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THE SUNBIRD

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COW PATS AND SULPHUR-CRESTED COCKATOOS

M.D. COBCROFT

ABSTRACT

A flock of Sulphur-crested Cockatoos *Cacatua galerita* in Numinbah Valley, southern Queensland, gains much of its nutrition from undigested cereal present in the dung of dairy cattle. The advantages and disadvantages of this feeding pattern are discussed. A case of bent beak is also recorded.

INTRODUCTION

The association of several bird species with cattle for the purpose of food gathering is well-known, the Cattle Egret *Ardeola ibis* being particularly evident. That such a liaison should develop between dairy cattle and the Sulphur-crested Cockatoo *Cacatua galerita* is less expected. In Numinbah Valley, dairy and beef farms occupy much of the fertile flats surrounding the Nerang River, while beyond these, on either side, the land rises steeply in heavily timbered escarpments. The valley supports large numbers of Sulphur-crested Cockatoos (Hall *et al.* 1988), and an interesting commensal relationship with dairy cattle has developed on a property of 320 ha at 28°12'S, 153°13'E.

Despite a high average rainfall (c. 1500 mm), Numinbah Valley occasionally experiences dry spells. During one such period about 5 years ago, the property owners first noticed Sulphur-crested Cockatoos breaking up dried cattle pats, to glean undigested food residues contained within, presumably because natural food was limited. This residue contained mechanically-cracked mature maize seeds, which were being used as a fodder supplement at the time. The birds later progressed to the smaller and less obvious milled barley seeds, which are always present in the manure, unlike the maize which is only utilized during winter months.

Recent observations suggest that undigested barley gathered from cattle pats is now a major component of their diet throughout the year. When not resting in taller trees, the birds are usually in open pastures foraging among cow manure. Sentinel birds are always present.

Under the particular herd management scheme employed on this farm, a carefully controlled quantity of lightly milled barley is fed twice daily to those cows which are being milked. The milling serves to break open the husk and partially crush the kernel, thus ensuring greater digestibility. Despite this, about 5% or 10% of these millings remains undigested, passing unaltered in the faeces. Very few of these shed seeds germinate, however, due to the disruption caused by the processing. Barley has been employed in this feeding system everyday for 21 years, and maize has been added each May–September for the past 10 years. Until recently, no other farmer in the valley employed this supplementation scheme. Their usual practice has been to add commercially available pellets of finely ground grain, and the only other farmer to use barley provides seeds which are hammermilled to total disintegration. Sulphur-crested Cockatoos tend only to frequent the one farm where whole grains appear in the cattle dung.

Personal observations of the feeding behaviour of these Sulphur-crested Cockatoos has been made intermittently over the past three years, the latest and most intensive being in December 1991. Coincident with these intensive observations, which included the recording and photographing of individual cattle pats, several other farmers converted to the milled barley method. It will be interesting to see whether the birds tend to disperse to these various properties in the future.

RESULTS

Examination of individual cow pats showed the undigested barley component to be more or less evenly distributed throughout the faeces. A count of grains on the exposed surface of pats was at an average distribution of one to two per 2.5 centimetres square. The greatest concentration of cow droppings was in the dairy holding yards and in the approaches to these pens. For one 20 minute period, I observed a group of cockatoos, numbering variously from five to eight, working over a thinly grassed area approximately 4 metres square. The area contained seventeen cow pats of various ages, twelve of which exhibited signs of recent feeding. The birds showed a clear preference for the most recently deposited pats, for these had received the greatest attention. As the oldest pats still contained visible grain, it is unlikely that these had been sampled by the birds on a previous occasion.

Differing feeding patterns appeared to operate. The most frequent was "bill dipping", particularly into fresh pats. By direct observation and examination of foot imprints, it was clear that once the bird is positioned at a pat it hardly moves its body or feet. The birds would frequently stand directly in the droppings, sometimes right in the middle. To obtain individual grains, a bird would dip its entire bill into the semi-solid mass, thus leaving a clear impression in the pat corresponding to the shape of the bill. This explained why the birds' feathers remained surprisingly clean while the beak was at times dripping with greenish liquid from the cow dropping. The birds were also fairly efficient at removing most of the exposed grains, missing only about 10% of them. Three recent pats showed evidence of the entire substance having been worked over, by beak, claw or both. Whether this was an independent manoeuvre or a continuation of bill dipping in order to search for deeper grains is not known. The farmer has seen birds pick up dried pieces of pat in their claws and pick out grains with their bills, but I have never observed this. It is probably a dry weather strategy, and I have only studied the birds during rainy periods.

One unusual bird was observed during December 1991. The bill of this well-nourished adult was grossly deformed, both mandibles being greatly elongated, while the lower mandible was twisted sideways in corkscrew fashion. The bird was thus unable to completely oppose upper and lower mandibles. This condition is known as "bent beak". Such deformities have been attributed to agricultural run-off from irrigated land (Anderson 1987) and inbreeding (Hutt 1964).

DISCUSSION

There are few published examples of birds feeding on seeds or other material which have passed through the alimentary tract of another bird or mammal (see Woodall 1985). Instances of such commensal behaviour in Australia include both Crested Pigeon *Ocyphaps lophotes* and Feral Pigeon *Columba livia* with Figbird *Sphecotheres viridis* (Woodall 1985), and Dusky Moorhen *Gallinula tenebrosa* with Silver Gull *Larus novaehollandiae* (Starks & Peter 1991).

Both Lendon (1979), incorporating a quotation from Cayley (1938), and Forshaw (1981) summarize the known dietary habits of Sulphur-crested Cockatoos, emphasizing their destructive behaviour in uprooting sprouting seeds. The Numinbah cockatoos are no exception, and they would still cause untold damage to local maize crops if not continually and actively discouraged. This non-naturally occurring but potentially accessible food source is thus off-limits to the birds. Because bulk supplies of barley are

trucked in and stored in enclosed metal silos awaiting milling prior to consumption, this other agricultural source is also denied them. Cow pat grain on the other hand is of fortuitous major benefit. It is in abundant supply at all seasons, it has high nutritional value, and the source is liberally spread over large open areas where the approach of a potential threat is plainly visible. The bird with the bent beak would probably not survive without this exceptional food supply. Grain in cow pats has no further economic importance, so all users benefit from a lack of farmer harassment.

There is some human benefit, derived from the fragmentation and dispersal of the cow pats. Left alone they slowly harden, thus preventing the growth of pasture underneath, while rank grass unattractive to cattle flourishes around the edges. This significantly reduces utilizable pasture. Dung also provides ideal breeding grounds for annoying bushflies. Native dung beetles (Scarabaeidae) abound in this region, but, being more used to the scant droppings of native fauna, they are unable to dispose of manure in these quantities (Williams 1986). Deliberately introduced dung beetles, better equipped to deal with cattle manure, do not seem to prosper in such high rainfall areas.

Cattle urinate indiscriminately, creating the potential for contamination of this easily obtained food source. It is likewise conceivable that some of the numerous veterinary and agricultural chemicals used in dairying (either unchanged or as metabolites) could be ingested, perhaps accumulating to toxic levels. Is the bill deformity perhaps linked with toxicity? An unusually high incidence of bent bill in nestling Pied Cormorants *Phalacrocorax varius* at Werribee Sewage Farm in Victoria was reported by Ball (1991). As the sewage farm is a major cattle producer (Mann 1986), there is a possibility that more than coincidence links these two occurrences.

ACKNOWLEDGEMENTS

The author wishes to sincerely thank G.C. and C.J. French of "Conway Park", Numinbah Valley, for the opportunity of observing Sulphur-crested Cockatoos on their property and for the information on fodder supplementation. Their never-ending hospitality is greatly appreciated.

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FURTHER NOTES ON SQUARE-TAILED KITES NESTING IN SOUTH-EAST QUEENSLAND

C.A.C. CAMERON

Observations on Square-tailed Kites *Lophoictinia isura* breeding near Chinchilla, south-east Queensland from 1969 to 1975 were presented by A.C. Cameron (1976). Cupper & Cupper (1981) presented additional observations for the period 1975-1980. This paper presents supplementary details, mainly for the period 1975-1976, including some significant new or previously unreported facts on the birds concerned.

Two pairs of Square-tailed Kites were resident on the property "Rockwood", 4800 ha of well-timbered country 320 km north-west of Brisbane. The property supports over 200 bird species, including 20 species of diurnal raptor. This species bred annually, usually raising a single fledgling per attempt, though occasionally a brood of two in years of abundant food. There was one record of a clutch of three eggs (normally two), and in 1974 a pair raised a second brood in February following the normal (successful) October-December cycle in 1973. This period was a 'boom' time in inland Queensland following good rains, with species such as Letter-winged Kite *Elanus scriptus* and Long-haired Rat *Rattus villosissimus* breeding prolifically.

The Square-tailed Kites usually built a fresh nest each year. Some nests were rather scraggly constructed on exposed horizontal forks, and were blown down before the next season. Other nests were re-used, the oldest nest being used yearly for six years. Nest heights ranged between 15 and 24 m above ground.

Breeding behaviour and routines, particularly at the 1975 nest, have been described previously (Cameron 1976, Cupper & Cupper 1981). The nest was lined daily with fresh greenery when the chicks hatched. The female attended the nest almost constantly, sometimes standing on it, but usually on a perch beside the nest when the chicks were half-grown. During the downy chick stage in October 1975, early in the afternoon, the female was perching quietly near the nest while both chicks sat in the shade of a small branch on the edge of the nest. I noted that when the male Kite approached with food, the female and two nestlings bobbed their heads, trilled and uttered a soft *kik-kik-kik* call. This went on for almost a minute, until the male appeared gliding swiftly towards the nest. The approaching male was never heard to call, which suggests that the female and young may have seen him some distance away. The male was never seen hunting, but I frequently saw him in a particular area about 5 km from the nest, perhaps one of his regular foraging sites.

During 1976 some land clearing took place close to the old nesting territory, and they moved to another creek about 8 km distant, still on the property. In October of that year they were building again, and subsequently hatched two chicks. The nesting adults took even less notice of our observing and photographing activities in 1976 than in 1975 (see Cameron 1976), though the patterns of behaviour that we had noted in the previous year were similar. However, we could not determine what species of nestling prey the male was bringing in. They were usually so small that the chicks swallowed them in a single gulp. From a distance of 5 m it was impossible to see in a brief glimpse what they might have been, and many small bird species were nesting at the time. The wrecked nest of an Inland Thornbill *Acanthiza apicalis* was found under the nest. It is possible that the male had brought both nest and contents rather than tearing open the small domed nest to extract the chicks.

The two young duly fledged, and they and their parents dispersed for another year. The adults remained on the property, but appeared to range more widely in the non-breeding season. In March 1983 two adult pairs of Square-tailed Kites were still present on the property.

Of the additional details presented here, the most noteworthy is the raising of two broods by a pair in one season. Although some other large kites such as the Whistling Kite *Haliastur sphenurus* may rear two broods in a year, the Square-tailed Kite is normally single-brooded and strictly seasonal, and there are no other records of double broods in this species (cf. Debus & Czechura 1989). Perhaps food was exceptionally abundant during the period concerned, as 1974 to 1976 were the only years in which successful broods of two young were recorded.

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**EASTERN WHIPBIRD *PSOPHODES OLIVACEUS*
(ORTHONYCHIDAE) LISTENS TO FRUITS FOR INSECT PREY**

C.B. FRITH

On 17 November 1979 I had been sitting in a long-present canvas hide for 2 hours making systematic observations at a Spotted Catbird *Ailuroedus melanotis* nest, with field glasses, in upland rainforest (altitude 875 m) near Paluma (19°00'S, 146°10'E), North Queensland. At 1000 h an adult male Eastern Whipbird *Psophodes olivaceus* hopped across the forest floor leaf-litter 4 m away and directly in front of me. It spent 14 minutes going from one fallen ripe *Fagrea gracilipes* fruit to another, picking each fruit up in the bill and then placing it beneath its left foot (a sample of 100 fruits had mean length 14 mm and mean diameter 11 mm). Once the fruit was held on the ground in its foot, the bird appeared to cock its head at the fruit. It would then either go to the next fruit to do likewise, or would peck at and tear apart the fruit and clearly eat something. It examined approximately 10 fruits per minute in this way. I formed the impression at the time of this observation that the bird was peering intently at the fruit when cocking its head at it.

Several weeks after the above intriguing observation I collected several samples of fallen ripe *Fagrea gracilipes* fruits for measuring and weighing as part of my bowerbird feeding ecology studies (unpublished data). As I sat at my peaceful study desk in Paluma Township with several samples of twenty fruits in petri dishes beside me for measuring, I became aware of a soft but irritating, inconsistent, ticking sound. After some time the sound began to concern me as I thought it might be caused by termites, but an examination of my desk and other nearby wooden items proved negative; and the sound continued. Having completed my measurements and weights of the *Fagrea* fruits, I tore them open and counted the number of seeds in each fruit, in order that I could relate the results to numbers of fruits eaten, as indicated by seed numbers in bowerbird faeces. To my amazement, I found two small insect larvae, or grubs, in the vast majority of the fruits. By placing an undamaged fruit close to my ear I was able to hear clearly the ticking sound produced by these insect larvae, presumably the sound of them feeding within the fruits.

The Eastern Whipbird observed on 17 November 1979 did not attempt to rotate the fruit and was, therefore, unable to examine its surface for external signs of insects within. I conclude that this bird was systematically examining fallen ripe *Fagrea* fruits for insect larvae by listening to them, and then tearing those apart that emitted the sound of larvae, while rejecting those providing no auditory clue to potential prey within.

It is also possible that by holding the fruit in the foot the bird was able to receive a tactile clue, in the form of vibrations, to insect larvae presence. I now believe, however, that in cocking its head toward the fruit held in its foot the bird was not peering at it, as I thought at the time, but was listening for the sound of insect larvae within.

Interestingly, Cooper (1959) and Edington (1983) reported White's Thrush *Zoothera dauma* clearly listening for earthworm movement with head cocked toward soil. True thrushes (Turdidae) certainly do characteristically listen for leaf-litter and soil invertebrates whilst foraging (Simms 1978, Cramp 1988).

It is possible that numerous leaf-litter/ground-frequenting birds that feed upon arthropods use auditory searching techniques as described for the above birds.

ACKNOWLEDGEMENTS

Leo Joseph kindly drew my attention to Edington's note on White's Thrush.

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SOME DISTRIBUTION NOTES FROM CENTRAL QUEENSLAND

LEO JOSEPH

From 6 to 8 January 1991 I was at Idalia National Park, approximately 80 km south-west of Blackall (24°53'S, 144°46'E). The observations presented below were made on 7 January, except where indicated otherwise.

Eastern Yellow Robin *Eopsaltria australis*

Prior to Ford's (1979) review of geographical variation in the Eastern Yellow Robin, the species had been recorded in central Queensland only as far west as Carnarvon Gorge. Ford (1979) extended the range westwards to 24 km north of Tambo and 16 km east of Emmet, the last locality being 370 km west of Carnarvon Gorge. Records indicated in Blakers *et al.* (1984) are between those from Carnarvon Gorge and Emmet, so the latter has remained the most westerly. Therefore, the following observations help clarify the status of *E. australis* in this region.

Two *E. australis* were seen about 15 km west of Idalia HS. This locality is 30 km south-east of Ford's Emmet record. Like the Emmet birds, which were in tall *Acacia* scrub on a plateau (Ford 1979), the birds were at the edge of an almost pure stand of mulga *Acacia aneura*. Colin Morgan, who has resided at Idalia since 1989, has on a number of occasions seen the birds near the homestead. It therefore seems possible that Ford's Emmet record was not of vagrants. The questions of whether there is a resident population in *Acacia* scrub in this region and the species' western limit there arise.

On another visit to Idalia National Park between 14 and 19 July 1991, pairs of *E. australis* were recorded in two further locations. The habitat was again pure mulga, but on rocky hills, about 1 km east and 1 km north of Idalia HS. A resident population now seems most likely.

Speckled Warbler *Sericornis sagittatus*

Storr (1984) recorded this species in central Queensland west to 20 km north of Tambo. Specimens held in the Queensland Museum are all from localities east of here, so the following record is of some interest.

One was seen 12 km west of Idalia HS in *Acacia-Eucalyptus* scrub along a watercourse. Identification was by the characteristic dark brown streaking on the pale straw-coloured underparts, dark eyebrow and buzzing call. This represents a range extension of 160 km to the west.

Painted Honeyeater *Grantiella picta*

Idalia is well within the recorded range of this species, which is infrequently reported anywhere in its range. It is worthwhile recording the following observations.

Single birds were seen at two localities in the space of three hours, approximately 14 km and 20 km north-west of Idalia HS. Good views of both birds were obtained, and the pink bill, white spot behind the eye, black upperparts with yellow wing patch, and faint dark flecks on the flanks and lower abdomen were seen well. Both birds were feeding silently in mistletoe. No calls were heard.

ACKNOWLEDGEMENTS

I thank Colin Morgan of Idalia for his help during my brief visits, and my companion in the field, Dr E.O. Willis, who located both Painted Honeyeaters. N.W. Longmore of the Queensland Museum kindly made available information on specimens held in his care.

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ALTITUDINAL DISTRIBUTION OF THE GREY-HEADED ROBIN

JO WIENEKE

The Grey-headed Robin *Poecilodryas albispecularis* is a common resident of upland rainforests in North Queensland from Mt Amos to Mt Spec and inland to Ravenshoe (Storr 1984). On the Atherton Tableland it occurs above 200 m (Blakers *et al.* 1984). At Thornton Peak it was found to be frequent at 1020 m and common at 1260 m (Boles & Longmore 1989). It is generally thought to be sedentary, breeding from September to January.

On 16-17 September 1990 I observed a Grey-headed Robin at Broadwater State Forest Park, 45 km west of Ingham (18°39'S, 146°09'E). There have been further sightings there in November 1990 (S. Coleman) and April 1991 (K. Cross). Broadwater State Forest Park lies within Abergowrie State Forest in the Herbert River Valley, in the foothills of the Rockingham Bay Range, no more than 50 m above sea level (Queensland Forestry Service Map). The park is surrounded by the pine plantations and open woodlands of Abergowrie, with cane fields on its southern border. The park consists of open woodland, gallery rainforest along Broadwater Creek, and a small remnant of lowland rainforest of approximately 30 ha. This rainforest area is connected almost continuously with upland rainforest by gallery forest along Broadwater Creek. In September 1990 the Grey-headed Robin was seen on several occasions along the 2 km circuit track through this rainforest.

On 5 June 1991 I observed a Grey-headed Robin only 25 m from the start of the walking track at Josephine Falls (17°28'S, 145°53'E) at an altitude of not more than 110 m. Here there is continuous rainforest rising abruptly to the Bellenden Ker Range. Five days later I heard this species at Mossman Gorge (16°27'S, 145°22'E), altitude 100 m, where A. Griffin (pers. comm.) had recorded it on 17 January 1976. Here also rainforest is continuous from lowland to upland.

It would seem that, although Grey-headed Robins are mainly inhabitants of upland rainforest, they also occupy rainforest at lower altitudes when it adjoins and rises sharply to rainforest at higher altitudes. There are no records from other apparently suitable lowland areas in the wet tropics, such as Mission Beach (17°57'S, 146°06'E), where rainforest is typically isolated or fragmented, though geographically close to rainforest at higher altitudes.

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OTHER OCCUPANTS OF WEDGE-TAILED SHEARWATER BURROWS

P.K. DYER

Other birds, reptiles and insects have been reported using the burrows of Wedge-tailed Shearwaters *Puffinus pacificus* and Short-tailed Shearwaters *P. tenuirostris* (Ford 1963, Hindwood *et al.* 1963, Jarman 1974, Warham 1990). This note reports some other users of Wedge-tailed Shearwater burrows inspected with a burrowscope during a study in the Capricorn Group, Great Barrier Reef. This equipment reveals the contents of burrow tunnel and chamber on a monitor screen at surface level (Dyer & Hill 1991). Ants, spiders and cockroaches are common residents of these burrows.

In January and December 1990, Bridled Tern *Sterna anaethetus* chicks were found in Wedge-tailed Shearwater burrows on Erskine Island (23°29'S, 151°46'E), a small 1.5 ha cay covered with shrubs and grasses affording little shade, and where daytime temperatures were often oppressive (c. 35°C). Three of the 55 burrows examined in January 1990, contained tern chicks; two emerged as the burrowscope was inserted, whilst a third occupied the lined chamber at the end of an otherwise unoccupied 1.1 m long burrow. In December 1990, three of 30 burrows (0.3 m, 1.0 m, and 1.25 m long) contained tern chicks. A further two chicks scurried down nearby burrows when disturbed by the researchers, but one made a hasty retreat when attacked by an occupant shearwater. Unoccupied burrows appear to afford protection from the harsh weather conditions, and/or predation by Silver Gulls *Larus novaehollandiae*.

It is quite common for Buff-banded Rails *Rallus philippensis* to shelter in petrel burrows (Hindwood *et al.* 1963). In January 1991, on North West Island, one Buff-banded Rail chick was recorded in a Wedge-tailed Shearwater burrow. Adults were not seen but they may have been disturbed by the researchers. Regardless of casual observations of rails emerging from burrows on Heron Island, none was seen in burrows during surveys on Heron Island. The recording of a single chick was the only observation of a Buff-banded Rail using burrows during the two breeding seasons.

Crabs, collected from burrows along with birds, probably Wedge-tailed Shearwaters, are exploited for human consumption on Laika Island, Shepherd Islands (16°55'S, 168°36'E) (M. Horrocks pers. comm.). Land Hermit Crabs *Coenobita perlatus*, "abundant on cays in the Coral Sea" are

seen infrequently on the islands in the Great Barrier Reef, mainly at the southern end (Healy & Yaldwyn 1970). On Heron Island, *C. perlatus* is most often encountered near National Parks and Wildlife buildings on the northern side of the island (A. Scrymgeour pers. comm.).

In the north-eastern sector of Heron Island, in December 1989, two Land Hermit Crabs were found 0.8 m down a Wedge-tailed Shearwater burrow, approximately 50 m from the high tide line. This burrow accommodated an adult shearwater which was incubating an egg in a burrow chamber located approximately 0.7 m further into the burrow. The crabs and bird were recorded regularly present in this burrow over a one week period, and were still there on a return trip in April 1990. However, during the following December, this burrow and others in the vicinity showed no sign of the crabs.

This observation was notable because of the length of time that both shearwater and hermit crabs were present. Hermit crabs which are often seen in shearwater burrows on Willis Island, Coral Sea, sometimes kill and eat young Wedge-tailed Shearwaters (Davis 1923, Hogan 1925). No down was evident on the bird present in the burrow in April, so it was either an adult or a well developed fledgling. It could have been a different individual from that witnessed in the previous December.

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AN EGRET ROOKERY ON AN OFFSHORE BARRIER REEF ISLAND

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An active nesting colony on a well-vegetated sand cay in Princess Charlotte Bay in January 1990 and January 1991 involved a dozen or more pairs of Great Egrets *Egretta alba*, a few pairs of Little Egrets *E. garzetta* and Little Pied Cormorants *Phalacrocorax melanoleucos*, and a solitary pair of Pied Herons *Ardea picata* (not noted in 1991).

Various egrets *Egretta* spp. are known from islands associated with the Great Barrier Reef, though the Eastern Reef Egret *E. sacra* is the only species known to breed offshore, sometimes in colonies (Blakers *et al.* 1984). Both Great Egret and Little Egret breed on offshore islands in eastern Africa (Hancock & Kushlan 1984), while these species and Pied Heron are regular in littoral habitats in Australia, especially mangroves (Blakers *et al.* 1984). The only Queensland breeding record of Pied Heron is from a mangrove-lined creek near Ayr, associated with a large egret colony (Storr 1984). There are few records of Little Pied Cormorants nesting at marine sites (Serventy *et al.* 1971).

The island is some 20 km offshore in Princess Charlotte Bay, where there are numerous coastal mangrove systems for these species to breed in. The precise location of this important site is somewhat uncertain, but the stand of low trees, 6-8 m tall, in its centre indicates that it is Pelican Island (13°55'S, 143°50'E). It is curious that a thorough appraisal of the avifauna of Pelican Island by King *et al.* (1985) included no sightings of these species, which are not recorded at all from the northernmost section of the Great Barrier Reef (Limpus & King 1983). The only other cays in this general area are Stainer Island, 5 km to the south, and Wharton Reef Cay, a further 22 km to the south-east (King 1985). Neither has significant vegetation, other than low *Sesbania cannabina* shrubs and *Casuarina* spp. up to 3 m high, whereas Pelican Island has more than twenty recorded plant species, including clumps and dense shrub stands of *Clerodendrum inerme*, *Caesalpinia bonduc* and *Premna corymbosa* (King *et al.* 1985, King 1985).

Preferring not to cause undue disturbance to the colony, I avoided going further than the edge of the stand of trees on either occasion. There is little doubt that numbers were significantly larger than I was able to estimate, and there were probably more Pied Herons. Large numbers of Eastern Reef Egrets were flushed along with smaller numbers of Rufous Night Herons *Nycticorax caledonicus*.

Other visits to Pelican Island during the summer months, on 28 November 1976, 9 December 1979 and 19 December 1981, are documented by King *et al.* (1985), who note that Eastern Reef Egret "breeds in summer. The colony is situated in the thickest shrubs". In January 1990, most nests held young ranging from small to developed, whereas nests noted in 1991 held fresh or incomplete clutches of eggs. It is likely that the centre of the colony would have been more advanced than the edges, though there are no data to support this suggestion. In 1991 the island would have been under the influence of a cyclone several weeks before the visit.

Despite the anomalies detailed in this note, there is very little doubt that a sand cay 20 km offshore in Princess Charlotte Bay, supporting a stand of low trees, is indeed Pelican Island. Future observers will probably confirm that this exceptional breeding colony is located at Pelican Island, perhaps as a recent development. An offshore site is presumably safer from predators than are more typical inshore sites associated with mangroves. It is to be hoped that future visitors will respect the protected status of all fauna on the island and avoid undue disturbance to nesting birds.

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THE CALL OF THE TOPKNOT PIGEON
LOPHOLAIMUS ANTARCTICUS

GRAHAM WATSON

On 22 January 1991, I was conducting forest vegetation research in Nullum State Forest in north-eastern New South Wales when I noticed a combination of bird calls with which I was not familiar. I identified the bird as a Topknot Pigeon *Lopholaimus antarcticus* and observed it for over an hour. A search of relevant literature revealed that I had witnessed an event and calling that, although a common occurrence, had rarely been observed by ornithologists

The Topknot Pigeon made repeated flights in and out of the crown of a large, emergent (30 m) Crabapple *Schizomeria ovata* in warm temperate rainforest. By its behaviour and the time of year, I concluded that it was feeding a nestling. However, because of the well developed layer of understorey foliage, I could not see either nest or nestling. Frith (1982) reported that the nest of the Topknot Pigeon can be rudimentary. The nest might have been difficult to see even had the conditions for visibility been good. I watched the adult Topknot Pigeon as it flew the 35 metres from the crown of the emergent tree into the obscurity of the rainforest and back again. The adult bird returned to the tree about every 5 minutes, entering the foliage at the same place each time, and staying for only about 20 seconds per visit. Between and during its visits, I heard three distinctly different call types that were all new to me. The first was heard intermittently from the crown of the Crabapple, and only when the adult bird was absent. The second was heard just before each visit by the adult bird as it burst into view from the surrounding foliage on its return flight to the tree. The third call type was heard much less often and only during those brief moments while the adult bird was in the tree.

The first call type was described as 'coo-oo, eee', where the first two syllables were very soft, almost breathless, and only just audible from the base of the tree. The third syllable was a rising note sounding as if it were being squeezed out of the bird. I assumed at the time that this was the call of a nestling. The second of the calls can be written 'coo-oo, ooo'. It is a soft call but clearly heard above local forest noise and distinctly louder than the first call type. Compared with the calls of the other rainforest pigeons of the area, the call was high pitched with the second syllable being very subtle and the last syllable a shortish ascending note. The third of the call types was 'cor-or', a quiet, croaky, almost guttural, utterance not greatly dissimilar to calls of the Feral Pigeon *Columba livia* at certain times.

Previously, I had heard a Topknot Pigeon call just once. This was a soft 'coo' murmured by an individual bird in a flock of over 100 pigeons resting in a Small-leaved Fig *Ficus obliqua* at Huonbrook near Mullumbimby. This call type was documented by Gilbert (1936). Mr David Stewart of Wilsons Creek played a recording to me of a short raucous cry of a Topknot Pigeon during a feeding frenzy, a call that I have since heard from this species in the Crabapple-dominated warm temperate rainforest during the course of my forest vegetation research project. This latter call has also been documented by Pizzey (1980), who likened it to "a distant flying fox or domestic pig", and by Frith (1982), who described it as "a short, sharp screech".

I was not able to discover any published references to the calls of nestling or juvenile Topknot Pigeons. Frith (1982) refers to a "low, short squeak given during the bowing display", and describes it as resembling "the sound of air being forced from a toy balloon". This description is similar to my description of the last syllable of the first call type I heard only from within the crown of the tree. Frith (1982) reported that breeding in Topknot Pigeons ended by early December. This indicates that the call I heard was less likely to be some variation of the breeding-associated calling behaviour than it was of a juvenile or nestling. The similarity between the courting call and this putative juvenile call is quite interesting. It may be that during the bowing display the instincts evoked in the male are similar to those of the nestling and a similar sound is emitted. Alternatively, the present-day squeak during the bowing display may be the juvenile call which has persisted into adulthood.

In comparison with my description of the second call type, Gilbert (1936) describes the call of the Topknot Pigeon as a "clear, low-toned *wir-hig-a*". The adult call I heard most frequently was certainly clear and low-toned, but soft and 'intimate'. Gilbert's syllabisation of it would be a quite misleading interpretation. Frith (1982) also suggested that one needs "some imagination" to ascribe this syllabisation to the soft call he had heard only from nesting birds. Regarding the third call type, Pizzey (1980) describes the call of this species as "a soft, low, rumbling grunt", a description that approximates mine. Frith (1982) quotes Campbell (1900) who recorded "a somewhat guttural double call resembling *quook-quook*". Frith was not able to correlate this description with any of his collection of call descriptions for the Topknot Pigeon. However, the guttural *cor-or* that I described could easily be written the way Campbell did.

In the late afternoon of the day of observation, a group of Pied Currawongs *Strepera graculina*, a species which is a known predator of nestlings of

other forest birds, arrived at the site and began gradually moving from tree to tree across the area. On revisiting the site with Mr Stewart and his recording equipment two days later, the pigeons had gone. The arrival of the currawongs and the disappearance of the pigeons may have been coincidental.

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NOTES ON RECENT SIGHTINGS OF SLATY-BACKED THORNBILLS IN SOUTH-WESTERN QUEENSLAND

ROBERT INGLIS, ANITA SMYTH and LEO JOSEPH

There are few records of the Slaty-backed Thornbill *Acanthiza robustirostris* in Queensland. The first record was made 26 km west of Eromanga on 30 March 1971 (Ford & Parker 1973) when two were seen. A specimen was taken and is held by the Western Australian Museum (reg. no A11750). The second and third records were made 30-40 km west of Adavale on 3 April 1983 and 28 August 1983 (Stewart 1984). Two were seen on each occasion. Hando (1984) reported *A. robustirostris* "on the Warbreccan jump-up, south-west of Jundah" and again "on the Retreat road" south-east of Jundah (undated reports). Carlyle (1990) tentatively recorded this species about 110 km south of Longreach on 28 April 1988. As with a number of thornbills, this species can be difficult to identify in the field, and it is possible that *A. robustirostris* could be both more widespread and common in south-western Queensland than is generally believed. In this note we present further recent sightings that add to knowledge of the bird's occurrence in south-western Queensland.

At Eulo Bore, 15 km east of Eulo (28°10'S, 145°03'E) on 26-27 July 1991, RI observed a number of thornbills that were identified as *A. robustirostris*. The surrounding habitat consisted of mulga *Acacia aneura* trees, and various shrubs, most of which had a good coverage of foliage due to recent favourable seasons. The weather conditions at the time were fine and clear with little or no wind.

Five or six birds were first observed during mid-afternoon and a similar party was seen early the next morning. Both parties were observed in fairly dense, small mulga trees about 200 m north-east of the bore. The birds were working their way through the outer foliage of the trees and occasionally dropped to the ground to forage for a few moments. They were very active and called constantly. Birds were observed for 10 to 15 minutes on both occasions, using Zeiss 10x40 binoculars from distances of 15 m or less. Viewing conditions were generally excellent as, at times, the birds were in full sunshine with the sun behind the observer.

The following description was obtained after careful observation:

The birds were of an almost uniform grey colour above and an unmarked whitish colour below. The rump was chestnut, the eyes were dark, the forehead had a trace of black streaking, and the tail seemed black, tipped white. The birds made contact calls typical of thornbills.

The combination of faint black streaking on the forehead, dark eye, unmarked underparts and chestnut rump allow identification of the birds as *A. robustirostris*.

At approximately 25°48'S, 143°19'E, when 33 km east of the Jundah turnoff along the Quilpie-Windorah road on 28 September 1984, a party (including AS) sighted a single *A. robustirostris* in mulga on the northern side of the road. The habitat was uniform mulga with much bare ground littered sparsely with fallen dead logs. Dead stags were distributed sparsely throughout the area. There was no evidence of flowering. A single bird was recorded with a mixed flock of Inland and Chestnut-rumped Thornbills, *A. apicalis* and *A. uropygialis*, respectively. All foraged through the trees at and above a height of approximately 50 cm. Excellent views were obtained with 10x50 and 8x30 binoculars for about 15 minutes until the flock moved out of sight. The following description is copied from field notes taken by AS at the time of the sighting:

Head, neck and mantle dark slate grey, much darker than Chestnut-tailed [*sic*] and Inland Thornbills, underparts buffish without streaking on breast. Head appeared flatter on top unlike rounded nature of other thornbills, dark line extended from bill through eye, diffuse pale eyebrow. Chestnut rump not as obvious as Chestnut-tailed [*sic*] or Inland Thornbill's, tail grey — paler than mantle. Bill dark, broad at the base giving a solid appearance, eye dark, legs dark.

The overall dark upperparts, the pale eyebrow and the broad, solid bill are diagnostic features separating *A. robustirostris* from Inland and Chestnut-rumped Thornbills. The dark eye further separates it from the latter, and the lack of streaks on the breast separates it from the former. The dark streaking on the forehead as illustrated in Slater *et al.* (1986) was not apparent.

The two records reported here allow the range of *A. robustirostris* in south-western Queensland to be defined as being from near Windorah and Jundah in the north-west to Eulo in the south-east. Careful checking of all thornbills seen in mulga in the region is warranted and will probably eventually result in more sightings and a full clarification of the species' range and status. We stress that the species must be reliably distinguished from both Inland and Chestnut-rumped Thornbills. In this regard, we warn observers more familiar with the Brown Thornbill *A. pusilla* of wetter coastal regions than with the Inland Thornbill that the streaks on the breast of the latter can, in particularly arid areas, be so faint as to seem absent until looked for carefully.

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Noela Marr and R. Inglis made earlier observations, possibly of *A. robustirostris*, not reported here, and NM helped alert RI to watch for the species. AS was accompanied by K. Bartram, S. Bennett, C. Corben, M. Considine, J. Davies, C. Pavey and G. Roberts when making the observation she has reported here.

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