar dates.
- Brush Cuckoo Cuculus variolosus. A few sightings each year at Sandy Cape, usually in spring.
- Fan-tailed Cuckoo Cuculus pyrrhophanus. First recorded on 9 May 1979; up to six birds recorded together at the Tower and houses; regular.

- Black-eared Cuckoo Chrysococcyx osculans. One in thick vegetation south of Bool Creek on 26 October 1980.
- Horsfield's Bronze-Cuckoo Chrysococcyx basalis. One dead at the Tower on 26 May 1979; several other records at various sites.
- Shining Bronze-Cuckoo Chrysococcyx lucidus. One dead at the Tower on 27 May 1979; less frequent than the previous species.
- Little Bronze-Cuckoo Chrysococcyx malayanus. Recorded at Sandy Cape on 3 May 1980 and 23 November 1980.
- Common Koel Eudynamys scolopacea. First recorded on 14 November 1979; annual, usually singly on similar dates.
- **Channel-billed Cuckoo** *Scythrops novahollandiae*. Regular between December and March; one or two only.
- Pheasant Coucal Centropus phasianinus. Regular, especially at Waddy Point.
- Southern Boobook Ninox novaeseelandiae. Seldom recorded.
- Barking Owl Ninox connivens. Heard in December 1981.
- Barn Owl Tyto alba. Very infrequent.
- Tawny Frogmouth Podargus strigoides. Regular especially in spring 1981.
- Australian Owlet-nightjar Aegotheles cristatus. Seen on 7 March 1981 and heard on a few occasions.
- White-throated Nightjar Caprimulgus mysticalis. Recorded at Rooney Point and Sandy Cape.
- Large-tailed Nightjar Caprimulgus macrurus. Heard each spring and summer.
- Glossy Swiftlet Collocalia esculenta. Harry and Thelma Tate found a stunned bird at the Tower on 28 December 1981.
- White-throated Needletail Hirundapus caudacutus. Regular visitor,

sometimes in good numbers.

- Fork-tailed Swift Apus pacificus. Regular, sometimes with previous species.
- Azure Kingfisher Ceyx azurea. Seen at Lake Wannah on 17 May 1980 and at Waddy Point on 24 May 1981.
- Laughing Kookaburra Dacelo novaeguineae. Not a regular visitor.
- Forest Kingfisher Halcyon macleavii. Ocassional at Waddy Point and Sandy Cape.
- Sacred Kingfisher Halcyon sancta. Widespread but uncommon; often seen on beaches.
- Collared Kingfisher Halcyon chloris. One seen at Rooney Point.
- Rainbow Bee-eater Merops ornatus. Widespread in all 3 month periods.
- **Dollarbird** *Eurystomus orientalis*. A beachwashed bird on 19 October 1980; various other records.
- Noisy Pitta Pitta versicolor. Occasional in the nearby valley.
- Welcome Swallow Hirundo neoxena. Regular; bred at Lightstation.
- Tree Martin Cecropis nigricans. Widespread in all 3 month periods.
- Fairy Martin Cecropis ariel. Recorded on 1 June 1979 and 25 October 1981.
- Richard's Pipit Anthus novaseelandiae. Widespread in small numbers; apparently resident.
- Black-faced Cuckoo-shrike Coracina novaehollandiae. Regular in small numbers; occasionally larger flocks.
- White-bellied Cuckoo-shrike Coracina papuensis. Less common than the previous species.
- Cicadabird Coracina tenuirostris. First recorded 2 April 1979; few records.

White-winged Triller Lalage sueurii. Only a few sightings near the

Lightstation.

- Varied Triller Lalage leucomela. Widespread and fairly common; recorded in each 3 - month period.
- White's Thrush Zoothera dauma. First noted on 6 June 1980; three or four subsequent records.
- Rose Robin Petroica rosea. Two females seen on 30 May 1979, and a male and female seen on 11 June 1980.
- Eastern Yellow Robin *Eopsaltria australis*. Recorded at Tower bird bath almost every day; regular at some other sites.
- Jacky Winter Microeca leucophaea. One on 30 May 1979.
- Golden Whistler Pachycephala pectoralis. Not common; heard more in 1982.
- Rufous Whistler Pachycephala rufiventris. A widespread resident.
- Little Shrike-thrush Colluricincla megarhyncha. Regularly heard but seldom seen.
- Grey Shrike-thrush Colluricincla harmonica. Regular; used same empty tin for nest at Marshall's Camp until 1987.
- Black-faced Monarch Monarcha melanopsis. Uncommon; only a few sightings.
- Spectacled Monarch Monarcha trivirgatus. One dead at the Tower on 27 February 1979; various other records.
- White-eared Monarch Monarcha leucotis. Seen at Waddy Point on 30 May 1979, 21 December 1980 and 9 July 1981.
- Leaden Flycatcher Myiagra rubecula. Widespread; recorded most months.
- Satin Flycatcher Myiagra cyanoleuca. Several records, but not seen after Christmas holidays of 1980/81.
- Rufous Fantail Rhipidura rufifrons. Seen each autumn; very few individuals.

- Grey Fantail Rhipidura fuliginosa. Similar status to previous species.
- Willie Wagtail Rhipidura leucophrys. Widespread and regular in small numbers.
- Eastern Whipbird Psophodes olivaceus. Recorded in the summer of 1980/81 at Sandy Cape camp area.
- Clamorous Reed-Warbler Acrocephalus stentoreus. Widespread but uncommon.
- Tawny Grassbird Megalurus timoriensis. Similar status to the previous species.
- Little Grassbird Megalurus gramineus. Seen at Bool Creek on 29 November 1980.
- Golden-headed Cisticola Cisticola exilis. Widespread but uncommon.
- Variegated Fairy-wren Malurus lamberti. Recorded at Waddy Point.
- Red-backed Fairy-wren Malurus melanocephalus. A widespread breed ing resident.
- White-browed Scrubwren Sericornis frontalis. Not common.
- Speckled Warbler Sericornis sagittatus. Probable sighting in low scrub and Banksia serrata on 1 January 1981.
- Weebill Smicrornis brevirostris. Most records are from the nearby valley.
- Brown Gerygone Gerygone mouki. Few records.
- Mangrove Gerygone Gerygone laevigaster. Recorded at Wathumba Creek.
- White-throated Gerygone Gerygone olivacea. Heard in the nearby valley in 1979,1980 and 1981.
- Brown Thornbill Acanthiza pusilla. Seldom recorded.
- Buff-rumped Thornbill Acanthiza reguloides. Widespread during spring and summer.

Yellow-rumped Thornbill Acanthiza chrysorrhoa. Occasional sightings.

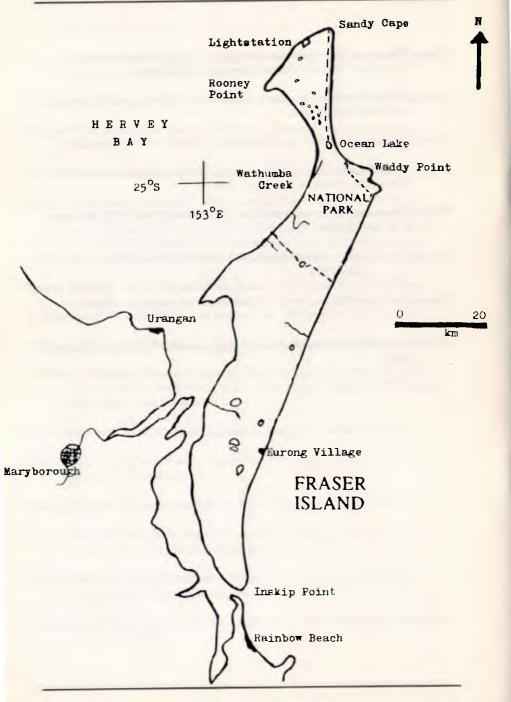
- Brown Treecreeper Climacteris picumnus. Jim Fearnley saw one on 5 June 1981; other probable sightings.
- Noisy Friarbird Philemon corniculatus. Widespread in all 3 month periods.
- Little Friarbird Philemon citreogularis. Less numerous than the previous species.
- Blue-faced Honeyeater Entomyzon cyanotis. Seldom recorded; few indi viduals.
- Lewin's Honeyeater Meliphaga lewinii. Widespread in all months; largest numbers at Lightstation in July.
- Fuscous Honeyeater Lichenostomus fuscus. One seen at Tower bird bath on 27 May 1979.
- Brown-headed Honeyeater Melithreptus brevirostris. Recorded on 18 September 1979 and from 22 November to early December 1980; only a few individuals.
- White-throated Honeyeater Melithreptus albogularis. Recorded in good numbers at Sandy Cape. Only a few occur in July, when other honeyeaters perhaps exhaust the feeding potential of the few avail able flowers and lerps.
- Brown Honeyeater Lichmera indistincta. Widespread and common; very common one July.
- New Holland Honeyeater Phylidonyris novaehollandiae. One near Lightstation on 25 April 1979.
- White-cheeked Honeyeater Phylidonyris nigra. Widespread and often common; the dominant species at the birdbath.
- Rufous-throated Honeyeater Conopophila rufogularis. Recorded on 17 September 1979, 10 February 1981, 5 June 1981 and 10 September 1981; one or two birds each time.
- Eastern Spinebill Acanthorhynchus tenuirostris. Recorded on 23 April 1979 and 5 June 1981.

Dusky Honeyeater Myzomela obscura. Regular, but sometimes absent

for a 3 - month period.

- Scarlet Honeyeater Myzomela sanguinolenta. Regular, but not recorded from August 1981 to January 1982.
- Mistletoebird Dicaeum hirundinaceum. A widespread breeding resident.
- Spotted Pardalote Pardalotus punctatus. Regular, but in varying numbers.
- Striated Pardalote Pardalotus striatus. Status as the previous species.
- Silvereye Zosterops lateralis. Seen in large flocks flying south from Sandy Cape when faced by nothing but open ocean during migra tion north each autumn/ winter of 1988 and 1989. A flock of 20-50 birds used the Lightstation birdbath one July, while migrating flocks in autumn can involve 500 - 1200 birds.
- House Sparrow Passer domesticus. Regular visitor in small numbers.
- Red-browed Firetail Emblema temporalis. Widespread and regular.
- Nutmeg Mannikin Lonchura punctulata. Widespread and regular.
- Common Starling Sturnus vulgaris. Recorded on 14 November 1980, 5 June 1981, 8 September 1981, 11 September 1981, and 6 October 1981; one or two birds each time.
- Olive-backed Oriole Oriolus sagittatus. Regular in small numbers.
- Figbird Sphecotheres viridis. Regular in numbers when figs and Celerywood berries are ripe.
- Spangled Drongo Dicrurus hottentottus. Occasional single birds.
- Australian Magpie-lark Grallina cyanoleuca. Autumn arrival of very small numbers; gone by August in 1980 and 1981.
- White-breasted Woodswallow Artamus leucorhynchus. Widespread and regular in varying numbers.
- Black-faced Woodswallow Artemus cinereus. Two birds for a short time on 17 June 1982.

- **Dusky Woodswallow** Artemus cyanopterus. First recorded on 29 November 1979; only three subsequent sightings.
- Grey Butcherbird Cracticus torquatus. A widespread resident; more often heard than seen.
- Pied Butcherbird Cracticus nigrogularis. Heard on 7 October 1979.
- Australian Magpie Gymnorhina tibicen. Thelma Tate saw one at Wathumba Creek on 2 August 1981.
- Pied Currawong Strepera graculina. Heard on 11 May 1979 and seen on 21 May 1980.
- Australian Raven Corvus coronoides. One found dead at Sandy Cape on 3 May 1979.
- Torresian Crow Corvus orru. Widespread and common resident.
- PETER SUTTON, Wilsons Promontory Lightstation, P.O. Box 74, Foster, Vic 3960.



MAGAZINE REVIEW

BIRDS INTERNATIONAL, edited by Joseph M. Forshaw, published by Grant Young, \$28.00 per annum (4 issues).

A new colour gloss quarterly journal, produced here in Australia for a worldwide market, 'Birds International' was launched this year 'to provide a forum for sharing the excitement, fascination and sheer pleasure that is so much a part of our interest in, and love for, birds!'. With more than ninety pages of colour photographs, and a text that is more in the style of 'World' or 'National Geographic' rather than the drier detail of 'Emu', it goes a long way towards achieving that particular aim.

'Birds International' goes beyond an intrinsic love of birds, however. It is committed to their conservation worldwide. To illustrate this particular commitment, the first issue opens with a sparkling article on the greatly endangered Hyacinth Macaw. Author Robert Ridgeley, of Rhode Island, USA, has had an association with Neotropical species since his days with the army, stationed in The Panama Canal Zone. Frustrated by a lack of any comprehensive work on local birds, he set out to write 'A Field Guide to the Birds of Panama'. He is now a recognised authority on Neotropical parrots.

Other features in the first issue include interesting studies on the Combcrested Jacana and Golden Bowerbird in Australia; the 'oddball' Roadrunner, a 12000 year old ground-dwelling cuckoo; the Irish 'Bog Goose' under threat; New Zealand's strange Kakapo; the Pink Pigeon of Mauritius; and the fascinating piece on African Bee-eaters by Professor Hilary Fry.

The second issue highlights the life of Sheldgeese and Steamer Ducks in the inhospitable climatic conditions at high latitudes in South America, around Tierra del Fuego and the Falkland Islands. 'Exposed to the full fury of the raging westerlies, and howling, relentless winds in excess of 160km/h...'. The author, Frank Todd, is a man of many talents who has written two books and more than eighty papers. Brian Coates, author of definitive books on the birds of Papua New Guinea, and now living in Brisbane, provides an interesting piece on the Little Coroneted Fruit Dove. ICBP World Working Group on Cranes Chairman, George Archibold, provides an insight into attempts to increase Sarus Crane numbers in the wetlands of China, Thailand and the Philippines. Other articles in this second issue feature Thick-billed Parrots, re-established in Arizona following an absence of 50 years; East German Stephan Ernst's detailed study of Europe's amazing little finches, the Redpolls; Geoff Moon writing on the Kokako of New Zealand; and data on the Brown Falcon, Australia's 'scruffy scrounger', by Penny and Jerry Olsen. Encounters with the Snow Petrel in Antarctica and studies of Firetail Finches complete an ornithologically packed issue.

That 'Birds International' meets a worldwide need is best illustrated by the fact that it has been wholeheartedly embraced by the international conservation body ICBP.Indeed, as Director Christopher Imboden says, how could ICBP not be associated with 'this splendid new magazine'. This point is driven home by an assurance that 'Birds International' will carry ICBP pages bringing'...the latest news about the status of individual, threatened species and information about issues that are affecting birds and their habitats'.

In short, 'Birds International' is a must for anyone with a broad interest in the whole world of birds, who wishes to gain a deeper insight into the global conservation of our avian friends. It does not have the 'heavy dust' style of some more learned journals, but its colour photographs and general presentation are second to none.

JULIAN A. BIELEWICZ, 12 Florence Street, Redcliffe, Q 4020.

INSTRUCTIONS TO AUTHORS

The Sunbird is published quarterly by the Queensland Omithological Society to further the knowledge of birds in Queensland and adjacent northern regions of Australia.

Papers are invited from non-members as well as members on all aspects of omithology, e.g. life history, taxonomy, distribution, behaviour, and ecology. Articles may take the form of major articles on specific birds, birds in specific areas or habitats, or short notes on either birds themselves or the literature on birds, such as reviews of books or comments on published articles.

Submission of a paper implies that the results reported have not been published and are not being considered for publication elsewhere. The editor reserves the right to submit records of rare birds to the Records Appraisal Committee of the Royal Australasian Ornithologists Union.

Manuscripts should be typed (if possible), double-spaced and two (2) copies sent. Papers longer than four (4) typed A4 pages should have a summary. If needed, help may be given to authors to find relevant literature. Common names, scientific names and order of names should follow "Recommended English Names for Australian Birds", in The Emu Volume 77, Supplement, 1978. Intending authors should consult recent issues of The Sunbird to see acceptable forms of contributions.

References should be listed in alphabetical order at the end of papers in the following styles, titles of journals will be abbreviated as in the World List of Scientific Periodicals:

FLEAY, D.H. 1937. Nesting habits of the brush turkey.

Emu 36: 153-163. FRITH, J.H. 1976. Mallee fowl. In Complete Book of Australian Birds (H.J. Frith consul. ed.) pp 136-137.

Sydney: Reader's Digest. SERVENTY, D., SERVENTY, V.N. & WARHAM, J. 1971. The Handbook of Australian Sea-birds. Sydney: Reed.

SLATER, P. 1970. A Field Guide to Australian Birds. Non-Passerines. Adelaide: Rigby.

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