

THE SUNBIRD



Journal of the

QUEENSLAND ORNITHOLOGICAL SOCIETY

Volume 16

Number 4

December 1986

CONTENTS

WALKER, T.	The Birds of Lady Elliot Island	73
BROWN, E.D.	Observations on Inter- and Intraspecific Play in four Australian bird species in the Wild	83
WALKER, T.	Mass Mortality of the Buff-banded Rail	86
Book Review	88

OFFICERS AND COUNCIL FOR 1986

President

JOHN NOYCE

Country Vice-President
DAWN MAGARRY

Vice President
DAVID NILAND

Country Vice-President
MALCOLM WILSON

Secretary
JOHN MOVERLEY

Past President
NOELA MARR

Treasurer
ROD WALLACE

Editor of the Sunbird
NEIL MCKILLIGAN

Assistant Editor of the Sunbird
ANITA SMYTH

Council

PETER BERRY, RON CARTNER, SHEILA CARTNER, RALPH COBCROFT, DIANA EASTON, JOHN EASTON, TIM MURPHY, BRUCE PYE, ASHLEY PYLE, TONY SCHLENKER.

The objectives of the Society are to promote the scientific study and conservation of birds by all means possible, with particular reference to the birds of Queensland.

Annual subscription rates to the Society are:

Ordinary Member	\$13.00
Family Member	\$14.00
Junior Member	\$ 5.00
<i>Sunbird</i> subscription only	\$10.00 (Aust.)
Libraries, Universities	\$12.00 (Aust.)
Overseas	\$20.00

All members receive a monthly newsletter and a copy of the quarterly journal, *The Sunbird*. The price of *The Sunbird* to non-members is \$2.50 per issue. The Society holds a general meeting and a field excursion each month.

All correspondence, including membership fees, should be addressed to the Secretary. The Society's address is:

P.O. Box 97, St. Lucia, Queensland. 4067.

THE SUNBIRD

Volume 16 Number 4

December 1986

THE BIRDS OF LADY ELLIOT ISLAND

Terry Walker

ABSTRACT

Observations of birds on Lady Elliot Island were made from 1984 to 1986. The composition of the avifauna is notably different from that of other Great Barrier Reef islands. In the summer of 1985-86 there were twelve species breeding, five more than previously reported in 1971. The increase is considered to result in part from reforestation of the island.

INTRODUCTION

Lady Elliot Island is the southern-most coral cay on the Great Barrier Reef (24°07'S 152°43'E). It is a seabird nesting island that was severely damaged by guano mining last century. The only published description of the bird life was given by Fien (1971). The present report gives a detailed account of the avifauna including species not previously recorded breeding.

STUDY AREA AND METHODS

Lady Elliot Island has an area of 35 ha and is one of the four largest coral cays on the Great Barrier Reef. There is an airstrip, a lighthouse with five buildings and a tourist resort with fourteen buildings. A long history of human disturbance to the island has been summarized by Heatwole (1984). The surface consists mainly of exposed and irregularly gouged phosphate rock. About one third of the island is presently covered by *Casuarina equisetifolia* trees. Other trees include *Argusia argentia*, *Pandanus* sp. and a host of introduced ornamental species. A few scattered bushes and a grove of *Pisonia grandis* trees are present and may be remnants of a pre-mining forest such as occurs on the nearby Bunker Islands.



Fig. 1 Lady Elliot Island looking south (T. Walker)

On 30-31 December 1985 and 1-2 February 1986 the island was systematically traversed and the birds counted. Brief observations on birds were also made during other visits from 1984 to 1986.

RESULTS

Thirty-two species of birds were recorded during the present study. They included eight breeding species of seabirds, three non-breeding species of seabirds, three breeding species of land birds, seven non-breeding species of land birds, breeding Eastern Reef Egrets and ten species of waders (Appendix 1). Fig. 2 illustrates the 1985-86 summer nesting distribution of the seabirds and Table 1 compares the numbers of each breeding species in 1985-86 with the observations of Fien (1971) in November 1971. Six species not previously reported to have nested did so in 1985-86. Only one species, Little Tern, was recorded breeding in 1971 but not in the present study.



Fig. 2. Maps of Lady Elliot Island showing the airstrip, road and nesting distributions of seabirds in summer 1985-86:

a. ▲ Silver Gull nest areas; ● Eastern Reef Egret nests; X Black Noddy nest area; dots, Common Noddy nest area; LA, light station area; RA, resort area. b. ▲ Crested Tern colonies; X Black-naped Tern colonies; dots, Wedge-tailed Shearwater nest area. c. ▲ Red-tailed Tropicbird nests; dots, Bridled Tern nest area; X Great Frigatebird roosting area.

TABLE 1

Comparison of nesting species recorded in summer 1985-86 with those recorded in November 1971 by Fien (1971).

Species	1985-86	1971
Wedge-tailed Shearwater	600-700 nests	several dozen nesting
Red-tailed Tropicbird	2 nests	not observed
Eastern Reef Egret	1 or 2 nests	1 nest
Buff-banded Rail	2-4 breeding pairs	not observed
Silver Gull	70-80 breeding pairs	common but not nesting
Black-naped Tern	22-30 nests	not observed
Bridled Tern	200 breeding pairs	"hundreds of nests"
Little Tern	not observed	small nesting colony
Crested Tern	3500 nests	"hundreds" nesting
Common Noddy	100 breeding pairs	about 100 nesting
Black Noddy	30 nests	not observed
Silvereye	100-200 birds resident	not observed
House Sparrow	> 300 birds resident	a few nesting

In addition, a lighthouse keeper reported nesting by Ospreys *Pandion haliaetus*, Pied Oystercatchers, Sooty Oystercatchers and Roseate Terns *Sterna dougallii* during the period 1978-81 (P. Harrison, pers. comm.). The Ospreys reportedly visited the island each year and reared young in an old pisonia tree from 1978 to 1981. This species is a rare visitor to the other islands of the Capricorn Bunker Group and this is the only report of it having nested.

DISCUSSION

The composition of the avifauna on Lady Elliot Island is different to that of other Australian islands. Few islands support as many as eight nesting species of seabirds (ten if Little Terns and Roseate Terns are included). The species composition generally resembles that of the nearby Capricorn and Bunker cays (Kikkawa 1976, Hulsman 1979, Walker and Domm 1986) but there are a number of major differences. Firstly, these other cays do not have nesting (or roosting) Common Noddies. Apart from four cays in the Swain Reefs area there are no other islands on the southern half of the Great Barrier Reef where this species nests. Secondly, Lady Elliot Island is one of only three Australian nesting sites for **Red-tailed** Tropicbirds (Warham 1977, Tarburton 1977). Thirdly, Lady Elliot Island and Green Island are the only cays on the Great Barrier Reef with resident sparrow populations, although vagrants have frequently visited and occasionally nested on buildings at Heron Island. Finally, the 1985-86 Crested Tern colony is the second largest recorded on the Great Barrier Reef and is one of the largest reported in Australia.

The composition of the bird fauna of Lady Elliot Island may be related to its southerly latitude on the Great Barrier Reef but human influence has also played a major role. Guano mining removed the vegetation, soil and presumably most of the birds between 1863 and 1873. A large population of introduced goats subsequently stripped the remnant vegetation and kept the island bare until the 1960's. In 1969 Heatwole (1984) found a dog resident on the island and reported that the inhabitants had been instructed to destroy shearwater burrows and eggs to facilitate airstrip and resort construction. Heatwole concluded that "Lady Elliot Island's prime ecological value is as a reminder of how destructive uncontrolled human activities can be to a coral cay, and of how prolonged those effects can be".

Growth of trees was negligible for 100 years but has accelerated remarkably in recent years as soil and seedstock accumulate. In 1971 Fien described the trees as "sparse and restricted to a few coastal she oaks (*Casuarina* sp.) and two small stands of pisonia". A 1978 aerial photograph shows the presence of hundreds of *Casuarina* trees. Aerial photographs taken in 1986 suggest that the *Casuarina* biomass has more than doubled since 1978. Vegetation regrowth has been accompanied by the arrival of breeding populations of Black Noddy, Silvereye and Buff-banded Rail.

Black Noddies appear to be expanding their population and breeding range in the region. A small number nested for the first time on One Tree Island in 1978. There were 30 pairs in 1979-80 (Hulsman 1979) and the population had increased to over 400 nesting pairs in February 1986. Continued growth of trees at Lady Elliot Island may encourage increased nesting of Black Noddies but eventually could lead to a decline in Common Noddies and Bridled Terns which prefer open ground to nest. Bar-shouldered Doves *Geopelia humeralis* may also colonize since they are common forest inhabitants of the adjacent Capricorn and Bunker Islands.

REFERENCES

- FIEN, I. 1971. A note on the avifauna of Lady Elliot Island. *Sunbird* 2:63-67.
- HEATWOLE, H. 1984. The cays of the Capricornia Section, Great Barrier Reef Marine Park. In *The Capricornia Section of the Great Barrier Reef: Past, Present and Future* (W.T. Ward and P. Saenger, eds.) pp.25-44. Brisbane: Roy. Soc. Qld.
- HULSMAN, K. 1979. Seabird Islands No. 66 - One Tree Island, Queensland. *Corella* 3:37-40.
- KIKKAWA, J. 1976. The birds of the Great Barrier Reef. In *Biology and Geology of Coral Reefs* Vol 3 (O.A. Jones and R. Endean, eds.) pp.279-341. New York: Academic Press.
- LOWE, J. 1985. Nesting of Red-tailed Tropicbirds. *RAOU Newsletter* 65:4.

- TARBURTON, M.K. 1977. Nesting of the Red-tailed Tropicbird at Sugarload Rock, WA. *Emu* 77:122-126.
- WALKER, T.A. and S.B. DOMM 1986. Birds of North Reef Island. *Qd. Nat.* 26:99-102.
- WARHAM, J. 1977. Seabird Islands No. 43 - Raine Island, Queensland. *Corella* 1:45-47.

APPENDIX 1

Annotated species list for Lady Elliot Island, 1984-86. Species marked with an asterisk were not recorded in November 1971.

Wedge-tailed Shearwater *Puffinus pacificus*. A count of active burrows indicated that 600-700 pairs were nesting in the summer of 1985-86. Burrows were concentrated into a number of communal areas (Fig. 2b) but small groups and isolated burrows were scattered over most of the island. In 1971 Fien recorded "several dozen birds around nesting burrows after dark" but it is unclear whether this was a population estimate or not. If it was a total estimate then a dramatic increase in numbers has occurred during the intervening fourteen years.

Brown Booby *Sula leucogaster*. In the period from January to early March several hundred roosted beside or inside the Crested Tern colonies. Only small numbers were present at other times.

Great Frigatebird *Fregata minor*. Female birds were often present above the island. Occasionally they roosted in *Casuarina* trees at the north-eastern side of the island. The highest number was observed on 26 March, 1984 when there were twelve birds overhead and four in trees. Males were not observed.

Red-tailed Tropicbird *Phaethon rubricauda**. A single pair nested in summer in 1983-84 and in 1984-85. In 1985-86, two pairs nested (Fig. 2c). The juvenile from the first nest departed the island four days before the chick in the second nest hatched on 28 January. Eggs were laid on bare sand under *Argusia* shrubs less than 5 m from the high tide mark. A photograph of the nesting Tropicbirds in January 1985 is given by Lowe (1985).

Eastern Reef Egret *Egretta sacra*. From five to eight white phase birds and one dark phase bird were regularly seen on the island or reef. In February 1986 a recently occupied nest was found in a *Pandanus* tree and an uncompleted (abandoned?) nest in a *Casuarina* tree. Up to eleven pairs were reported to have nested in the late 1970s (P. Harrison, pers. comm.).

Buff-banded Rail *Rallus philippensis**. In contrast with the nearby Capricorn and Bunker Islands this species is not abundant. The total population is probably between four and eight. On 27 March, 1986 chicks were present in the lighthouse area. A lighthouse keeper thought that Rails had only arrived on the island for the first time in 1982 or 1983 (P. Allen, pers. comm.).

Pied Oystercatcher *Haematopus longirostris*. Two or four were always present. They preferred to forage on the airstrip rather than in their normal intertidal habitat. In July 1986 a pair were behaving as though they might nest. Up to seven pairs are reported to have nested in the late 1970's (P. Harrison, pers. comm.).

Sooty Oystercatcher *Haematopus fuliginosus**. Two or four were usually present on the beach. One pair are reported to have nested in the late 1970's (P. Harrison, pers. comm.).

Lesser Golden Plover *Pluvialis dominica*. Up to two dozen were usually present. The highest count was 86 in February 1986. On 27 March, 1986 there were two in breeding plumage.

Mongolian Plover *Charadrius mongolus**. Four were present in February 1986.

Ruddy Turnstone *Arenaria interpres*. Common during the year throughout the island. Summer counts in 1986 ranged from 104 to 120.

Whimbrel *Numenius phaeopus*. One to eleven were usually present.

Tattler *Tringa* sp. Eighteen were present in February 1986. A few were present amongst other waders on occasions but large numbers such as occur on some Capricorn and Bunker Islands were not seen.

Bar-tailed Godwit *Limosa lapponica*. One to twelve were present on a number of occasions.

Red-necked Stint *Calidris ruficollis*. A small number were present amongst other waders on a few occasions.

Silver Gull *Larus novaehollandiae*. Between 140 and 160 inhabit the island. Aggregations occurred at the rubbish dump, at nesting sites and at Crested Tern colonies where egg-robbing was a major activity. Gulls nested at five sites in 1985-86 (Fig. 2a). Thirteen nests were found at three of the sites in December. Twenty nests were found at all five sites in February. Thirteen nests were found at all five sites in March. Thirty nests were found at three of the sites in July. Nests were well hidden and the counts are underestimates as some were certainly missed. In all four months the nests contained mainly 1-3 eggs but a few chicks and empty nests were also present.

Black-naped Tern *Sterna sumatrana*. This Tern was nesting in two small colonies in 1985-86 (Fig. 2b). One colony on coral rubble at the north end of the airstrip had thirty birds and ten nests visible in December. In February nine runners, one immature bird and twenty-two adults were counted. The other colony was around the base of a small *Argusia* tree at the eastern tip of the island and had twelve nests in December. In February four runners, three immature birds and nine adults were seen near the tree. Up to 50 pairs are reported to have nested at the eastern end of the island in some years in the late 1970's and early 1980's (P. Harrison and P. Allen, pers. comm.).

Roseate Tern *Terna dougallii*. A few were present on the beach on two occasions during summer. Two or three pairs are reported to have nested amongst other terns in the late 1970's (P. Harrison, pers. comm.).

Bridled Tern *Sterna anaethetus*. This species arrives in early summer to nest and departs in late summer. In December 1985 there were approximately 400 nesting over much of the island with the exception of areas with large stands of trees (Fig. 2c). Both eggs and chicks were present. By February many had departed the island. About ten nests were still occupied as late as 27 March in 1986.

Crested Tern *Sterna bergii*. In summer 1985-86 there were 3500 pairs nesting in two close groups (Fig. 2b). In December the larger group were incubating eggs while the smaller group had approximately equal numbers of eggs and newly hatched chicks. At night several hundred Crested Terns roosted on rubble at the north-western side of the island. In February there were over 1600 runners on the beach and a few adults were still incubating.

Common Noddy *Anous stolidus*. This species arrives to nest in early summer and departs in early winter. In 1985-86 there were at least 100 nesting pairs dispersed over the north-eastern part of the island (Fig. 2a). Nests were predominantly sited on top of phosphate rocks (upturned by guano mining) protruding above the ground vegetation. All stages of young from eggs to advanced chicks were common in December and February. One pair were still incubating an egg as late as 29 May in 1984 (84 birds present).

Black Noddy *Anous minutus**. In 1985-86 there were thirty nests in *Casuarina* and *Argusia* trees near the beach at the northern side of the island (Fig. 2a). At least some of the nests contained eggs in December. In February the contents of the nests were as follows: thirteen empty, five with chicks, five with eggs and six with the contents obscured by adult birds. In December during the day up to 900 birds were counted in trees near the nest area but at night the number of roosting Black Noddies increased severalfold and they spread into more distant trees. On 27 March 1986 there were still seven occupied nests one of which contained an egg. Black Noddies were not recorded in November 1971 and are not present during winter months. Nesting was not observed in the late 1970's (P. Harrison, pers. comm.) or early 1980's suggesting that 1985-86 is the first year of breeding on the island (at least since the trees were removed last century).

Sacred Kingfisher *Halcyon sancta**. One to six were regularly sighted however they appear to be transient individuals and not residents. In December 1985 a detailed search of the island failed to locate any kingfishers. Nesting occurs on many of the nearby Capricorn Bunker Islands.

Silvereye *Zosterops lateralis**. There are estimated to be from 100 to 200 resident and breeding on the island. They were not present in 1971 and only small numbers were reported to be present in the late 1970's (P. Harrison, pers. comm.).

House Sparrows *Passer domesticus*. Sparrows first arrived shortly before 1971 (Fien 1971) and are now the dominant passerines on the island. Flocks containing scores of birds occur and the total population is probably greater than 300. At least 78 nests (most empty) were found in trees (primarily *Pandanus* but also on *Pisonia* and a host of ornamental trees and shrubs) and on buildings. Only a few nests were occupied in February. Continued expansion of the population may result in dispersal and colonization of the Bunker Islands. I have seen a flock of 12-15 on two occasions on adjacent Lady Musgrave Island (June 1984 and March 1986) but there is as yet no breeding population there.

Other vagrants recorded within the period 1984-86 include a White-faced Heron *Ardea novaehollandiae*, a Black-shouldered Kite *Elanus notatus** that remained throughout the latter half of 1985 and into early 1986, a Dollarbird *Eurystomus orientalis**, small numbers of Welcome Swallows *Hirundo neoxena**, a few Black-faced Cuckoo-Shrikes *Coracina novaehollandiae**, some Rufous Fantails *Rhipidura rufifrons**, and two Australian Magpie-larks *Grallina cyanoleuca**.

Species recorded in 1971 by Fien but not observed in the present study were the Large Sand Plover *Charadrius leschenaultii*, Little Tern *Sterna albifrons* and an Oriental Cuckoo *Cuculus saturatus*.

T.A. WALKER, Queensland National Parks and Wildlife Service, P.O. Box 1395, Rockhampton. Q. 4700.

**OBSERVATIONS ON INTER- AND INTRASPECIFIC
PLAY IN FOUR AUSTRALIAN BIRD SPECIES
IN THE WILD**

ELEANOR D. BROWN

Information on avian play provides "a comparative baseline essential for understanding the evolution of animal play behaviour" (Fagen 1978, p. 218). Although difficult to define concisely, play includes "nonantagonistic fighting and chasing maintained by social co-operation" (Fagen, p.21); and play sequences "lack the consummatory acts and biological consequences of their nonplay counterparts" (Fagen, p. 44). In this note I describe several instances of avian play, including interspecific play between an Australian Magpie *Gymnorhina tibicen* and a Blue-faced Honeyeater *Entomyzon cyanotis*, and intraspecific play among Grey Butcherbirds *Cracticus torquatus* and Helmeted Friarbirds *Philemon buceroides*.

Australian Magpie and Blue-faced Honeyeater.

On 1 November, 1985 at 1530 h, in open cane fields just south of Proserpine, Qld. (20° 55' S, 148° 33' E), I saw a grey-plumaged first-year Magpie playing with a Blue-faced Honeyeater. In the space of approximately 7 min, the following sequence of events happened three times. The Honeyeater approached within 3 m of the Magpie, which was sitting either on a telephone wire or in a small tree. The Honeyeater landed and hung upside down for about 1 min until the Magpie flew over and perched a few cm away. Then the Honeyeater dropped off and both flew a distance of about 7 m, keeping close together in the air and alternating roles of pursuer and "pursuee" several times. They landed about 2 m apart, the Honeyeater again approached the Magpie and hung upside down, and the cycle began again. Finally both flew off about 250 m, again keeping close together and alternating roles in chasing. Magpie play has been described by Pellis (1981). Because these birds co-operated and exchanged roles in the chase, I judged them to be playing.

Grey Butcherbird

On 29 October, 1985 at 0600 h in Ainsworth park in suburban Brisbane, Qld. (27° 30' S, 153° 00' E), I saw a pair of Butcherbirds on their territory playing with their fledged but still dependent young. The two young sat near each other in the upper branches of a small tree, begging, while the adults hunted insects that they then brought and fed to the young. After each of several of the feedings, one of the adults hung upside down by its feet on the same branch as the young. Then the adult reached up underneath them to tweak their toes gently with its beak while the young wriggled and made soft squeaking noises. After several other feedings, the adult hopped to a branch just above the young and leaned down to tickle their throats gently, which also elicited soft squeaking by the young. These events occurred in the space of approximately 0.5 h, after which all four flew to another tree nearby and the parents continued to hunt insects. During the interactions the young remained fluffed, and neither sleeked, cringed, nor tried to escape, and the adults were extremely gentle in their contact, so I considered this to be a version of play "tickling" rather than any sort of aggressive contact. Allopreening would not be likely to account for the adult hanging upside down, or gently tweaking its offspring's toes.

Helmeted Friarbird

On 9 November, 1985 at 1730 h, in scrub bush a few metres from a beach just north of Ellis Cove, Qld. (16° 51' S, 145° 43' E), I observed two Friarbirds. These two birds flew together, about 6 m above the ground, and in the air kept within 0.5 m of each other and alternated pursuer and "pursuee" roles regularly. While in flight, the pursuer tweaked the second bird's tail, and they then switched roles. After flying a short distance, they landed on small twigs, one just above the other. The lower one then leaned back with neck pulled in, head up, and beak open, while the top one leaned down and poked it with the beak. They exchanged roles in this position for 5 - 10 s, then flew and alternated chasing each other in the air for 10-20 s, then landed and poked each other again. This routine continued for at least 5 min while they were in clear sight. Finally they flew just out of sight behind a larger tree and I heard them make simultaneous high-pitched chattering vocalizations. Because the chasing alternated like a game of tag, and continued for

a much longer time than an ordinary aggressive chase, and because the pokes exchanged were repeated and gentle, I considered them to be playing. Possibly courtship was also involved.

All of these instances fit Fagen's definitions, and so can reasonably be considered play. However, it is possible that, because my observations were opportunistic and I was observing free-living birds in the field, I missed the normal consummatory acts that took place out of my sight and after a delay. Description of perhaps hitherto unrecognized play in many taxa of birds will ultimately lead to an understanding of avian play equivalent to our understanding of mammalian play.

REFERENCES

- FAGEN, R. 1978. *Animal Play Behavior*. Oxford : Oxford Univ. Press.
- PELLIS, S.M. 1981. Exploration and play in the behavioral development of the Australian Magpie *Gymnorhina tibicen*. *Bird Behav.* 3:37-49.

ACKNOWLEDGEMENT

This work was supported by the National Science Foundation (Grant No. INT- and BNS-8412623).

ELEANOR D. BROWN, Department of Psychology, University of Maryland, College Park, MD 20742, U.S.A. Current address: Department of Vertebrate Zoology (Birds), National Museum of Natural History, Smithsonian Institution, Washington, D.C. 20560, U.S.A.

MASS MORTALITY OF THE BUFF-BANDED RAIL

TERRY WALKER

Mass mortality of Buff-banded Rails *Rallus philippensis* was observed twice during regular visits to islands in the Capricorn and Bunker Groups near Gladstone between 1983 and 1986. On 10 August, 1984 eighteen dead Rails were found scattered throughout Masthead Island. Some were decomposed and estimated to have been dead for weeks but others had died very recently. One live bird staggered around and died while under observation. There were no marks on the body of this bird and the plumage was in excellent condition. Bodies were still present on 15 September. On 29 September, 1985 fourteen dead Rails were seen on Lady Musgrave Island in similar circumstances.

Several dry carcasses or remains of Rails were recorded on Masthead Island in October 1910 by Campbell and White (1910) who stated "As there were no cats or other enemies likely to kill these birds in this secure retreat, it was a mystery how they came to be destroyed". Normally it is rare to find a Rail body on the islands. The cause of the deaths is presumably disease. Starvation is unlikely since Rail populations were at the same times healthy on adjacent islands a short flying distance away.

Islands offer certain advantages for the study of bird biology. They have relatively isolated populations, sharp physical boundaries and low numbers of interacting plant and animal species. Predators are often absent enabling observation of populations controlled only by availability of food, social behaviour or disease. On most Capricorn-Bunker Islands there are no animals that remove dead or dying adult Rails although Eastern Reef Egrets *Egretta sacra* predate chicks and White-bellied Sea-Eagles *Haliaeetus leucogaster* might take an occasional sick Rail that ventures out from the vegetation cover. Feral cats apparently prevent Rails from populating Northwest Island and rats may prevent Rails from populating Wreck and Fairfax Islands. Disease epidemics presumably occur in mainland populations but are less likely to be noticed because dead and dying birds are consumed by predators or scavengers. Possibly disease outbreaks are more frequent or severe on some islands because in the absence of

predators the Rail populations are able to build up to crowded levels that facilitate contamination and spread from a single infected bird. On the Capricorn-Bunker Islands disease might also be contracted from the large colonies of nesting seabirds. In July 1986, for example, there was mass mortality of the Black Noddy *Anous minutus* populations on these islands.

REFERENCE

CAMPBELL, A.J. and WHITE, S.A. 1910. Birds identified on the Capricorn Group during expedition of R.A.O.U., 8th to 17th October, 1910. *Emu* 10:195-204.

T.A. WALKER, P.O. Box 1479, Rockhampton, Qld. 4700.

BOOK REVIEW

BIRDS OF NORFOLK ISLAND by Neil Hermes. 21cm x 14.5cm 65 pages. Paperback \$16.95 including single copy postage from Neil Hermes, 17 Maygar St., Hughes, ACT 2605. Published by Wonderland Publications.

The Australian National Parks and Wildlife Service has been assisting the Norfolk Island Government in conservation programs. As part of this assistance, Mr. Neil Hermes of the ANPWS, was seconded as a full time conservation officer from 1983 to January 1986. As well as acting as Manager of the Norfolk Island Park, he has been working on such projects as the elimination of rabbits from Philip Island, one of the uninhabited islands in the Norfolk Island group.

Neil Hermes has now produced a very attractive book on the birds of Norfolk Island. It starts with a short introduction on the various habitats on the Island and then the book devotes a page to every common bird recorded on Norfolk Island, native or introduced. It is illustrated with a photograph or drawing of these birds, including recently extinct species, and also the quite large list of introduced species. A list of vagrant species is also provided. This is certainly a "must" book for anyone who intends to visit Norfolk Island or who is interested in the birds of the South Pacific.

Personally I would have liked to see a couple of maps, one to inform the geographically ignorant, like myself, where Norfolk Island is, and another of Norfolk Island itself showing the best bird-watching areas. However with the current value of the Australian dollar the price is certainly reasonable and there is a considerable discount for bulk purchase. Mr. Herme's royalties from this book will be donated to groups working on conservation on Norfolk Island.

TIM MURPHY, 1 Maker St., The Gap. Q. 4061

INSTRUCTIONS TO AUTHORS

The Sunbird is published quarterly by the Queensland Ornithological 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 ornithology, 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.

Tables and Figures should be numbered with Arabic numerals. Drawings and diagrams should be in Indian Ink on cartridge paper or tracing cloth. If authors cannot arrange suitable drawings, the editor may arrange the drawing of figures and diagrams. Authors may submit photographs (preferably black and white) with their manuscripts.

Reprints are not supplied gratis. Authors may order reprints within one month after publication.

Manuscripts should be sent to:

The Editor, *The Sunbird*, Queensland Ornithological Society,
P.O. Box 97, St. Lucia, Queensland 4067.