

Short Communications

Island Colonisation After Possible Reconnaissance by the Yellow-bellied Sunbird *Nectarinia jugularis*

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Island colonisation is a poorly understood process with profound genetic consequences. Particularly little is known about the individuals that do the colonising because, in a natural situation, the opportunities to study the characteristics of an individual before it colonises are infrequent.

Booby Island is an island of 4 ha, 23 km west of Goods Island, the closest of a compact cluster of moderately large continental type islands surrounding Thursday Island in Torres Strait (Garnett *et al.* 1989). The island is largely bare rock and has been a lightstation for more than a century. In recent years the lightkeepers have nurtured a small area of vegetation in a sheltered gully and around buildings so that the island probably has more vegetation now than at any time since European settlement in 1890. Between March 1987 and September 1989 birds were regularly banded and counted at Booby Island. Observations have since continued on an irregular basis. Though over 150 species have

been recorded on the island, no land birds were recorded breeding until August 1989.

Among the birds regularly observed and captured for banding were Yellow-bellied Sunbirds *Nectarinia jugularis*, a species resident on Goods and other nearby islands (Draffan *et al.* 1983). Most sunbirds were brief visitors between June and November (Fig. 1), a time of low rainfall in the region. Nine of the 19 birds banded were adult males, the remainder either adult females or immatures which are indistinguishable. Though none were seen actually arriving or leaving, they were readily detected when present. Of particular interest was bird #015-74404, an uncoloured bird banded on 5 August 1988. It remained on the island for at least three weeks, during which time it was recaptured twice. Previously only one other Yellow-bellied Sunbird had been recaptured, four days after banding. None were either seen or captured between 31 October 1988 and 1 May 1989. On 17 August 1989 #015-74404 was recaptured, now in

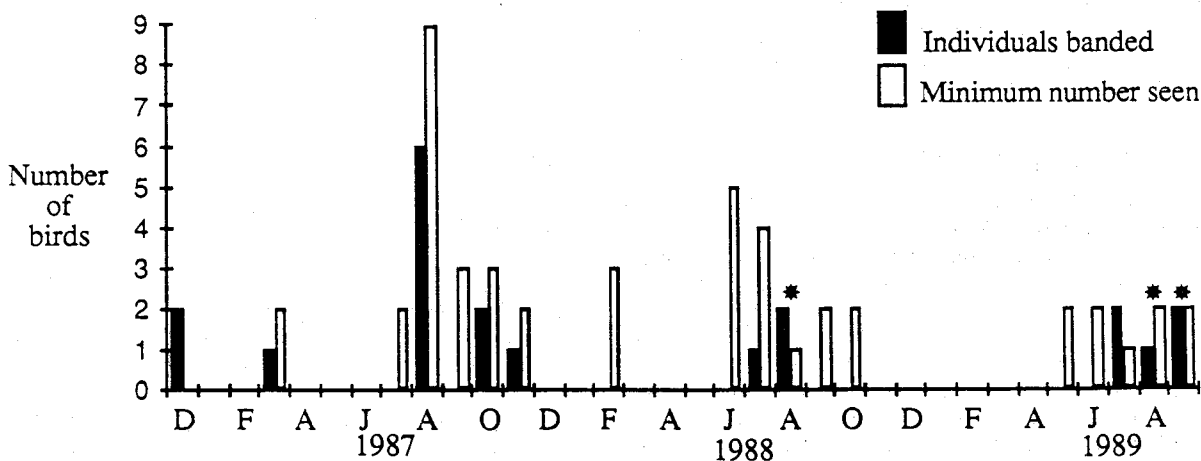


Figure 1 Occurrence of Yellow-bellied Sunbirds at Booby Island, Torres Strait. * indicates presence of banded bird #015-74404.

adult male plumage. Shortly afterwards he was seen with a mate who began building a nest. She was banded on 4 September. The pair unsuccessfully attempted to nest four times between August 1989 and April 1990, on each occasion losing their nest in high winds, and were still present in June 1990. This is the first known nesting attempt by any land bird on Booby Island.

It is usually assumed that island colonists are juveniles and that the process of colonisation is essentially random (O'Connor 1986). There has been considerable debate about the frequency with which new potential colonists reach islands and the role of stochastic events in the composition of island avifaunas (e.g. Diamond 1975; Simberloff 1978). The observations reported here suggest that colonisation may not always be a random process. That the eventual colonist had not only visited Booby Island a year earlier but, at that time, stayed longer than any other sunbird, suggests the first visit may have been a reconnaissance for possible breeding sites. Further, the apparent brevity of the period between his return and the start of breeding suggests he found his mate during his absence.

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Increased Mortality of Birds on an Elevated Section of Highway in Northern Tasmania

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Numerous studies have documented mortality of fauna on roads both overseas (McClure 1951; Hodson 1966; Bellis & Graves 1971) and in Australia (Vestjens 1973; Disney & Fullagar 1978; Coulson 1982; Brown *et al.* 1986). However, there is little information on the influence of highway design on road kills and this is mainly discussed in terms of ways to keep animals off roads, e.g. use of fencing or underpasses. This paper reports the comparative mortality rates of fauna on an elevated and on a standard section of highway in northern Tasmania.

Methods

A new section of highway bypassing the town of Deloraine in northern Tasmania was opened to traffic on 8 June 1990. This bypass runs through pastoral country with only one small section of open woodland to one side of the road. For 2.8 km the road is elevated (maximum height 8.5 m) above the level of the surrounding farmland.

A railway line, a river with a contiguous road and a large culvert pipe carrying a creek pass under this elevated section of highway. Guard rails run along both