An annotated list of 207 species of birds recorded in the Marburg district in South-East Queensland between 1977 and 1987 is presented. Breeding was confirmed for 80 species. Sixty-five species were recorded on more than half of the 153 visits in the first eight years, and 49 on five or fewer of these visits.

INTRODUCTION

This paper reports on the birds of a farming district in sub-coastal South-East Queensland, hereafter referred to as the Marburg district. Its ornithological interest stems from its diversity of habitats and especially the remnants of Brigalow-softwood scrub.

We are not aware of other surveys of birds in the district, although information is available for several districts in the coastal lowlands of southern Queensland (see Porter, 1982) and also for the Murphy's Creek district 50 km west (Lord, 1956). We therefore annotate information, including breeding records, that we have obtained between 1977 and 1987.

STUDY AREA AND METHODS

The Survey Area

The district surveyed was within 10' grid square centred on 27° 35' S, 152° 35' E (Fig.1). Its area is approximately 300 sq km. Rosewood, the largest town (population 1600), is in the extreme south. Marburg, 40 km west of Brisbane, is near its centre.

The district immediately to the west, i.e. that centred on 27° 35' S, 152° 25' E, with Laidley as the principal town, was less intensively surveyed by one of us (GJL) for the RQOU Atlas (Blakers et al, 1984) from 1977 - 1982. The avifauna of the two areas was very similar, reflecting the generally similar habitat and land use, so some information which complements the Marburg records is incorporated in this paper.
Fig. 1. The Marburg District, showing places mentioned in the text, roads and tracks traversed, and contours at 100 m intervals.
Physiography, Vegetation and Land Use

The landscape of low hills and broad alluvial valleys is dominated by the Marburg and Minden spurs of the Little Liverpool Range which rises to a maximum height of 396 m. The free-standing volcanic plug of Mt. Marrow is also conspicuous at the eastern margin. Drainage, by intermittently flowing small creeks, is predominantly northwards to the Lockyer Creek catchment of the Brisbane River valley.

The district has a mean annual rainfall of 780 mm, with 70% falling from October through March. During our survey period 12-month rainfalls ranged from 566 mm in 1981-1982 to 951 mm in 1983-1984.

Much of the district has fertile Prairie soils and grey cracking clays (Anon., 1974). These soils were originally covered with low closed-forest and Brigalow-softwood open-forest (Anon., 1974; Johnston, 1979; J.A. Elsol, in preparation): we collectively refer to this vegetation as softwood scrub.

Principal trees include Brigalow, *Acacia harpophylla*, and species of Sapindaceae, Euphorbiaceae, Moraceae and Rutaceae. Most of the softwood scrub was cleared over the last century for dairy farming. The district is now mostly grazed by beef cattle and horses or under occasional cropping. Small remnant areas of softwood scrub, many less than 1 ha and some in the form of roadside galleries, are still widespread.

Some of the low hilly terrain, especially along the catchment of Woolshed Creek, has thin solodic soils and these support open forest. Spotted Gum *Eucalyptus maculata* is one of the commonest trees, with ironbarks *E. crebra*, *E. melanophloia* and *E. fibrosa* and Smooth-barked Apple *Angophora costata* frequent. Blue Gum *E. tereticornis* occurs in low-lying areas. These forests have a light shrubby understory, including some Lantana *Lantana camara*. On the lower slopes they have mostly been cleared or ring-barked. The single extensive eucalypt forest (mainly Spotted Gum) was at Tallegalla (Fig. 1).

The small creeks are typically bounded by galleries of River Tea Tree *Melaleuca bracteata* in the middle reaches. Downstream, and especially north of the Warrego Highway, they
meander through broad alluvial valleys which are intensively grazed or cropped. Blue Gum is common on the alluvial plains.

The valleys contain numerous small swamps, waterholes and farm dams. Prenzlau swamp at the outlet of Woolshed Creek is the largest and can cover 100 ha after flood rains. When flooded, all except the deepest central hectare or so of this swamp is dominated by a dense stand of *Eleocharis* sp., but at other times it is dominated by Water Couch *Paspalum paspalodes*.

One of the most regularly visited older dams was at Minden. It is permanent with a maximum depth of about 2 m. The shallower water near the margins supports hydrophytes (e.g. *Nymphaea*, *Ludwigia*, etc.), some with large floating leaves. About half the margin supports a 1 m wide band of virogaous bullrushes *Typha* sp.. In contrast, many dams excavated over the last decade or so usually lack diversity in floristics and vegetative structure.

**Survey Procedures**

Our observations commenced in June 1977. In this paper each year is from June through May. The annotated list is based mainly on information obtained over the first eight years, i.e. from 1977 to 1984. However, for completeness, we have also incorporated information on unusual species obtained subsequently, i.e. between June 1985 and May 1987.

Visits were mostly between about 0700 h and 1600 h. Observations of birds seen or heard were mostly made whilst walking or driving along secondary roads and bush tracks. Most visits were to areas south of the Warrego Highway, but there were sufficient visits north of the Highway to ensure that all habitats were surveyed. One of us (GJL) was on every visit, and on the majority of them accompanied by one or more experienced observers. From 1984 onwards ten additional visits of three to four hours' duration were made after dusk, with spotlights, to record nocturnal species. Most nocturnal surveys were necessarily confined to the Spotted Gum Forest at Tallegalla to avoid disturbing local people.

Visits were evenly distributed over the four seasons in each year. Cumulative species lists were compiled for visits in winter and spring of 1977; thereafter separate lists were
kept for each visit. There were 5 (plus the two cumulative lists), 9 and 14 lists for 1977, 1978 and 1979 respectively, and 23-31 lists for each subsequent year. This gave 153 individual lists for the first eight years, and these were used to calculate the frequency percentages in the annotated list (Appendix 1):

\[
\text{Frequency percentage} = \frac{\text{Number of lists on which the species was recorded}}{\text{Total number of lists}} \times 100
\]

A few visits were solely for nocturnal species, or solely for water birds, so even abundant and conspicuous species such as the Torresian Crow appear in the annotated list with slightly less than 100% frequency, i.e. frequency percentage is slightly underestimated.

Although we did not systematically search for evidence of breeding, confirmed breeding is indicated in Appendix 1.

**RESULTS AND DISCUSSION**

We have recorded 207 species in the Marburg district (Appendix 1). This represents one-half of the species listed by Roberts (1979) for the whole of South-East Queensland, an area over 100 times as large as the district we studied, covering a much wider range of habitats including littoral. Roberts (1979) lists 72 species from 10 seabird families and 39 species from four predominantly shoreline families (the waders). However, we recorded 11 of the wader species. We have therefore recorded within the Marburg District about two-thirds of the species of non-maritime birds on the South-East Queensland list. The one degree square in which Marburg is located contributed 343 species to the RAOU Atlas (Blakers et al, 1984), but it also includes littoral and other habitat not represented in the Marburg district.

Lord (1956) recorded approximately the same number of species (215 currently recognised) at Murphy's Creek over a period of 50 years as we recorded at Marburg. However there were differences between our lists. The two districts are similar in area, but Murphy's Creek is more rugged and has a much larger area of eucalypt forest. Marburg has better representation of birds associated with inland districts, e.g. Masked and White-browed Woodswallows. Marburg also has fewer honeyeater species. Some species only on the
Murphy's Creek list were either in decline or locally extinct when it was completed, e.g. Bush Thick-knee and Black-throated Finch.

Whilst the range in frequency between years is not presented here, it was very large for some species. In those such as the Great Egret (0-80%) and Sacred Ibis (20-86%), it reflected sporadic use of the district. On the other hand for species such as the Spotted Turtle-Dove (40-91%) and Laughing Kookaburra (20-90%), which have high mean frequencies of 76% and 85% respectively, the lower limits of the range reflected the restricted intensity of observation in 1977 and to a lesser extent also in 1978.

The list includes 65 species which were recorded on half or more visits, indicating that they were either relatively abundant or easily detected or both. Among these the 27 non-passerines include 16 associated with wetlands, plus doves, parrots, Laughing Kookaburra and Pheasant Coucal. The 38 passerines include several small species (White-throated Gerygone, thornbills, White-browed Scrubwren, Speckled Warbler) as well as the more conspicuous Black-faced Cuckoo-shrike, butcherbirds, Australian Magpie and Torresian Crow.

Breeding was confirmed for 36 non-passerines and 44 passerines.

Long-term surveys involving many visits to the same district are particularly useful for recording locally infrequent species. Over the first eight years 73 species were recorded on 15 or fewer occasions (i.e. <10% of visits), and 49 of them on five or fewer occasions (i.e. <3% of visits). Breeding was confirmed for only four of them (Wandering Whistling-Duck, Australian Brush-turkey, Painted Snipe and White-winged Triller).

For some species the small number of records reflects few visits to suitable habitat, and also to limited representation of such habitat. The small number of visits to the closed-forests occupying the tops of the ranges undoubtedly has contributed to the low frequency of species such as Australian Brush-Turkey, fruit-doves, Yellow-eyed Cuckoo-shrike, Little Shrike-thrush, Brown Gerygone and the bowerbirds.
The few records of owls and other nocturnal species reflects the small number of nocturnal visits, mainly confined to the Spotted Gum Forest. More intensive searching for nocturnal species since 1985 has indicated that some are quite frequent, e.g. White-throated Nightjar and Tawny Frogmouth. Additional nocturnal searches outside the Spotted Gum Forest would undoubtedly have provided more records of species such as the Barn Owl.

Detailed comments on the significance of records of infrequent species would be tedious, so remarks in the following paragraphs are confined to 12 of the more important of them. Brief comments on some other species are incorporated in Appendix 1.

The Little Bittern around the dam at Minden was recorded on only eight occasions in six consecutive years. All records were made during summer and autumn, i.e. in its breeding season (Beruldsen, 1980). It may therefore be using this site for breeding, dispersing afterwards.

Three ducks (Magpie Goose, Wandering Whistling-Duck and Cotton Pygmy-Goose) are predominantly low latitude, tropical species, and two are predominantly high latitude species (Chestnut Teal and Musk Duck) : the Marburg district is at about the limits for all of them (Frith, 1967). There were no more than three records for each.

The initial observations of Australian Brush-turkey, including mounds, were from within closed-forest high on the Minden and Marburg Ranges. However, during 1985-1986 we recorded Australian Brush-turkeys in tall eucalypt trees on two separate occasions. This species was very common before clearing of the land for farming at the end of the Nineteenth Century (Lord, 1956). All our observations were in or near lantana scrub, so they are consistent with Lord's (1956) remark that they adapt well to the spread of lantana in South-East Queensland.

The lack of records for the Powerful Owl is consistent with its rarity in South-East Queensland (Roberts, 1979), but it did breed over several years at Murphy's Creek (Lord, 1956). Our two late records suggest a more concentrated search to determine its status may be worthwhile.
Nearly all records of the Blue-winged Kookaburra were from the Blue Gums around Prenzlau Swamp - a habitat also used by its congener. This is one of a few isolated populations in the Brisbane Valley and its tributaries (Roberts, 1979). Our observations suggest it is associated with mature Blue Gums near large swamps and dams, as well as the riverine habitat suggested by Roberts (1979).

Two of the robins are rare east of the Great Dividing Range (Roberts, 1979). The Scarlet Robin was recorded three times in 1981 in the Spotted Gum forest at Tallegalla. It is a southern Australian species, but quite common in the Granite Belt of South-East Queensland, and has even been recorded much further north (Broadbent, 1888). It was recorded once at Murphy's Creek in the first half of this century (Lord, 1956). We are not aware of any other records in or near the Marburg district in 1981, so our records may have represented isolated sightings, although at localities 2 km apart in the same forest, rather than an influx. Cold spells were more severe in the following winter, yet we did not record it again. The Red-capped Robin is a widespread species, but usually much more common west of the Great Dividing Range (Pizzey, 1980). The only recent records east of the Range in South-East Queensland apart from our two were near Ipswich in May 1972 (Queensland Ornithological Society Newsletter, May 1972) and April 1980 (Queensland Ornithological Society Newsletter, June 1980).

Despite the extent of apparently favourable habitat along creeks, in swamps and around older dams, there were only three records for the Little Grassbird. However, unless it is calling it is easily overlooked and therefore may be more frequent than our records suggest.

CONCLUSIONS

Our observations confirm that the Marburg district is rich in bird species, although at least one-third of them are infrequent to rare and are unlikely to be recorded by occasional observers. Some of the factors contributing to the species richness will be examined in a separate paper. However, interspersion of wetlands, softwood scrub and eucalypt forests through farmlands provides a diversity of habitats. The diversity enables the district to retain birds which have restricted habitat ranges as well as those which survive in a
wide range of habitats. It will be important to maintain habitat diversity if the number of bird species is to be maintained, particularly to ensure that closed-forests are retained.

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REFERENCES


APPENDIX 1

ANNOTATED LIST OF BIRDS.

The frequency percentage with which species were recorded over the first eight years follows the scientific name. Confirmed breeding is indicated by "B". Information on habitats, dates of observations, is then annotated. Additional information on unusual species obtained between June 1985 and May 1987, i.e. after the first eight years, and on species first recorded after June 1985 is enclosed in square parentheses []. Recorders of unusual species are indicated by their initials in parentheses (see acknowledgements for names), except for joint observations by the authors. Plumages are indicated with "m" for male, "f" for female and "imm" for immature.

Australasian Grebe Tachybaptus novaehollandiae 97% B. Singly or in small groups on most dams.

Australian Pelican Pelecanus conspicillatus 10%. Transient, December 1977, January 1980, June 1981 to October 1983. Individuals or small flocks on larger dams, up to about 20 at Prenzlau swamp.

Darter Anhinga melanogaster 16%. Individuals or pairs at dams. Regular in late autumn, less frequent at other times.

Great Cormorant Phalacrocorax carbo 7%. Seven of the ten records between 1977 and 1979.

Pied Cormorant Phalacrocorax varius 1%. One record, 29 March, 1981.

Little Black Cormorant Phalacrocorax sulcirostris 82%. B. Dams and swamps. Breeding colony of up to 40 nests in Brigalow at Minden Dam in spring and summer from January 1981 to November 1984.

Little Pied Cormorant Phalacrocorax melanoleucos 87%. B. Similar habitat to the preceding species and breeding with it in Brigalow at Minden Dam from January 1981, but was apparently displaced by it to River Tea Tree from February 1982.
Pacific Heron *Ardea pacifica* 46%. Usually singly in or near flooded pastures and swamps. Most frequent in winter, least in spring. Few records for 1981-82 and 1983-84.

White-faced Heron *Ardea novaehollandiae* 84%. Usually singly at swamps and dams; flock of over 20 at Prenzlau swamp in May 1984.

Cattle Egret *Ardeola ibis* 90%. Appears to have become more abundant during survey period; numerous at the end. Regular night roost in Brigalow and River Tea Tree at Minden Dam, sometimes over 200 birds, with other smaller roosts in the district.


Intermediate Egret *Egretta intermedia* 60%. Usually singly, at swamps and dams. Few records in 1983-84.

Rufous Night Heron *Nycticorax caledonicus* 3%. Individuals at daytime tree roosts by creeks near Rosewood and around Prenzlau swamp.


Black-necked Stork *Xenorhynchus asiaticus* 1%. One at a small swamp near Rosewood, 15 June, 1980; pair at Prenzlau swamp, 23 September, 1984. [One at Haigslea, 9 June and 1 December, 1983; one at Prenzlau swamp, 1 December, 1985 and 2 February, 1986.]
Glossy Ibis *Plegadis falcinellus* 20%. Most numerous at Prenzlau swamp, occasional flocks of about 50 birds. Absent in 1981-82 and 1983-84.


Straw-necked Ibis *Threskiornis spinicollis* 75%. More frequently seen away from swamps than the two previous species. Flocks of up to about 400 on irrigated pastures. Less frequent in spring.


Magpie Goose *Anseranas semipalmata* 1%. Ninety-six feeding on Prenzlau swamp, 10 June, 1984, after a few wet days (GL/CW). Residents reported over 100 roosting in Blue Gums at Minden on 13 May, 1985, decreasing to 80 on 18 May, then not seen again.


Plumed Whistling-Duck *Dendrocygna eytoni* 32%. Predominantly in summer, all records for Marburg district between 20 August and 27 May. Over 500 at a Prenzlau farm dam, April 1985. However, large flocks were recorded in winter in the Laidley district.

Black Swan *Cygnus atratus* 18%. B. Most records from Prenzlau swamp, less frequent in summer. Several successful nests.

Pacific Black Duck *Anas superciliosa* 96%. B. On most dams and swamps.

Grey Teal *Anas gibberifrons* 67%. B. On fewer dams and swamps than the Pacific Black Duck.
Chestnut Teal *Anas castanea* 1%. Prenzlau swamp; male and female on 7 September, 1984 and a male on 19 May, 1985. [Three males at Prenzlau swamp, 14 July, 1985.]


Pink-eared Duck *Malacorhynchus membranaceus* 8%. Most records from a large farm dam at Malabar. Flock of 19 at Malabar on 5 May, 1985, pairs displaying. Four were also displaying on 18 May, 1980. No records between 27 February, 1983 and 5 May, 1985. [Additional records on 9 June and 14 July, 1985.]

Hardhead *Aythya australis* 65%. Mainly, and regularly, seen on a few larger dams. Few records in winter and spring of 1983.

Maned Duck *Chenonetta jubata* 39%. B. Irregularly at dams. Makes more use of small dams within Spotted Gum forest at Tallegalla than other ducks. Fewer records in autumn.


Musk Duck *Biziura lobata* 1%. One male at Minden, 20 August and 24 September, 1978, when the water level was high.

Black.shouldered Kite *Elanus notatus* 32%. Farmlands. Records less frequent in later years, also mostly from winter and spring. Breeding in the Laidley district in February 1980 and February-March 1982.


Whistling Kite *Haliastur sphenurus* 9%. Prenzlau swamp.

Brown Goshawk *Accipiter fasciatus* 10%. Mainly in autumn and winter.
Collared Sparrowhawk *Accipiter cirrocephalus* 3%. In or near Spotted Gum forest, Tallegalla. [Five records between July 1985 and May 1987, two over remnant softwood scrub.]

Grey Goshawk *Accipiter novaehollandiae* 1%. On Bunya Pine *Araucaria bidwillii* at Mt. Marrow, 8 August, 1982; also at Haigslea, 22 January, 1984. This raptor is usually associated with wet sclerophyll and rain forest: the Marburg district is probably marginal for it.

White-bellied Sea-Eagle *Haliaeetus leucogaster* 3%. One hunting over Prenzlau swamp on four occasions from 2 September to 7 October, 1984. It has bred regularly at Atkinson's Dam, only 10 km from Prenzlau.

Wedge-tailed Eagle *Aquila audax* 25%. B. Pair often over open ranges, most records in autumn and winter. Regularly nests on the Little Liverpool Range, Tallegalla (L.S. Compson, pers. comm.).

Little Eagle *Hieraetus morphnoides* 1%. One over Marburg Range, 16 May, 1982 (PV).

Spotted Harrier *Circus assimilis* 5%. Mainly July and August, from Haigslea and on the Little Liverpool Range, Tallegalla.

Marsh Harrier *Circus aeruginosus* 4%. One from Minden on 2 March, 1980, one at Haigslea 5 May, 1985, remainder over Prenzlau swamp between 7 May, 1984 and 10 February, 1985.


Australian Hobby *Falco longipennis* 5%. Open farmlands at Haigslea; 4 of the 8 records in 1980-81. [Five additional records; June 1985 to February 1987.]

**Australian Kestrel** *Falco cenchroides* 89%. B. Several pairs on open farmland, especially around Haigslea-Malabar. [Feeding young in hollows of dead Blue Gums; at Minden, 1 December, 1985, and at Prenzlau, 16 November, 1986.]

**Australian Brush-turkey** *Alectura lathami* 3%. B. Closed-forest near tops of Marburg and Minden Ranges, also one flushed from Lantana at Malabar, 12 February, 1985. One active mound noted on 31 May and four on 13 September, 1981. [Recorded in a Blue Gum at Malabar on 9 March and in a Spotted Gum on 5 May, 1986, and in closed-forest at Perrys Knob and at Minden on 8 May, 1987.]

**Stubble Quail** *Coturnix novaezelandiae* 10%. Occasionally seen emerging from rank grass.

**Brown Quail** *Coturnix australis* 14%. Similar habitats to the Stubble Quail.

**Painted Button-quail** *Turnix varius* 5%. Records from Spotted Gum forest at Tallegalla since 17 October, 1982. Group of seven on 9 September, 1984.

**Black-breasted Button-quail** *Turnix melanogaster*. B. Characteristic scrapes have been seen in and around softwood scrub, especially beneath Lantana. Residents have occasionally seen it (D. Bennett and R. Kerle, pers. comm.). G.R. Beruldsen (Queensland Ornithological Society Newsletter, March 1987, and pers. comm.) reported breeding at the northern margin of the district.


**Bush-hen** *Gallinula olivacea*. One at the edge of the Warrego Highway, 1 km west of Marburg and adjacent to a farm dam, 9 May, 1987 (CL).

**Dusky Moorhen** *Gallinula tenebrosa* 96%. B. Individuals or groups on most dams and swamps.

**Purple Swamphen** *Porphyrio porphyrio* 80%. B. Over 100 at Prenzlau when swamp grasslands were growing prolifically in 1983-84. Consistently 20 or more on a dam choked with Water Hyacinth *Eichhornia crassipes* at Tallegalla.
Small numbers around other dams with rank marginal vegetation.

**Eurasian Coot** *Fulica atra* 85%. B. Numbers appear to fluctuate more than for the two previous species.

**Comb-crested Jacana** *Irediparra gallinacea* 35%. B. Pairs on most dams with *Nymphaea* spp. and/or other floating aquatic plants. Often numerous, up to 30 or more, in short (0.1-0.2 m) Water Couch expanse in shallow water at Prenzlau swamp. Immatures often with adults in mid-summer.

**Painted Snipe** *Rostratula benghalensis* 1%. B. Prenzlau swamp. First record on 23 September, 1984 (m), again on 28 September, 2 and 21 October. [Two (m + f) on 17 November and 4 (3m + 1f) on 23 December, 1985.] Observations on this rare species, including a report of a nest found on 5 January, 1986 with 4 eggs, are discussed by Leach *et al* (1987).

**Masked Lapwing** *Vanellus miles* 92%. B. Farmlands and swamplands.

**[Lesser Golden Plover** *Pluvialis dominica*. Four in short Water Couch around Prenzlau swamp on 3 November, 1985. It is a common coastal species, but seldom recorded in sub-coastal swamps.]


**Black-fronted Plover** *Charadrius melanicops* 34%. B. Pairs or small groups around dams when muddy shores are exposed. No records 15 May, 1983 to 18 March, 1984. [Immatures at Prenzlau swamp on 17 November, 1985 and at a Malabar dam on 2 February, 1986. Nest with two eggs at Haigslea, 12 October, 1986.]
Black-winged Stilt *Himantopus himantopus* 50%. B. Occasional large numbers (100 or more) at Prenzlau swamp, pairs or small groups at other swamps and dams. Nest with 4 eggs, Tallegalla, 9 December, 1984 [and at Minden on 2 November, 1986.]

[Wood Sandpiper *Tringa glareola*. One at the edge of a muddy depression at Prenzlau swamp on 18 January, 1986, with about 20 Sharp-tailed Sandpipers. Although this species is rare in South-East Queensland, it has been recorded at other swamps near Lockyer Creek (Roberts, 1979).]

Latham's Snipe *Gallinago hardwickii* 22%. Individuals or pairs around dams, occasional flocks at Prenzlau swamp (12 on 11 October, 1984). Migrant; records between 24 August and 13 March, [but first record on 10 August in 1986].

Sharp-tailed Sandpiper *Calidris acuminata* 2%. Small flocks at Prenzlau swamp on 6 March, 13 March and 10 April, 1983. [Up to about 50 at Prenzlau swamp between 22 December, 1985 and 16 March, 1986, as water level receded.]

Whiskered Tern *Chlidonias hybridus* 2%. One at Haigslea, 14 December, 1980; flocks of 10 or more at Prenzlau swamp, 21 November and 26 December, 1982.

Rose-crowned Fruit-Dove *Ptilinopus regina* 1%. Feeding on Small-leaved Fig *Ficus obliqua* var. *petiolaris* on Little Liverpool Range, 20 January, 1980 (2) and 16 December, 1984 (1).

Topknot Pigeon *Lopholaimus antarcticus* 1%. One feeding on Moreton Bay Fig *F. macrophylla*, Little Liverpool Range, 4 April, 1982.

Feral Pigeon *Columba livia* 81%. B. Mostly near farmyards.

Spotted Turtle-Dove *Streptopelia chinensis* 76%. B. Makes more use of remnant softwood scrub than the Feral Pigeon. Nest in softwood scrub, Malabar, 25 September, 1983.

Brown Cuckoo-Dove *Macropygia amboinensis* 1%. Single birds in dense Brigalow-softwood scrub at Malabar, 10 August, 1980 (CL) and north of Minden, 31 May, 1981.
Peaceful Dove *Geopelia placida* 93%. B. Ubiquitous, but more frequent in farmlands and softwood scrub than in Spotted Gum forest.

Bar-shouldered Dove *Geopelia humeralis* 95%. B. Mainly in or near softwood scrub remnants.

Emerald Dove *Chalcophaps indica* 5%. In Brigalow-softwood scrub on Minden Range, 31 May, 1981; other records from softwood scrub galleries. [Also on 7 December, 1986, 15 March and 9 May, 1987.]

Common Bronzewing *Phaps chalcoptera* 16%. B. Infrequent. Mainly in or near eucalypt associations, occasionally in open (thinned) Brigalow. Nest with 1 egg in Spotted Gum forest, Tallegalla, on 10 February, and two young on 3 March, 1985.

Crested Pigeon *Ocyphaps lophotes* 96%. B. Most frequent pigeon of farmlands. Flocks of 20 or more are regularly seen in autumn.

Wonga Pigeon *Leucosarcia melanoleuca* 1%. In a mature Brigalow stand on the Little Liverpool Range, 12 August, 1979 (J. Dunlop, pers. comm.); heard in scrub at Mt. Marrow, 29 March, 1981 (VS/DW).


Sulphur-crested Cockatoo *Cacatua galerita* 1%. One near Mt. Marrow on 12 February and three on 7 October, 1984.

Rainbow Lorikeet *Trichoglossus haematodus* 7%. Mostly in autumn through spring. [Two records in May - June 1986.]

Scaly-breasted Lorikeet *Trichoglossus chlorolepidotus* 61%. Most often seen feeding in flowering eucalypts, especially in the Spotted Gum forest.

Musk Lorikeet *Glossopsitta concinna* 1%. Five feeding on Spotted Gums at Tallegalla on 6 July and three on 27 July, 1980. It is regularly seen west of Cunningham's Gap, 50 km south-west (Roberts, 1979), but seldom east of the Dividing Range.
Little Lorikeet *Glossopsitta pusilla* 19%. Most records from in or near Spotted Gum forest at Tallegalla. Pairs investigating hollows in dead Blue Gums at Haigslea, 2 August, 1981, and in subsequent years.

**Australian King-Parrot** *Alisterus scapularis* 3%. Pair in a small Silver-leaf Ironbark *E. melanophloia* stand at Mt. Marrow on 29 April, 1984; also on 12 August, 1984. Pair in Spotted Gums at Tallegalla, 9 September, 1984; one on 24 March, 1985. [Five in Ironbarks near the top of the Little Liverpool Range, 7 February, 1987.]

**Cockatiel** *Nymphicus hollandicus* 40%. Farmlands, often feeding on or near sorghum and millet crops. Few summer records.

**Crimson Rosella** *Platycercus elegans* 1%. One in eucalypts near Mt. Marrow on 29 November, 1981 (VS) and two on 21 March, 1982 (VS).

**Eastern Rosella** *Platycercus eximius*. One in Brigalow around Minden Dam on 1 December, 1985 - possibly an escapee from nearby aviaries.

**Pale-headed Rosella** *Platycercus adscitus* 8%. Farmlands, softwood scrub galleries and eucalypt associations.

**Red-rumped Parrot** *Psephotus haematotus*. A male and female drinking at a small dam at Tallegalla, 2 February, 1986. Previously, it was recorded regularly in the Laidley district.

**Pallid Cuckoo** *Cuculus pallidus* 5%. Open farmland around Haigslea-Malabar, between 28 September and 19 October over four years. [Additional records on 13 October and 1 December, 1985, 2 February and 7 December, 1986, and 25 January, 1987.]

**Brush Cuckoo** *Cuculus variolosus* 18%. B. Most records from denser softwood scrubs or galleries at Malabar, all between 7 August and 16 May. Imm., Little Liverpool Range, 22 January, 1984.

**Fan-tailed Cuckoo** *Cuculus pyrrhophanus* 23%. Associated more with eucalypt forest than the Brush Cuckoo. Records throughout the year; most in spring.
Horsfield's Bronze-Cuckoo *Chrysococcyx basalis* 10%. Farm-lands. Records between 6 September and 7 May.


Little Bronze-Cuckoo *Chrysococcyx malayanus* 3%. In Spotted Gum forest at Tallegalla; 19 October, 1980 (DW), 5 December, 1982 (DW), 11 September and 9 October, 1983. [Additional records at same site on 13 October (ES/GL) and 1 December, 1985.]

Common Koel *Eudynamis scolopacea* 31%. B. Most records from farm and scrublands, all between 9 October and 15 March.

Channel-billed Cuckoo *Scythrops novaehollandiae* 22%. B. Seen more often in the Spotted Gum forest at Tallegalla than the Common Koel. Records between 23 September and 24 March. Courtship feeding and mating, 29 November, 1981 (PW) and 1 imm. in a group of four, 14 March, 1982, Tallegalla.

Pheasant Coucal *Centropus phasianinus* 61%. B. Softwood scrub, especially in Lantana. One young in Moreton Bay Fig, Little Liverpool Range, 4 April, 1982.

[Powerful Owl *Ninox strenua*. One seen at night on 14 December, 1986, perched on a dead ironbark in Spotted Gum forest at Tallegalla. One flushed from softwood scrub at Malabar in mid-morning, 12 April, 1987.]

Southern Boobook *Ninox novaeseelandiae* 1%. Heard during nocturnal visits.

Barking Owl *Ninox connivens* 1%. One in Hoop pine at Tallegalla, 3 July, 1983 (PG/DW).

Barn Owl *Tyto alba* 1%. One mobbed by Australian Magpies, Mt. Marrow, 12 August, 1979.
Tawny Frogmouth *Podargus strigoides* 5%. Seven records, including one road-kill and one whilst spotlighting. [Seven records between June 1985 and May 1987, three whilst spotlighting.]

Australian Owlet-nightjar *Aegotheles cristatus* 1%. Heard in early evening, 30 November, 1984, in Spotted Gum forest, Tallegalla. [Observed in the open at the same site at 1330 h on 11 January and flushed from a fallen tree on 12 April, 1987. Heard at night on four visits between July 1986 and May 1987.]


White-throated Needletail *Hirundapus caudacutus* 4%. Records between 25 November and 18 March. Flocks of up to 40 birds hawking over the ranges.

[Fork-tailed Swift *Apus pacificus*. Numerous at Tallegalla and Prenzlau on 22 December, 1985, outnumbered by White-throated Needletails in mixed flocks.]

Azure Kingfisher *Ceyx azurea* 7%. Minden Creek at Tallegalla and at Minden Dam. [Additional records on 23 June and 14 July, 1985 at Minden Dam.]

Laughing Kookaburra *Dacelo novaeguineae* 85%. Ubiquitous.

Blue-winged Kookaburra *Dacelo leachii* 7%. Small group resident alongside Prenzlau swamp; pair at Malabar, 12 August, 1979.

Forest Kingfisher *Halcyon macleayii* 1%. One at Minden in May 1982. [One at Prenzlau, January 1986.]

Sacred Kingfisher *Halcyon sancta* 46%. B. Most records from Spotted Gum forest at Tallegalla where it regularly breeds. Migrant, records between 22 July and 4 April.
Rainbow Bee-eater *Merops ornatus* 75%. B. Breeding colony in sand quarry at Malabar, regularly 30 or more birds until quarrying resumed in 1982, since then seldom more than 10 present.

Dollarbird *Eurystomus orientalis* 35%. B. Often on or near dead trees beside swamps. All records between 11 September and 30 March. [Young in hollow branch of dead Blue Gum, Prenzlau, 12 January, 1986.]

Singing Bushlark *Mirafra javanica* 10%. Infrequent. Over cultivated land or grasslands. All records between 7 September and 26 April predominantly in December and January. [Seen flying to the ground in grassland with food on 2 February, 1986, but we did not find any nestlings.]

White-backed Swallow *Cheramoeca leucosternum* 51%. B. Flocks of up to about 20 individuals are regularly around Malabar quarry where they breed alongside the Rainbow Bee-eaters. Occasional sightings elsewhere.

Welcome Swallow *Hirundo neoxena* 79%. Over farmland and swamps.

Tree Martin *Cecropis nigricans* 11%. B. Large flocks over Prenzlau swamp, breeds in dead Blue Gums. Most records in summer.

Fairy Martin *Cecropis ariel* 58%. B. Over farmland and swamps, nests under culverts.

Richard’s Pipit *Anthus novaeseelandiae* 37%. Grasslands.

Black-faced Cuckoo-shrike *Coracina novaehollandiae* 93%. Ubiquitous.

White-bellied Cuckoo-shrike *Coracina papuensis* 1%. One at Haigslea with Black-faced Cuckoo-shrikes, 3 August, 1980 (I. Weston, pers. comm.); one at Minden, 10 August, 1980 (CL). [One in Small-leaved Fig at Tallegalla on 2 March, and another in softwood scrub at Mt. Marrow on 5 May, 1986.]
Yellow-eyed Cuckoo-shrike *Coracina lineata* 1%. Two in a fruiting Small-leaved Fig, Tallegalla, 17 March, 1985. [Two in the same fruiting tree, 7 February, 1987.]

Cicadabird *Coracina tenuirostris* 13%. Nearly all records from Spotted Gum forest, Tallegalla, between 25 October and 14 March.

Ground Cuckoo-shrike *Coracina maxima* 2%. Flocks of 4 birds over Spotted Gum forest, Tallegalla, on 14 March and over Mt. Marrow on 21 March and 23 May, 1982. [Additional records on 28 July and 3 November, 1985.]

White-winged Triller *Lalage sueurii* 8%. B. Farmlands and softwood scrub remnants at Haigslea and Malabar. All records between 25 September and 16 December. Bred in hoop Pines and Fig, *F. watkinsiana*, in Haigslea churchyard.

Varied Triller *Lalage leucomela* 50%. Resident. Most records from softwood scrub galleries at Malabar and Tallegalla.

Rose Robin *Petroica rosea* 11%. Softwood scrub galleries and in Spotted Gum forest. All records between 21 April and 10 August.

Scarlet Robin *Petroica multicolor* 1%. Three records from Spotted Gum forest at Tallegalla (GL/TN); 21 June (m + f), 12 July (m + f) and 2 August (m), 1981.

[Red-capped Robin *Petroica goodenovii*. One male in softwood scrub gallery at Malabar on 5 May, 1986; a male and female in scrub approximately 0.5 km from the original sighting on 15 June, 1986.]

Eastern Yellow Robin *Eopsaltria australis* 43%. Brigalow, softwood scrub, and the shrub layer of the Spotted Gum forest at Tallegalla.

Jacky Winter *Microeca leucophaea* 14%. B. Mostly in or adjacent to Spotted Gum forest at Tallegalla. [Nest being constructed in a Spotted Gum, November 1985.]

Crested Shrike-tit *Falcunculus frontatus* 1%. Spotted Gum forest, Tallegalla, 13 March, 1982 (GL/TN). Although wide-
spread in South-East Queensland, it is uncommon (Roberts, 1979).

**Golden Whistler** *Pachycephala pectoralis* 35%. Infrequent. Brigalow, softwood scrub, denser gallery scrub and Spotted Gum forest. Only two records in summer.

**Rufous Whistler** *Pachycephala rufiventris* 87%. B. Brigalow, softwood scrub and eucalypt associations, extending into more open habitats than the Golden Whistler. [Feeding young in the Spotted Gum forest, Tallegalla, 9 February, 1986.]

**Little Shrike-thrush** *Culluricinclla megaphyncha* 1%. Two records from gallery softwood scrub at Malabar; 6 September, 1981 (DW) and 19 May, 1985.

**Grey Shrike-thrush** *Culluricinclla harmonica* 73%. Brigalow, softwood scrub and eucalypt associations.

**Black-faced Monarch** *Monarcha melanopsis* 10%. B. Brigalow and softwood scrub at Malabar and on the Little Liverpool Range. All records between 23 September and 1 April; three of immatures (14 February and 7 March, 1982, 13 March, 1983).

**Leaden Flycatcher** *Myiagra rubecula* 24%. B. Spotted Gum forest, also occasionally in Brigalow and softwood scrub. All records between 4 September and 29 March. Building a nest in Brigalow, Tallegalla, 12 October, 1980.

**Satin Flycatcher** *Myiagra cyanoleuca* 1%. Male in a softwood scrub gallery, Malabar, 25 October, 1981.


**Rufous Fantail** *Rhipidura rufifrons* 50%. B. Most records from Brigalow and softwood scrub, with a few from Spotted Gum forest. All records between 30 August and 10 April, except for one on 31 May, 1981. Nest with two eggs in a softwood scrub gallery, Tallegalla, 5 October, 1980.
Grey Fantail *Rhipidura fuliginosa* 48%. Generally observed in more open habitat than the Rufous Fantail. Winter visitor, between 18 March and 5 October.

Willie Wagtail *Rhipidura leucophrys* 98%. B. Most habitats except closed-forest.

Eastern Whipbird *Psophodes olivaceus* 72%. Softwood scrubs and Lantana, including Lantana in Spotted Gum forest at Tallegalla.

Grey-crowned Babbler *Pomatostomus temporalis* 66%. B. Groups often around small remnant softwood scrubs in grazed paddocks.

Clamorous Reed-Warbler *Acrocephalus stenotereus* 67%. B. Generally confined to reeds, especially around Minden Dam. Young at Minden, 18 November, 1984.

Tawny Grassbird *Megalurus timoriensis* 18%. B. In or near rank pastures in low-lying sites. Most records in summer, when its display flight is conspicuous. [Fledgling being fed at Malabar, 2 February, 1986.]

Little Grassbird *Megalurus gramineus* 1%. Calling from within sedges, *Eleocharis* sp., Haigslea, 2 March, 1980. Flying between clumps of Common Reed *Phragmites australis* along creek, Minden, 13 January, 1985. [Additional record from a creek with Bullrushes, Prenzlau, 7 December, 1986.]

Golden-headed Cisticola *Cisticola exilis* 82%. In or near rank grass, especially in wet low-lying areas. [Nest with three eggs in rank Rhodes grass *Chloris gayana*, Malabar, 9 February, 1986.]


Brown Songlark *Cinclorhamphus erubalis* 1%. One male over open grasslands at Prenzlau, 8 March, 1981.

Superb Fairy-wren *Malurus cyaneus* 97%. B. Groups frequent in softwood scrub galleries, especially in Lantana.
Variegated Fairy-wren *Malurus lamberti* 35%. Less frequent than the Superb Fairy-wren, seems to prefer more tree cover. Most records in spring.

Red-backed Fairy-wren *Malurus melanocephalus* 42%. B. Generally similar habitats and frequency to the Variegated Fairy-wren, but extends into Blady Grass *Imperata cylindrica* and taller swamp grasslands. Most records in spring and summer.

White-browed Scrubwren *Sericornis frontalis* 68%. Softwood scrub remnants which provide dense cover at ground level.

Speckled Warbler *Sericornis sagittatus* 61%. B. Softwood scrub remnants, and where a shrub layer is present in the Spotted Gum forest at Tallegalla. Fledgling by a nest beside a log in the Spotted Gum forest, 6 September, 1981.

Weebill *Sericornis brevirostris* 35%. B. Regularly and only recorded in Spotted Gum forest, Tallegalla. Lining a nest, 14 September, 1980. [Nest with two eggs, 6 July, 1986.]

Brown Gerygone *Gerygone mouki* 1%. Several on edge of closed-forest high on Perrys Knob, 27 July, 1980 (CL/GL); also in closed-forest high on Marburg Range, 31 May, 1981 (CL/GL).

White-throated Gerygone *Gerygone olivacea* 52%. B. Eucalypt associations, especially the Spotted Gum forest at Tallegalla. Feeding Bronze-Cuckoo fledglings in January 1982 (DW) and February 1986.

Buff-rumped Thornbill *Acanthiza reguloides* 36%. B. Small flocks regularly in shrub layer of Spotted Gum forest, Tallegalla. Nest commenced, 12 June, 1983.

Yellow-rumped Thornbill *Acanthiza chrysorrhoa* 59%. B. Forages around patches of softwood scrub in short grazed pastures, or shrubs and trees in gardens, school grounds and churchyards. Nests found in Brigalow and Hoop Pine.
Yellow Thornbill *Acanthiza nana* 90%. Frequently foraging on outer, upper canopy of Brigalow and such trees as the Small-leaved Brush Ironbark *Brigelia leichhardtii* of softwood scrub galleries. Individuals have rich yellow underparts. The most frequently recorded thornbill. Several breeding records.

Varied Sittella *Daphoenositta chrysopetra* 22%. Mostly in ironbarks in Spotted Gum forest, Tallegalla. Few records in summer.

White-throated Treecreeper *Climacteris leucophaea* 29%. Regularly and only recorded from Spotted Gum forest, Tallegalla.

Striped Honeyeater *Plectorhyncha lanceolata* 89%. B. Farmlands and softwood scrub galleries. Nests found in Brigalow and River Tea Tree.

Noisy Friarbird *Philemon corniculatus* 9%. Mostly from Spotted Gum forest, Tallegalla. Few records in June and July.

Little Friarbird *Philemon citreogularis* 15%. B. Similar habitat to its congener. Few records between June and August. [On a nest in Spotted Gum forest, Tallegalla, 22 December, 1985.]

Blue-faced Honeyeater *Entomyzon cyanotis* 1%. In Brigalow at edge of Prenzlau swamp with Grey-crowned Babblers, 23 September, 1984. [Observed at Haigslea on 6 April and near Mt. Marrow on 2 November, 1986.] It is common in adjacent districts so it is perhaps surprising that we have so few records.

Noisy Miner *Manorina melanocephala* 95%. B. Mainly in or near eucalypt stands, especially ironbarks at Malabar and Spotted Gums at Tallegalla.

Lewin's Honeyeater *Meliphaga lewinii* 93%. B. Mainly in denser softwood scrub, but also in Lantana understory of Spotted Gum forest at Tallegalla. Nestling on vine in Brigalow scrub, Tallegalla, 20 January, 1980.
**Yellow-faced Honeyeater** *Lichenostomus chrysops* 18%. Mostly in Spotted Gum forest, Tallegalla. All records between 18 March and 26 September.

**Fuscous Honeyeater** *Lichenostomus fuscus* 1%. Spotted Gum forest, Tallegalla, 10 August, 1980 (CL). It is generally uncommon in South-East Queensland (Roberts, 1979).

**White-throated Honeyeater** *Melithreptus albogularis* 51%. Eucalypt associations; mainly from Spotted Gum forest, Tallegalla.

**Brown Honeyeater** *Lichmera indistincta* 63%. B. Mainly in creek and roadside softwood scrub galleries. Fewer records in summer and autumn.

**Eastern Spinebill** *Acanthorhynchus tenuirostris* 8%. Mostly in Lantana, Malabar. Records between 14 March and 14 August. [Additional records from Spotted Gum forest, Tallegalla, on 9 June, 1985 and regularly between 5 May and 10 August, 1986, and in May 1987.]

**Scarlet Honeyeater** *Myzomela sanguinolenta* 31%. Frequent in winter and spring, occasionally in large numbers. Softwood scrub galleries; also in Spotted Gum forest at Tallegalla. No records between 5 December and 3 March.

**Mistletoebird** *Dicaeum hirundinaceum* 50%. B. Closely associated with mistletoes *Amyema* spp. in softwood scrub galleries and eucalypt associations.

**Spotted Pardalote** *Pardalotus punctatus* 19%. Infrequent. Nearly all records from Spotted Gum forest, Tallegalla. Flock of 50 or more moving NNE over forest, 27 March, 1983 (DW). Recorded between 14 March and 5 September, except for one record on 21 November, 1982.

**Striated Pardalote** *Pardalotus striatus* 75%. B. Recorded on farmlands to a greater extent than its congener. Regularly breeds in Malabar sand quarry and in creek banks in spring. Few records in summer.

**Silvereye** *Zosterops lateralis* 93%. B. Frequently around Lantana, also in open softwood scrub.
House Sparrow *Passer domesticus* 69%. B. Near settlements, especially long established farmyards.

Red-browed Firetail *Emberiza temporalis* 16%. Infrequent. Softwood scrub galleries and in the Spotted Gum forest at Tallegalla, especially in Lantana. Few records in summer.

Zebra Finch *Poephila guttata* 77%. B. Flocks of up to 50 or more in farmlands, especially feeding on seeds of introduced pasture grasses.

Double-barred Finch *Poephila bichenovii* 93%. B. More widely distributed through the district than the Zebra Finch, especially found more often in the Spotted Gum forest, Tallegalla. Less tendency to form large flocks. Nests with eggs in April, June and December.

Plum-headed Finch *Aidemosyne modesta* 1%. One in Bullrushes at Minden Dam, 10 May, 1981. [Two at the same site, 1 January, 1987.]

Chestnut-breasted Mannikin *Lonchura castaneocephala* 25%. B. Similar flocking habits to the Zebra Finch, but seems to prefer rank grasslands. Immatures at Haigslea, 30 August, 1981. Carrying nesting material, 6 November, 1983.


Common Starling *Sturnus vulgaris* 92%. B. Farmlands, especially pastures.

Common Myna *Acridotheres tristis* 35%. B. Farmlands and settlements. Initially only in west of the district, but at eastern boundary by December 1982. Overall frequency of recording has increased each year. Flocks of 30 or more were regularly seen at the end of the first eight years.

Figbird *Sphecotheres viridis* 84%. B. Flocks of up to about 20 are often in or near large fig trees. Regularly nested in Brigalows at Malabar.

Spangled Drongo *Dicrurus hottentottus* 27%. Infrequent. Mainly in softwood scrub galleries. Over half the records were in autumn; recorded every autumn.

Satin Bowerbird *Ptilonorhynchus violaceus* 1%. Pair (m + f) in Hoop Pine, Tallegalla, 14 February, 1982. [Male in softwood scrub, Perrys Knob, 8 May, 1987.]

Regent Bowerbird *Sericulus chrysocephalus* 2%. The Little Liverpool Range. Male, 22 July, 1979; female or imm. male, 15 June, 1980; pair (m + f), 12 October, 1980.

Australian Magpie-lark *Grallina cyanoleuca* 97%. B. Open farmlands, often near dams.

White-breasted Woodswallow *Artamus leucorhynchus* 5%. Prenzlau swamp, where groups of up to about 10 individuals hawk from the dead Blue Gums.


Grey Butcherbird *Cracticus torquatus* 81%. B. Farmlands and softwood scrub galleries. Appears to occupy eucalypt forest to a greater extent than the Pied Butcherbird.

Pied Butcherbird *Cracticus nigrogularis* 92%. B. Farmlands and softwood scrub galleries.

Australian Magpie *Gymnorhina tibicen* 97%. B. Farmlands, open softwood scrublands and eucalypt associations.

Pied Currawong *Strepera graculina* 37%. Mainly in or near Spotted Gum forest, Tallegalla. Fewer records in summer.

Torresian Crow *Corvus orru* 98%. B. All habitats, except closed-forest.

G.J. LEACH, 13 Wongabel Street, Kenmore, Qld. 4069.
H.B. HINES, 42 Pangeza Street, Stafford Heights, Qld. 4053.
NOTES ON RELATIONSHIPS BETWEEN OSPREYS AND OTHER BIRDS

T.A. WALKER

Three species of fishing raptor occur in Australia, the White-bellied Sea-Eagle Haliaetus leucocephalus, the Brahminy Kite Haliastur indus and the Osprey Pandion haliaetus. The first two are known to feed opportunistically on live prey or carrion but there do not appear to be any published references giving a comprehensive listing of recorded food items for these three birds. A search of the literature revealed that both the White-bellied Sea-Eagle and the Brahminy Kite have had the following items reported in their diets: fish, crustaceans, cuttlefish, snakes, lizards, turtles, birds and mammals (Grossman and Hamlet 1964, Smythies 1968, Frith 1976, Price-Jones 1983, Cayley 1984, Hollands 1984, Smith 1985). The Brahminy Kite also feeds on insects and frogs (Cupper and Cupper 1981) while the Sea-Eagle which is 5-6 times larger is known to take small crocodiles (Rand and Gilliard 1967) and starfish (author's pers. obs.). Both species may subsist with little or no fish in their diet. In contrast the Osprey is usually considered to be a specialized fish hunter although other food sources including marine snails, crustaceans, frogs, sea-snakes, lizards, birds and mammals have occasionally been reported in its diet (Grossman and Hamlet 1964, Price-Jones 1983, Smith 1985, Langford 1986).

In Australia there are few reports of birds in the diet of Ospreys (e.g. Banfield 1911, Serventy et al. 1971, Abbot 1982, Smith 1985). During several years of observation along the Great Barrier Reef I have many times observed Ospreys fishing but only once seen one carrying a bird. This was a Caspian Tern Hydroprogne caspia near Townsville. Banfield (1911) described 'Ospreys' hunting Torresian Imperial-Pigeons Ducula spirorrhoea and cockatoos (probably Cacatua galerita) at Dunk Island but his preceding description of aggression between Osprey and White-bellied Sea-Eagle suggests he may have had the names of the two species transposed.

Other species of birds seem to show less fear or aggression towards the Osprey than they show when White-bellied Sea-Eagles fly overhead. On two occasions, at Eshelby Island near Bowen (16/1/86) and East Rock in Whitsunday Passage (27/12/86), Crested Terns Sterna bergii nested in empty Osprey nests while the Ospreys were in the vicinity. This is a suit-
able arrangement since the terns are summer breeders while the Ospreys nest in winter. Two Ospreys were also seen feeding on fish in their nest within 2 m of nesting Silver Gulls Larus novaehollandiae at Pelican Rock in Keppel Bay (5/10/86). Winter breeding cormorants show little concern at the proximity of nesting Ospreys. At Dingo Beach Island (20°05'S, 148°31'E) on 1 July, 1985 an Osprey nest with two unfledged juveniles was situated in a colony of Pied Cormorants Phalacrocorax varius. The closest pair of nesting cormorants was incubating eggs one metre below the Osprey nest on the rock face. The cormorants had clearly chosen to place their colony at a site where the Ospreys were already nesting.

Ospreys may feed on birds only when the preferred marine food sources become scarce or they may take only the occasional infirm bird (or dead bird) that is easy prey. It has previously been noted that Brahminy Kites and White-bellied Sea-Eagles may sometimes show a preference for weak or disabled birds (Gilbert 1925, Price-Jones 1983).

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T.A. WALKER, P.O. Box 691, Townsville, Qld. 4810.
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RECORDS OF THE TRUMPET MANUCODE AND THE RARE BLUE-FACED FINCH IN A BIRD LIST FROM THE CARBINE TABLELAND, FAR NORTH-EAST QUEENSLAND

GARRY L. WERREN and GRAHAM C. BARWELL

During a field trip in December 1986 and January 1987 to the rainforests of far north-east Queensland two independent sightings were made of the Trumpet Manucode Manucodia ker-audreni by members of a party of researchers from the Australian Defence Force Academy, James Cook University and La Trobe University. These sightings were made in upland tropical rainforest on the Carbine Tableland, some 13 km west of Mossman and at a latitude of 16°28'S. One individual was heard calling (a distinctive brassy squawk) and then seen flying eastward over the major forestry road (Mt. Lewis Rd.) which climbs at that point to around 1100 m altitude, on 10.12.86. This was observed by the first author (GW) and M. Treererry. An independent sighting was made by J. McLaughlin (JM) on the same day at a point along the road a few kilometres south of the former sighting near the expedition base camp at 840 m. Some days later the call was again heard near the location of the first sighting.

These observations are of significance since they show the presence of the Manucode at points 280 km south of its presently known range. Blakers et al. (1984) specify its range as the northern portion of Cape York Peninsula and not extending south of about 13°40'S. Pizzey (1983) notes that it is a bird of "Cape York Peninsula proper" extending to theMcIlwraith Range and south to Chester R. (13°43'S) north of Coen. Resident ornithologist Hans Beste (pers. comm.) has not observed this species in the area but referred to an earlier sighting of this species at the Cairns Botanical Gardens (16°54'S) on 29.5.82 (Crowhurst 1983). A search through the literature in fact revealed four other records of the Trumpet Manucode south of the Daintree River. Banfield (1908) records them in his census of the birds of Dunk Island (17°57'S) for the period 1897-1906. He refers to the Manucode elsewhere in the same book as a casual visitor, arriving in December. Jackson and Frizelle (Jackson 1909) observed a Manucode in the "Tinaroo scrubs", about 20 km from Atherton. They were camped near the Barron River at the time, and although it is not possible to precisely locate
the record it can be assumed to be from an elevation well in excess of 600 m. Frizelle (Chisholm 1961) is reported to have seen one individual and heard others in the Clump Point area (17°52'S) west of Dunk Island in September 1911. A more recent record is that of Brickhill (Appleby 1986) taken on 22.9.85 at Kuranda (16°49'S).

The above records of the Trumpet Manucode appear to be reliable, although the early ones seem to have been overlooked by Storr (1973, 1984) by Forshaw and Cooper (1977) and Blakers et al. (1984 : 626). It is difficult to know whether the bird's appear so far south is a result of migratory or part-migratory/irruptive behaviour, since there is some dispute as to whether the bird migrates (c.f. Forshaw and Cooper 1977; Blakers et al. 1984). The fact that the bulk of the above records are in September-December may indicate some migratory behaviour or may simply mean that the bird is more vocal and easier to observe at this time.

The significance of the records at higher altitudes is similarly difficult to assess. In addition to the present records, Jackson's was taken from between 600-700 m and Brickhill's from around 300 m. In Australia the bird is said to be a lowland species (Blakers et al. 1984) or of tropical hill and lowland forest (Readers Digest 1986). However, Forshaw and Cooper (1977) cite New Guinea authorities who note its range extending to 2000 m altitude in Papua New Guinea. A possible explanation may derive from the rather unseasonally dry years in succession which have been experienced by the far north-east 'Wet' Tropics. These conditions may have prompted relatively unusual altitudinal shifts in some bird populations. Some corroboration of this may be the fact that a sighting was made of the Black-winged Monarch Monarcha frater by a member of the expedition (JM) in the Atherton upland forest of Lake Barrine (17°17'S, 145°28;E) on 8.12.86 at an elevation of 760 m. This appears to be the fifth record south of Cape York. The more recent of these records, i.e. that of Magarry in 1982 at Edmonton and another reported by her taken by a friend "some years ago at Mossman" (Magarry 1982), conform with the typically lowland habitat description (Blakers et al. 1984) of the species. Yet, other southerly records, one of several sighting from the Atherton Tableland (Bravery in Anon 1960) and that of Ramsay "from the Bellenden Ker Ranges ..." specimens of ... Monarcha canescens (syn. M. frater) (Anon. 1888), indicate that this species may well be observed at higher altitudes.
Also during the course of the Carbine expedition, a Blue-faced Finch *Erythrura trichroa* was taken from the lowest level of a CSIRO mist net positioned in upland tropical rainforest at an elevation of 840 m on 1.1.87. There is considerable debate regarding the range and status of this species. Pizzey (1983) notes that it may be "a disappearing species or recent immigrant to Lloyd and Double Is., highlands and foothills between Cairns and Innisfail," with few other records and "none recent" being reported. Blakers *et al.* (1984) note also that "since 1950 there have been no records south of 17°S" probably due to rainforest clearing which may be inducing a population decline in the southern part of the species' range. In the Mt. Carbine area it is most often encountered at lower altitudes along the Mt. Lewis forestry road near the cleared land/rainforest ecotone. GW has observed the species here on previous visits (1983, 1984). Local ornithologists Hans and Judy Beste and Dawn Magarry (pers. comm.) regard the Blue-faced Finch as a reasonably 'consistent' member of the Mt. Carbine Tableland bird assemblage, suggesting that this rare species is likely to be encountered by keen bird observers who visit the area.

In addition, the sighting of a group of quite unusual thornbills (see Appendix) near the expedition base camp at 840 m, warrants mention. Of the seven species of thornbill whose ranges are recorded in or extending to north-east Queensland, the only species with the red eyes and striped breasts of those sighted on the Carbine Tableland are the Brown Thornbill *Acanthiza pusilla* and the Inland Thornbill *A. apicalis*. It seems as if the nearest record of Inland Thornbills to the Carbine massif are from the Burra Range, between Charters Towers and Hughenden (20°44'S, 145°11'E). Brown Thornbills were collected by one of the Harold Hall Australian Expeditions at Mt. Dryander, around 13 km north-nor-west of Proserpine (20°15'S, 148°33'E) between 1-3 August, 1964 (Hall 1974). Presumably these birds were of the subspecies *mitchelli*, restricted to the Proserpine-Eungella area, according to Boles (1983) and Blakers *et al.* (1984) and illustrated in the *Slater Field Guide* (1986). While these records are a long way south of the Carbine Tableland, the sighting of these unusual thornbills can be seen in the context of unpublished observations of other ornithologists such as Hans and Judy Beste (pers. comm.) who have previously noted 'strange thornbills' in the vicinity, and of Les Moore and Frank Crome (pers. comm.) of the CSIRO Division of Tropical Forest Research, Atherton, who alluded to the possible existence of an undoc-
umented Acanthiza from the Carbine. What is included in the list (Appendix 1) may well be a previously unrecorded race of A. pusilla, however, this requires further investigation.

The unusual sightings outlined above, together with the many other bird species which were recorded (Appendix 1), commend the Carbine Tableland as an area of considerable ornithological significance. It is sincerely hoped that the extension of logging operations in these upland rainforests does not erode this significance.

REFERENCES


December 1987


This list was drawn up for the period 8 December, 1986 - 3 January, 1987. Observations were made from within 100 m either side of the Mt. Lewis forestry road which originates near Julatten on the Mossman - Mt. Molloy road and climbs into State Forest on the south-eastern portion of the Mt. Carbine Tableland massif. Indication of assessed abundance of each species is given using the letters R-rare, U-uncommon, C-common and A-abundant. A 'B' denotes a breeding record and 'low alt.' indicates an observation drawn from lower elevations along the road before the ascent to higher altitudes of the Carbine Uplands proper. Observers contributing to the list were G. Werren, J. McLaughlin, M. Tre reeny and A. Dennis.

Southern Cassowary Casuarius casuarius (U-many scats), Eastern Reef Egret Egretta sacra (R-dark phase), Grey Goshawk Accipiter novaehollandiae (U-white phase), Wedge-tailed Eagle Aquila audax (R), Little Eagle Hieraetus morphnoides (R - low alt.), Australian Brush Turkey Alectura lathami (U - low alt.), Buff-banded Rail Rallus philippensis (U-low alt.), Bush-hen Gallinula olivacea (R-low alt.), Superb Fruit Dove Ptilinopus superbii (U), Rose-crowned Fruit-Dove Ptilinopus regina (R), Wompoo Fruit-Dove Ptilinopus magnificus (U), Topknot Pigeon Lopholaimus antarcticus (A-large flocks common), Brown Cuckoo-Dove Macropygia amboinensis (A), Bar-shouldered Dove Geopelia humeralis (U-low alt.), Emerald Dove Chalcophaps indica (C), Sulphur-crested Cockatoo Cacatua galerita (C), Rainbow Lorikeet Trichoglossus haematodus (C), Scaly-breasted Lorikeet Trichoglossus chlorilepidotus (C), Double-eyed Fig Parrot Psittaculirostris diophthalma (U-race macleayana), Australian King-Parrot Alisterus scapularis (U-frequently seen in small numbers), Crimson Rosella Platycercus elegans (C), Oriental Cuckoo Cuculus saturatus (R), Rufous Owl Ninox rufa (R), Southern Boobook Ninox novaeseelandiae (U-race lurida), Lesser Sooty Owl Tyto multipunctata (U), Tawny Frogmouth Podargus strigoides (U), Papuan Frogmouth Podargus papuensis (r), Large-tailed Nightjar Caprimulgus macrurus (U), White-rumped Swiftlet Collocalia spodiopygia (U), Azure Kingfisher Ceyx azurea (U), Laughing Kookaburra Dacelo novaeguineae (U-low alt.), Forest Kingfisher Halcyon macleayii (C), Rainbow
Bee-eater *Merops ornatus* (U), Dollarbird *Eurystomus orientalis* (U), Noisy Pitta *Pitta versicolor* (U-snail shells and anvils noted also), Welcome Swallow *Hirundo neoxena* (U), Yellow-eyed Cuckoo-shrike *Coracina lineata* (R), Varied Triller *Lalage leucomeila* (R), White's Thrush *Zoothera dauma* (R-race cuneata), Pale-Yellow Robin *Tregellasia capita* (U), Grey-headed Robin *Poecilotryx albispecularis* (A-B frequently cryptic but abundant), Golden Whistler *Pachycephala pectoralis* (U), Little Shrike-thrush *Calluricincla megarhyncha* (C), Bower's Shrike-thrush *Calluricincla boweri* (C-more common at high altitudes), Spectacled Monarch *Monarcha trivirgatus* (U), Rufous Fantail *Rhipidura fuliginosa* (A), Chowchilla *Orthonyx spaldingii* (C-B), Eastern Whipbird *Psophodes olivaceous* (C-race lateralis), Red-backed Fairy-wren *Malurus malocephalus* (U-low alt.), Australian Fernwren *Crateroscelis gutturalis* (U), Atherton Scrubwren *Sericornis keri* (R-B, more common at higher altitudes), Large-billed Scrubwren *Sericornis magnirostris* (U), Yellow-throated Scrubwren *Sericornis citreogularis* (A-B), White-throated Gerygone *Gerygone olivacea* (U-low alt.), Mountain Thornbill *Acanthiza katherina* (C-B), Thornbill *Acanthiza* sp. (U - Red eyed - striped breast - at 840 m altitude), Little Treecreeper *Clidactis minor* (U), Lewin's Honeyeater *Meliphaga lewinii* (C), Yellow-spotted Honeyeater *Meliphaga notata* (C-less common at higher altitudes), Graceful Honeyeater *Meliphaga gracilis* (U), Bridled Honeyeater *Lichenostomus frenatus* (A-B), Yellow Honeyeater *Lichenostomus flavus* (U-low alt.), Eastern Spinebill *Acanthorhynchus tenuirostris* (U), Dusky Honeyeater *Myzomela obscura* (U-low alt.), Mistletoebird *Dicaeaum hirundinaceum* (U), Striated Pardalote *Pardalotus striatus* (R), Silvereye *Zosterops lateralis* (U-race ramsayi), Red-browed Firetail *Emblema temporalis* (C), Blue-faced Finch *Erythura trichroa* (R), Metallic Starling *Aplonis metallica* (U-low alt.), Spangled Drongo *Dicrurus hottentottus* (U-low alt.), Golden Bowerbird *Prionodura newtoniana* (U-locally common at higher altitudes), Tooth-billed Catbird *Ailuroedus dentirostris* (C), Spotted Catbird *Ailuroedus melanotis* (C-B), Victoria's Riflebird *Ptloris victoriae* (U), Trumpet Manucode *Manucodia keradrenii* (R), White-breasted Woodswallow *Artamus leucorhynchus* (U-low alt.), Black Butcherbird *Cracticus quoyi* (U), Pied Currawong *Strepera graculina* (U-B, locally common only).

GARRY L. WERREN, Dept. of Geography and Oceanography, Australian Defence Academy, Campbell, A.C.T. 2600.
GRAHAM C. BARWELL, Dept. of English, Australian Defence Academy, Campbell, A.C.T. 2600 (Present Address: Dept. of English, Univ. of Wollongong, Wollongong, N.S.W.)
Mr. A.C. Cameron with the outstanding egg collection which he donated to the Queensland Museum in 1980.

Photo: Queensland Museum
OBITUARY

Allan Cecil Cameron, M.B.E., D.F.M., J.P., noted Queensland ornithologist and grazier who resided for many years at his property "Rockwood", Chinchilla, died in the Goondiwindi Hospital on 24th October, 1987. He had a distinguished career with the R.A.A.F. during World War II, was notable as an ornithologist and naturalist and as a community leader. He was a strong well-built man, "a man's man", 6'4" tall and yet known far and wide and affectionately as "Tiny".

Cecil Cameron was born in Toowoomba, Queensland, on 15th September, 1912 the son of Allan Ewen Cameron and his wife Beatrice Mary of Biddeston, Queensland. He was educated at Toowoomba Grammar School 1926-30.

In 1940 he joined the R.A.A.F. and as a pilot served with distinction in the Middle East where he was shot down three times and from 1942-45 he was a P.O.W. in Italy and Germany. Subsequently he was awarded the D.F.C. for bravery in North Africa.

He was married to Phoebe Leonard in 1946 and their only son, Christopher A.C. Cameron, continues his father's love of ornithology and is well-known as a very fine wildlife photographer and naturalist. Cecil re-married on two occasions, to Jean Calman in 1956 and to Diana Hamilton a few years ago.

Cecil Cameron was honoured by the Queen with an M.B.E. in 1980 for services to ex-servicemen and women and the Darling Downs community. He was Foundation President of the Chinchilla Field Naturalists Club, Foundation Vice-President of the Miles and District Historical Society, held executive positions in other local groups including President of the Chinchilla R.S.L. Branch and he was State President of the Queensland R.S.L.

For more than 50 years he made many field trips usually in association with other ornithologists and sometimes with overseas experts to inland areas especially to outback Queensland. He was a very keen bird observer, a member of the R.A.O.U. from 1931 and a Foundation Member and Vice-President of the Queensland Ornithological Society. As an
excellent author he published many original ornithological papers in *The Emu* and *The Sunbird* from "Notes on the Ground Cuckoo Shrike, Emu 31(4) 306-7, 1932 to "Brown Falcon as an Aerial Pirate" *Sunbird* 16(1) 24, 1986. One of his most important ornithological discoveries was the nest and eggs of the Chestnut-breasted Quail Thrush *Cinclosoma cinnamonomeum castaneothorax*. The type clutch of eggs of this subspecies is now in the Queensland Museum.

Over most of his adult life Cecil Cameron with expert help and assistance from his son Christopher assembled the excellent "Cameron Collection" comprising clutches of mostly Australian birds' eggs. In 1980 this collection, comprising 1056 clutches, representing 397 species of birds was donated to the Queensland Museum, Brisbane. The great value of the collection lies not only with the eggs which have been beautifully prepared but in the scientific data for each clutch. The long term value of this collection is inestimable. It is worth noting that even in advanced years Cecil could scale trees with alacrity to the astonishment of others.

He was awarded Life Membership of the R.S.L.A., Life Membership and Patron of the Chinchilla Field Naturalists Club, Associate of the Queensland Museum and an Honorary Associate of the American Museum of Natural History, New York. Cecil was a concise and able public speaker who stimulated many young people in the study of natural history and the need for the conservation of our unique and precious flora and fauna. Many people, young and old, will miss his presence.

Allan Cecil Cameron was indeed a very great Australian. He is survived by his wife, Diana, his son and daughter-in-law, Christopher and Mary Cameron, and three grandchildren and a brother and three sisters. Our deepest sympathy is extended to them all.

*DONALD P. VERNON*

Errata:

The following corrections of errors in setting up the proofs need to be made:

p. 65, last para. Change "RQOU" to "RAOU".

p. 68, 3rd para. Change "virogous" to "vigorous".

p. 69, last para, 3rd line from bottom. Insert "wetlands, but poorer representation of birds associated with" after "with".

p. 75. Pied Cormorant. Change "Phalacorcorax" to "Phalacrocorax".

p. 79. Wedge-tailed Eagle. Change "Compson" to "Compton".

p. 84. Pale-headed Rosella. Change "85c" to "86%".

p. 85. Little Bronze-Cuckoo. Change "Chrysoccyx" to "Chrysocolpocynx".

p. 90. Golden-headed Cisticola. Insert "B" after "82%".