

## Lesser Coucal *Centropus bengalensis* on Ashmore Reef: First Record for Australia

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### Summary

A Lesser Coucal *Centropus bengalensis* was discovered on West Island, Ashmore Reef, the External Australian Territory off the northern coast of Western Australia, during an expedition there in October 2005. This was accepted by the Birds Australia Rarities Committee, Case no. 484, as the first record of the species for Australia.

### Introduction

Ashmore Reef is an External Australian Territory located in Commonwealth waters within the Australian Economic Exclusion Zone. In 1983 it was declared a National Nature Reserve by the Australian Nature Conservation Agency (ANCA) and is currently administered by the Department of the Environment, Water, Heritage and the Arts (DEWHA) as a National Nature Reserve. It lies at the confluence of the Indian Ocean and Timor Sea off northern Western Australia. Within the reef are three small islands: West, Middle and East Islands (total land area 54 ha). The largest and most heavily vegetated is West Island (12°14'S, 122°58'E). As it is also the most northerly, lying ~145 km south of the Indonesian island of Roti, it is a convenient resting place for both migrant and vagrant birds (Pike 1993; Carter 2003, 2009; Clarke 2005; Milton 2005; Clarke *et al.* 2009).

During the annual 8-day Kimberley Birdwatching expedition to the Reef from Broome and back in 2005, a Lesser Coucal *Centropus bengalensis* was seen on the mornings of 29, 30 and 31 October (each morning available to us) on West Island. However, it was seen only once on each morning, was not found at other times (notably in searches on the afternoons of 28, 29 and 30 October), and was never heard to call. Thus it was an exceptionally cryptic bird. All members of the party [all authors, and Reg Clark, Peter Crabtree (PC), Dave Dureau, Adrian O'Neill, Trish Pepper and David Stickney] saw the bird at least once, and most saw it on all three occasions. Views obtained were brief, but as observers were located in various positions relative to the bird, a reasonably comprehensive general description was compiled. A photographic record consisting of five blurred flight shots was obtained by RC. The Birds Australia Rarities Committee reviewed and accepted this report, Case no. 484 (Palliser 2008), as the first record of the species for Australia. Consequently, the Lesser Coucal was included in the Main Species List of Christidis & Boles (2008).

### Habitat

West Island (28 ha) is a low coral island with a gritty, sandy substrate and

occasional outcrops of beach rock. It is rimmed by low dunes topped with creepers and shrubs dominated by Octopus Bush *Argusia argentea*. The vegetation in the central plain, which on this occasion was rather arid in appearance, consisted mainly of herbfields and grasses. Adjacent to the fringing Octopus Bushes along the northern shore was a patch of Beach Spinifex *Spinifex longifolius* that included some convolvulus creeper *Ipomoea* spp. (Pike & Leach 1997), growing to a height of 0.8 m. The patch was ~100 m long, and varied in width from 30 to 70 m, thus covering an area of ~0.5 ha. The Coucal frequented this dense tangle of vegetation. In addition, a few Buff-banded Rails *Gallirallus philippensis* were always here, three Red-backed Button-quail *Turnix maculosus* were seen once, and one or both birds of a pair of Tawny Grassbirds *Megalurus timoriensis* were encountered on most searches. Since Grassbirds had been seen only once previously at Ashmore Reef, it was these that initially attracted our attention to this patch.

### Field observations

On 29 October, ~2 h after sunrise, the Coucal was flushed at close range as soon as we entered the spinifex patch. The weather was fine and, as we were heading west, the bird was viewed with the sun behind us. It flew low (~0.5 m above the vegetation) for a distance of ~25 m before dropping into the spinifex near the inner edge of the patch, where it was bordered by comparatively bare ground. Further searches that morning and again that afternoon failed to relocate the bird.

Next morning the bird was not initially located, but ~20 minutes after sunrise MC, who was walking adjacent to the fringing Octopus Bushes, diverted to search a short narrow strip and some isolated patches of spinifex that extended towards the beach through a gap in the bushes. The Coucal flushed 2 m in front of MC, rising from the last solitary clump of spinifex at the top of the beach. It had probably been moving ahead of MC under cover of the spinifex and flew only when the ground-cover terminated. To avoid flying over the open beach, instead of flying directly away, it flew to the left across his path and up through the cleft formed by the adjoining crowns of two bushes. As the weather was fine, he had brief but close views of the lateral then dorsal aspects of the bird illuminated by good, low-angled sunlight. Once clear of the bushes, the bird was visible to the rest of the party, who then watched it for a few seconds before it dropped into the Octopus Bush canopy and out of sight. A thorough search failed to relocate it then or on another visit late that afternoon.

On 31 October, our last opportunity to refine field descriptions, we arrived at the site soon after anticipated sunrise in overcast, dull conditions. The bird flushed more readily, ~20 m from the nearest observer. It rose from the spinifex adjacent to the bushes and flew fairly fast and strongly a distance of at least 40 m, rising to a height of >3 m before dropping into cover. This flight provided the most sustained views of the bird (>5 seconds), during which RC obtained five photographs. It also afforded the best views of the underparts, although little detail was apparent in the field. Once again, the subsequent search was unsuccessful, so the cryptic nature of the bird was very evident.

### Description

#### *General impression, size and structure*

In all three observations, the bird was seen only in flight. On the first occasion,

those observers who viewed the bird laterally noted the long drooping tail and the characteristic coucal jizz. MG, who flushed it, shouted 'Coucal', and PC called 'Tiny coucal'. SD actually called it 'Lesser Coucal', having previously seen the Greater Coucal *Centropus sinensis* in Singapore; he noted that it was similar in pattern to that species but was much scruffier, more streaked, and smaller, and these impressions were confirmed when he saw a Greater Coucal again soon afterwards in Thailand. Noting the medium-to-large bird with broad rounded wings, substantial tail, and rather dark plumage, which was heavily barred and streaked with dark brown and caramel, and with some rufous on the wing, MC, who had a dorsal view from the rear, called 'Koel' before agreeing that it was a coucal. It was a bird of about the size and proportions of a koel, and the rufous patch in the secondaries and the mixture of brown and black in the rectrices were reminiscent of the immature male Eastern Koel *Eudynamis orientalis* seen here on the previous expedition, October 2004 (MC & GS pers. obs.). All observers agreed that it was only about half the size (bulk) of the familiar Pheasant Coucal *Centropus phasianinus*, with a proportionally much shorter tail and a rather direct, less cumbersome, flight. It was therefore immediately obvious that this was a species not previously known from Australia. The following details are a collation of the information gathered during the three observations.

The bird had a rather dishevelled appearance. The wings were broad, rounded at the tip, and arched across the remiges. The tail was substantial and composed of loose, untidy, filamentous plumes; it was fairly long but proportionally much shorter than that of a Pheasant Coucal, comprising ~40% of the total length of the bird.

The overall length of the bird was ~39–45 cm, as determined by comparison with the two bird species most similar in size that were present at the time. It was certainly more bulky and longer than the Black-faced Cuckoo-shrike *Coracina novaehollandiae*, given by Coates *et al.* (1997) as 33 cm long. Except for a shorter neck and bill, the total head and body length was judged to be about that of a Buff-banded Rail. Using dimensions given by Marchant & Higgins (1993), the length of the body (i.e. overall length minus the tail) of the Buff-banded Rail is ~25 cm. Thus, deducting 2–3 cm for shorter bill and neck, and using an estimated 1.8 overall-length to body-length ratio for the Ashmore Reef bird, the total length approximated 42 cm.

### Plumage

The head and body generally appeared dark brown. Better views revealed that the colouration was not uniform but was finely and strongly patterned dark brown and buff. Pale shaft-streaks were present on the upper back, nape and head, most noticeably on the head. At times this gave the impression of an overall paler head, approaching that of a Pheasant Coucal in non-breeding plumage. The flight-feathers were predominantly bright rufous or rich chestnut, above and below. A pale panel in the upperwing-coverts was cinnamon-rufous-brown chequered with barring. The underwing-coverts appeared dark, but were not well seen. The outer rectrices were distinctly black, indicating that little or no black was present elsewhere in the plumage. The underparts were, however, viewed only laterally and very briefly. Most of the central part of the tail was barred with brown, but whether this was the actual colour of the rectrices, the uppertail-coverts or a combination of both was not clear in the field, although the presence of long filamentary plumes was established. When MC and FP later examined skins at Museum Victoria, it

was evident that these plumes were actually very long uppertail-coverts, which in this species can extend almost to the tip of the tail.

### *Bare parts*

The bill was large, heavy and somewhat finch-like in shape. It was very pale, appearing shiny and bone-coloured or pale greyish, most probably darker along the ridge of the culmen.

The dangling feet appeared dark.

### *Flight*

When flushed, the bird rose rapidly and strongly from the ground, with feet dangling, more in the manner of a Buff-banded Rail than the laborious take-off of a Pheasant Coucal. Once airborne, it flew with a slightly drooping tail, rather high and direct for a coucal, but still somewhat laboured. It did not glide, except briefly when banking to drop into cover.

### *Photographic record and interpretation*

Five digital images of the bird in flight were obtained by RC on 31 October within a period of 4 seconds. Although blurred, they confirmed many characters observed in the field, including the dangling feet. However, as variation of light and shade even in good photographs can produce erroneous or misleading impressions, these images were treated with caution. Nevertheless, it is considered that they reveal the following.

1. Rufous or russet-brown remiges, visible on both surfaces of the wings, becoming progressively darker in the tertial region.
2. Primaries and some secondaries have dark tips (small on the latter).
3. Excluding finer detail, the body is essentially dark grey.
4. Black rectrices.
5. Underwing-coverts appear dark grey, but this impression may be affected by shade.
6. Some pale mottling or streaking on a largely dark-grey dorsum, more pronounced around the head region and less evident towards the rump.
7. Long uppertail-coverts, lying over the centre of the uppertail and extending almost to the tail-tip. These are marked or mottled with brown, whereas the adjacent outer rectrices are uniformly black.

## **Identification**

### *Size*

From the above it is clear that the bird was a coucal, and given that its total length was estimated to be in the range 39–45 cm, four species should be considered: Lesser Black (Bernstein's) Coucal *Centropus bernsteini*, Sunda Coucal *C. nigrorufus*, Short-toed Coucal *C. rectunguis* and Lesser Coucal.



**Immature Lesser Coucal apparently sunbathing at Bipolo, near Kupang, Timor, mid August 2004**

Plate 21

Photo: Neville Kemp

All other species inhabiting surrounding regions are too large: Pheasant Coucal (length 54–68 cm) from Australasia (Higgins 1999); species from Wallacea (immediately to the north and east)—Goliath Coucal *C. goliath* (67 cm), Pheasant Coucal (~50 cm), Kai Coucal *C. spilopterus* (53–62 cm) and Bay Coucal *C. celebensis* (51 cm) (Coates *et al.* 1997); species from the Greater Sundas to the north-west—Greater Coucal (52 cm) (MacKinnon & Phillipps 1993); and species well to the east in New Guinea—Menbeki Coucal (Greater Black Coucal) *C. menbeki* (59–69 cm) and Violaceous Coucal *C. violaceus* (64 cm) (Coates 1985). These lengths are supported by other texts such as del Hoyo *et al.* (1997), Strange (2001) and Payne (2005). Species occurring elsewhere in the world are not relevant.

Plumage characters also eliminate many of these species, already safely eliminated on size alone. Two of the species in the relevant size range (39–45 cm)—Lesser Black (Bernstein's) Coucal (41–51 cm) from New Guinea (Coates 1985) and Sunda Coucal (46 cm) (Coates *et al.* 1997)—are easily eliminated on plumage, as neither has rufous in the secondaries, a feature very evident in the Ashmore Reef bird. This therefore narrows the diagnosis to just two species: Lesser Coucal or Short-toed Coucal.

The size range of the Lesser Coucal is extraordinarily large, with wing-length varying from 125 to 205 mm and weight ranging from 82.7 to 290 g (Payne 2005). The overall length given in the literature varies from 31–34 cm for the nominate subspecies from India (Payne 2005), through 31–38 cm (del Hoyo *et al.* 1997), 38 cm (Robson 2000), 42 cm (MacKinnon & Phillipps 1993; Strange 2001) to 37–48 cm (Coates *et al.* 1997; Trainor *et al.* 2007). This enormous variation is related to subspecific variation and to sexual dimorphism; females are considerably larger than males, and can be twice their weight (Payne 2005).

According to White & Bruce (1986), del Hoyo *et al.* (1997) and Payne (2005), there are five subspecies of Lesser Coucal. The nominate *Centropus bengalensis bengalensis*, for which most data are available and which ranges from India to South-East Asia, is the second-smallest form. The subspecies resident in the Lesser Sundas, and therefore the most likely source of a vagrant on Ashmore Reef, *C.b. sarasinorum*, is much larger (Payne 2005). Wing-length of nominate males ‘averages’ 145.0 mm and of females 165.9 mm (Payne 2005); the corresponding measurements for *C.b. sarasinorum* are 153.4 and 178 mm (Payne 2005). *C.b. sarasinorum* is thus apparently ~6–7% larger. A comparison of weights given by Payne (2005) indicates a much greater differential, with female *C.b. sarasinorum* weighing an average of 82% more than male *sarasinorum* and 78% more than females of the smallest subspecies, *C.b. javanensis*. No data on weights for the nominate subspecies are provided.

Payne (2005), the most modern and complete text, is misleading on overall length. Although he provides a full set of standard scientific measurements for males and females of all subspecies, under ‘Field characters’ only one set of overall lengths is given, and these are from India where the second-smallest subspecies occurs. Inexplicably, no overall length is given for the larger subspecies relevant to this case. Also deficient in this regard is del Hoyo *et al.* (1997). The local field-guides proved more helpful than the more scientific works in providing a guide to size in the field.

The overall length of the Short-toed Coucal, a monotypic species, is given as 38–43 cm by Payne (2005), 43 cm by del Hoyo *et al.* (1997) and 37 cm by Robson (2000). MacKinnon & Phillipps (1993) gave the length as 30 cm, but this is probably a typographic error as it conflicts with the size adjectives given in that text: the Short-toed is described as ‘large’ at 30 cm long, Greater is similarly ‘large’ but 52 cm, Lesser as ‘largish’ at 42 cm, and Sunda also as ‘largish’ at 46 cm long.

#### *Identification as a Lesser Coucal and elimination of Short-toed Coucal*

It was concluded from the evidence discussed below that the Ashmore Reef bird was a Lesser Coucal rather than a Short-toed Coucal. Robert Payne (*in litt.* 4 May 2006), author of the 2005 definitive work, *The Cuckoos*, agreed with this conclusion. In addition, the nearest population of the Short-toed Coucal is in Borneo, >1200 km to the north-west, so that species is extremely unlikely, if not impossible, as a vagrant to Australia. Many of the features discussed below are visible in the photograph of a Lesser Coucal taken at Bipolo, near Kupang, Timor, in mid August 2004 (Plate 21).

#### *Uppertail-coverts*

The long, rather hairy looking, flimsy uppertail-coverts of the Ashmore Reef bird are a feature of the Lesser Coucal in juvenile, immature, and adult non-

breeding plumage (see Plate 21). No other coucal has this feature in any plumage, so it is diagnostic (Grimmett *et al.* 1998; Robson 2000; Payne 2005). In other species, the uppertail-coverts are short in birds of all ages and at all seasons.

#### *Colour of bill*

Although the bill of the Lesser Coucal is black in breeding plumage, it is described or illustrated as being pale or horn-coloured in non-breeding adults, juveniles and first-year birds (Viney & Phillipps 1989; Lekagul & Round 1991; MacKinnon & Phillipps 1993; Coates *et al.* 1997; Grimmett *et al.* 1998; Wells 1999; Robson 2000; Payne 2005). Although the photograph of the Lesser Coucal in Strange (2000) is of a dark-billed bird, that in Strange (2001) is of a pale-billed bird, as is that in Plate 21. Unfortunately, the localities where Strange took his photographs are not stated. The bill of the Short-toed Coucal is never as pale as in the Ashmore Reef bird; it is black in breeding as well as non-breeding adults, and brown in juveniles (MacKinnon & Phillipps 1993; del Hoyo *et al.* 1997; Wells 1999; Robson 2000; Payne 2005).

#### *Colour of wings*

The rufous in the wings of the Ashmore Reef bird was much paler and brighter than in the Short-toed Coucal, and the amount of black at the wing-tip was more than would be visible in that species (Payne *in litt.* 4 May 2006). In the Short-toed Coucal, the rufous is much darker. These distinctions are well shown in the plate in Robson (2000). Errors in printing resulted in improper colour rendition in Payne (2005) (Payne *in litt.* 4 May 2006), so the illustrations in that work are not reliable in regard to colour. The dark tip and trailing edge to the wings visible in the flight photographs of the Ashmore Reef bird are apparent in the Timor bird (Plate 21).

#### *General plumage*

Plate 21 shows a bird in similar but not identical plumage to the bird seen on Ashmore Reef. Features of the Ashmore Reef bird described here and displayed in that bird are the general proportions, broad wings, substantial tail, untidy plumage, pale streaking on the head and upper body, rufous or chestnut flight-feathers, and black rectrices. Also shown are the pale head, a very pale bill and the very long, flimsy, uppertail-coverts. The back of the Ashmore Reef bird was probably browner, and the uppertail-coverts or the central rectrices, or both, appeared much browner. This plumage is typical of adult non-breeding and juvenile Lesser Coucals. Birds in intermediate plumages are common (Payne *in litt.* 4 May 2006). Juvenile Short-toed Coucals may have some resemblance to this plumage, but they do not possess the pale streaking on the back of the head and upper body nor the long uppertail-coverts (MacKinnon & Phillipps 1993; del Hoyo *et al.* 1997; Wells 1999; Robson 2000; Payne 2005).

#### *Underwing-coverts*

From the texts available during the observations, we had narrowed the identity options to the two now under discussion. Lesser Coucal was the favoured taxon, but it was difficult to eliminate Short-toed Coucal entirely. According to Robson (2000), the most significant difference between these species is the colour of the underwing-coverts, stated to be black in the Short-toed Coucal and chestnut in the

Lesser Coucal. Of those in the party willing or able to comment on the colour of the underwing-coverts, opinion was divided. GS considered that they were blackish grey, and RC believes that at least one of his photographs demonstrates that they were blackish grey, but the others thought that they were brownish, similar in colour to the remainder of the plumage. Thus the actual colour of the underwing-coverts, whether dark blackish grey, or paler, was not resolved. Nevertheless they appeared darker than might be expected from a study of the literature.

On our behalf, Payne investigated the colour of the underwing-coverts of the subspecies of Lesser Coucal that occurs adjacent to Ashmore Reef, *C.b. sarasinorum*. He forwarded images of one male and one female from specimens in the American Museum of Natural History. It is believed that these specimens were selected for photography out of a larger series because they had loose wings that allowed access to the feature of interest, rather than being exceptional individuals. Although none of the visible underwing-coverts are uniformly dark grey or black, it is noteworthy that most coverts are variously grey-centred (mostly greater coverts) or barred black (apparently median coverts). In the male, it is estimated that roughly a third of the visible covert area is represented by black or grey feather elements in the form of bars or dark feather centres rather than the rich cinnamon on the remainder of the visible underwing. It is thus likely that flight views of a bird in this plumage or blurred photographic images would show underwing-coverts that appeared significantly darker and greyer than the remainder of the underwing. Because of the small sample, it is not possible to comment on the incidence of this feature in the population, or whether it is more prevalent in a particular age, sex or plumage phase (breeding/non-breeding). This demonstrates that Lesser Coucals of the subspecies *C.b. sarasinorum* may show darker plumage in this area under field conditions. In comparable photographs of Indian birds, the nominate subspecies, provided by Payne, the underwings are not so darkly marked.

#### *Subspecific identity and sex*

Because this was a large individual with rather dusky underwing-coverts, and because of the proximity of Ashmore Reef to the Lesser Sundas, we conclude that it was of subspecies *C.b. sarasinorum* and probably a female.

#### *Age*

Regarding the age of the bird, Payne (*in litt.* 4 May 2006), commented:

The back of the bird in the best photo shows the barred central tail feathers of immature plumage and the dark outer feathers of a later plumage. Sometimes these barred juvenile rectrices are retained into the post-juvenile non-breeding plumage and even into birds in moult from this non-breeding plumage into first breeding plumage with black below. Birds in our collection that are in breeding plumage (all black below) are mostly all black in the tail, but a few show some barred central feathers (presumably these are birds in their first breeding plumage).

In your photos, the belly and under-tail coverts look paler than black, but most of the underparts look black, and this to me suggests a bird that is moulting. That is a mixture of some first-non-breeding plumage and some breeding plumage. The distinct pale shaft streaks above show that the bird is not a juvenile, because the juveniles have a dark rusty shaft that does not contrast with the other rusty plumage.

Thus we conclude that, although not a juvenile, the bird was immature.

### Credibility of this occurrence

The Lesser Coucal has a widespread range extending continuously from India east through southern China to Taiwan, south throughout the whole of South-East Asia, the Philippines, the Greater Sunda Islands and Wallacea east to Tanimbar (del Hoyo *et al.* 1997; Payne 2005). It is resident in most of its range but some individuals migrate from parts of China to South-East Asia (Payne 2005). Immediately to the north of Ashmore Reef, the species is resident and generally moderately common throughout the lowlands of Wallacea, inhabiting scrub mixed with tall grass (Coates *et al.* 1997). The most likely source of the Ashmore Reef bird is Roti, where it is known to occur (Mees 1975). Timor, which is adjacent to that island, is also a possibility. This Coucal has exceptional island colonisation abilities. In the Lesser Sundas it is the eighth most frequent resident landbird (of 252 bird species considered), with records from 32 of 51 islands (Trainor 2010). On Timor-Leste it is a common resident in a variety of habitats (Trainor *et al.* 2007). The large size of the bird is consistent with the taxon resident in that region. If the journey were made unaided or without landing on a floating object, the minimum flight-distance would be ~140 km. This may seem a great distance for a member of a genus generally considered to be weak, laboured flyers, but should not be beyond the capacity of this species, considering that some populations are migratory. One was mist-netted at floodlights at Fraser's Hill, Malaysia, when on migration at night (Payne 2005). Even non-migrant populations must move around, as they are known to colonise new sites when the habitat becomes suitable. One such instance was the island of Krakatau subsequent to its eruption, and involved a flight across open water of at least 15 km (Payne 2005).

That Ashmore Reef acts as a refuge for migrants is evident from the number of vagrants that have occurred there. These include Grey Nightjar *Caprimulgus indicus* (Carter 2009), House Swift *Apus affinis* (Palliser 2005), Black-crowned Night-Heron *Nycticorax nycticorax* (Pike 1993; Milton 2005), White-breasted Waterhen *Amaurornis phoenicurus* (Palliser 2006), Brown Hawk-Owl *Ninox scutulata* (Pike 1993; Milton 2005), Yellow Chat *Ephianura crocea* (MC, RC & GS pers. obs.), Tiger Shrike *Lanius tigrinus* (MC, RC & GS pers. obs.), Island Monarch *Monarcha cinerascens* (Palliser 2008), Middendorff's Warbler *Locustella ochotensis* (MC, RC & GS pers. obs.), Oriental Reed-Warbler *Acrocephalus orientalis* (Palliser 2008, 2009), Pale White-eye *Zosterops citrinella* (MC, RC & GS pers. obs.), Arctic Warbler *Phylloscopus borealis* (Pike 1993; Milton 2005; Palliser 2006, 2008), Asian Brown Flycatcher *Muscicapa dauurica* (Clarke *et al.* 2009), Pale-headed Munia *Lonchura pallida* (Palliser 2002) and Pechora Pipit *Anthus gustavi* (Carter 2003).

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