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White-throated Nightjar *Eurostopodus mystacalis*: Diurnal Over-sea Migration in a Nocturnal Bird

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Summary

A White-throated Nightjar *Eurostopodus mystacalis* was photographed flying low above the sea in the Gulf of Carpentaria, Queensland, at ~1600 h on 25 August 2010. Sightings of Nightjars behaving similarly in the same area in the days before obtaining the conclusive photographs suggest that they were on southerly migration, returning from their wintering sojourn in New Guinea to their breeding grounds in Australia. Other relevant sightings are given, and the significance of this behaviour is discussed.

The evidence

Observations in 2010

At 0900 h on 21 August 2010, whilst conducting a fishing charter by boat in the Gulf of Carpentaria off the western coast of Cape York, Queensland, BB observed an unusual bird flying low over the sea. Although his view was sufficient to excite curiosity, it did not enable identification. Twice on 23 August 2010, the skipper of a companion vessel, who had been alerted to the sighting, had similar experiences. Then at 1600 h on 25 August 2010, BB saw 'the bird' again. In order to determine its identity, he followed it, which necessitated his boat reaching speeds of 20–25 knots. During the pursuit, which lasted 10–15 minutes, he obtained over 15 photographs and a video recording. He formed the opinion that the bird was a nightjar, most probably a White-throated Nightjar *Eurostopodus mystacalis*. Six digital images were forwarded to MC, who confirmed the identification. Four, Plate 9, are reproduced here.

The bird flew ~0.5 m above the sea, occasionally rising to a height of >2 m. Its flight was purposeful on a steady course, other than when trying to evade the boat. Wings were raised high on the upstroke and deep on the downstroke, with occasional glides on flat wings. It was heading south, parallel to the coast. When detected, it was ~4 km offshore from the mouth of the Skardon River. This is ~100 km north of Weipa, ~95 km south of Torres Strait and 275 km from the southern coast of Papua New Guinea. The weather at the time was fine, sunny and calm.

An observation in 2009

On 20 November 2009, Kristy Philliskirk saw a White-throated Nightjar flying around a ship moored at the wharf in Weipa. She learned from the crew that it had settled on the ship in daylight while this was at anchorage 26 km west-south-west of Weipa, and remained aboard during its transit to Weipa that same day. Two of the photographs she obtained when it perched on a railing are included here (Plate 10). The bird appears typical of the species, but as no part of the tail is visible in the

White-throated Nightjar at sea in Gulf of Carpentaria, 25 August 2010

Plate 9 Photos: Ben Bright

photographs it would appear to have lost its tail. We speculate that the tail was lost in an attack by a predator, and that this event may have influenced the bird to seek refuge on the boat. The date of this occurrence is later than might be expected, but as the species is not known to occur on the western side of Cape York in summer (Higgins 1999), we consider that it was most likely a late migrant heading south.

Historical data

Draffan *et al.* (1983) stated that the White-throated Nightjar is a passage migrant through the western isles of Torres Strait. In that paper (p. 218), the paragraph on this species quoted K. Cross (pers. comm.) as advising that at 'Booby Island during September and October, [Nightjars] arrived during the day travelling low over the water singly or in pairs'. Attempts to contact this observer to ascertain more detail, such as frequency and time of day, have failed. Specimens have been collected from Booby Island on 16 and 20 September and in October (Higgins 1999).

Identification

The flying bird photographed on 25 August 2010 is identified as a White-

throated Nightjar because it was a very dark nightjar without large white patches in the wings or tail (Higgins 1999). Other Australian breeding species, the Spotted Nightjar *Eurostopodus argus* and Large-tailed Nightjar *Caprimulgus macrurus*, as well as the vagrant Savanna Nightjar *C. affinis* and Grey Nightjar *C. jotaka**, have broad white panels about mid-length of the outer primaries visible from above and below (Cleere & Nurney 1998; Higgins 1999). The panel in those species is formed by large white spots on primaries numbered 7–10 (p7–10). The equivalent spots in the White-throated Nightjar are tiny, absent, or present as small spots on p8 and p9 (Higgins 1999). These spots are clearly visible in the photographs of this bird (Plate 9), as illustrated in Higgins (1999). The white throat is also visible (Plate 9, top right) but, in spite of the specific name, this is not diagnostic because several other nightjars also have white throats. New Guinean species, Archbold's Nightjar *E. archboldi* and Papuan Nightjar *E. papuensis*, are eliminated because, although they have a general resemblance to the White-throated Nightjar, they have no white spots on the primaries (Coates 1985; Cleere & Nurney 1998). In any case, both are resident species (Coates 1985; Cleere & Nurney 1998), and are therefore unlikely to occur off Cape York.

Also sedentary is the very rare Solomons Nightjar *E. nigripennis* (Cleere 2010), previously regarded as a subspecies of White-throated Nightjar (Cleere & Nurney 1998; Higgins 1999). That taxon is eliminated because it has pale spots on four outer primaries forming a small band (Cleere & Nurney 1998; Hadden 2004, shown well in the painting by Peter Slater therein).

Discussion

The White-throated Nightjar breeds in eastern Australia from Cape York, Qld, to southern Victoria (Higgins 1999; Barrett *et al.* 2003). Although the Queensland population is at least partially resident, the Victorian and New South Wales population is considered to be migratory, spending the winter in central-eastern Queensland, north-eastern Queensland or New Guinea (Higgins 1999; Barrett *et al.* 2003). The species does not breed in New Guinea and is not found there in summer, birds present there from late March to mid September being migrants from Australia (Coates 1985).

According to Higgins (1999), Queensland White-throated Nightjars start singing and nesting in August. In 2010 (the year of the observation described in the present study), in Greater Brisbane at one Samford Valley property, where the species is at least partially resident, birds were first heard singing on 28 August (R. McNeill *in litt.* 29 August 2010), and at Elimbah, a bird was incubating one egg on 7 September (C., B. & J. Khu *in litt.* 12 September 2010).

Higgins (1999) stated that White-throated Nightjars return to New South Wales in August and September. However, Stephen Debus (*in litt.* 11 October 2010) reported hearing and seeing a Nightjar singing in July in the Burringbar Range near Murwillumbah on the far northern coast of New South Wales. Keith Brandwood (*in litt.* 29 August 2010) advised that the earliest arrival date that he has for any year in the Sydney region is 13 September.

*It should be noted that in Christidis & Boles (2008) and Carter (2009) the scientific name for the Grey Nightjar was given as *C. indicus*. In Cleere (2010) that nomenclature has been assigned to the Jungle Nightjar, now considered by Rasmussen & Anderton (2005) to be a distinct species.

White-throated Nightjar in Weipa harbour, 20 November 2009

Plate 10 Photos: Kristy Philliskirk

The species does not reach Victoria until October or even November, and it is believed that individuals start singing and commence breeding immediately on arrival (Higgins 1999). Frank Pierce (*in litt.* 30 August 2010) advised that in each of the 15 years to 2009 that he has lived at the Bend of Islands, 33 km north-east of Melbourne, Victoria, the earliest date he first heard a White-throated Nightjar was 2 October, and the latest was 23 October.

Information on the habits of the White-throated Nightjar during migration is scant, and is not mentioned in the most recent monograph on nightjars (Cleere 2010). Cleere & Nurney (1998, p. 176) stated, 'On migration, it often occurs and feeds in loose flocks of up to 20 or more. No further information is available'.

The combination of these new observations and previous knowledge indicates that the migration of this species in spring occurs over nearly 3 months, i.e. from late August to late November, and that, at least at times, that passage is diurnal. Diurnal migration has been recorded for the European Nightjar *Caprimulgus europaeus*, so is not a new phenomenon for the family.

Cleere & Nurney (1998, p. 233) stated that the European Nightjar 'Usually migrates at night, singly or in loose flocks of up to 20+ birds. Occasionally migrates diurnally, but only in low numbers, 1–3 birds'. Newton (2010) also maintained that nightjars migrate mainly at night, but stated that no species migrates exclusively at night. Lewis (2009), while with other observers, described seeing a series of at least six European Nightjars out of sight of land whilst crossing by ferry the 18-km-wide strait between mainland Oman and the island of Masirah, in the Arabian Sea, mid morning on 1 November 2007. Two approached the ferry, one landing on the deck below parked lorries, and the other settled on the rail. This was not the first occasion that the species had been seen from that ferry. The group speculated as to whether these birds were diurnal migrants 'or feeding on invertebrates migrating across or blown over the sea'. He stated (p. 631) that 'Nightjars at sea off the Dorset [UK] coast have been seen mainly in the evening'. There is some speculation that many of the claimed 'all dark' storm-petrels seen from shore in western Europe are really European Nightjars (Flood 2009). Confusion with Bulwer's Petrels *Bulweria bulwerii* has also been suggested (Flood 2009).

In Australian waters, nightjars have been found aboard ships at sea on at least two previous occasions. A Grey Nightjar spent a night resting aboard a ship anchored at Ashmore Reef in December 2003 (Carter 2009), and on 23 August 2005 a nightjar was photographed on the rail of a ship in the adjacent waters of the Timor Sea at 11°56′S, 125°00′E. Initially, this latter bird too was thought to be a Grey Nightjar, but this was not accepted by the Birds Australia Rarities Committee (Case no. 493), being considered more likely to have been a Savanna Nightjar (Palliser 2008). It has since been suggested (Jeff Davies *in litt.* 31 July 2008) that that individual could have been a Spotted Nightjar, since variation within immature plumages of that species is not well known. The Spotted Nightjar occurs in the Lesser Sundas, probably only as a migrant from Australia (Coates & Bishop 1997).

Some theories

A White-throated Nightjar flying at ~30 kph, as estimated by comparison with the speed of the pursuing boat, could easily have reached the latitude of the Skardon River from somewhere in New Guinea, a minimum distance of ~275 km, in the 11 daylight hours available to it before the time of observation (1600 h).

Depending on its route, in that time it could have traversed the whole of Torres Strait, bypassing numerous islands, potential resting places. Newton (2008, p. 29) stated that 'The division between day and night migrants is most obvious from take-off times, with diurnal migrants leaving mainly in the morning and nocturnal ones mainly in the evening'. We therefore consider departure during full daylight extremely unlikely, so the possibility that the Nightjar departed from either New Guinea or an intervening island is negligible. Thus MC postulates that the nocturnally feeding White-throated Nightjar might choose to migrate by day, so that the nights before departure and on arrival are available for feeding. It may share this strategy with some of its congeners such as the European Nightjar. Many diurnal bird species migrate mainly at night, and the first of six reasons proposed for this behaviour by Newton (2010) is optimisation of feeding time, as postulated here for the nocturnal nightjar. Flying over the sea, parallel to land not far distant, could be a strategy to avoid predators.

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