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A NOTE ON COMMUNAL BREEDING AND DISPERSAL OF YOUNG OF THE HOODED ROBIN *PETROICA CUCULLATA*

Courtney & Marchant (1971) noted that, in the ACT, breeding pairs of the Hooded Robin *Petroica cucullata* repeatedly were attended by an additional male, either fully plumaged or beginning to assume full plumage. The share in nesting duties undertaken by supernumary birds could not be ascertained. Rogan (1964) reported and photographed two females that apparently laid in the same nest, suggesting polygamy by the species.

At Wollomombi, near Armidale NSW, during a study from 1978 to 1982, only one pair of Hooded Robins was observed. The pair occurred in a largely cleared paddock outside woodland. The birds only entered the woodland when following mixed-species feeding flocks, usually based on the Buff-rumped Thornbill *Acanthiza reguloides*. Outside the woodland they regularly followed flocks based on either the Yellow-rumped Thornbill *Acanthiza chrysorrhoa* or Brown Treecreeper *Climacteris picumnus*. The Hooded Robins occupied a home range of ca. 6 ha during the breeding season, which expanded to ca. 30 ha during the non-breeding period. There seemed to be no other Hooded Robins within a kilometre in all directions.

Presuming that the pair were the same birds throughout the study period, I was able to follow their fortunes. In 1978 they nested at least twice on bare horizontal branches in large trees; both nests were predated. In 1979 they nested again, in a similar situation, with the same result. In 1980 they nested again, in a stump one metre high and underneath a dense bush of *Bursaria spinosa*. They laid and hatched two eggs and both young fledged on 29 September. I banded both young.

The young birds were netted, while still with their parents, in March 1981, and both showed evidence of moulting into male plumage. Moults were complete by about May of that year, because two banded males were seen and no other Hooded Robins are known to have been banded in the area.

In October 1981 two unbanded birds and a banded male were back in the home range that had been occupied by the unbanded breeding pair in previous years. I saw the female carry nesting material up to a large tree, accompanied on each trip by the two males. The nest, possibly just commenced, could not be seen. Meanwhile, 200 m distant, a new pair of Hooded Robins had set up a territory or home range. The new pair consisted of a banded male and unbanded female. Aggression occurred between the pair and the trio along what I presume was a territorial boundary. All birds, including the helper male, joined in territorial disputes. Unfortunately, because of absence, I could not follow up events during the rest of the season.

In autumn of 1982 the new pair was absent but the trio of two old birds and a banded male were seen together during autumn and early winter. I made few visits during the breeding season of 1982 and found only two birds, a banded male and unbanded female. These birds could have been the new pair; unlikely however, because it was absent the previous autumn. Alternatively, the original male may have died and been replaced by his helper son.

It would seem that the Hooded Robin meets the

classification of Dow (1980) of an opportunistic communal breeder. If there is no available territory for a young male it may remain with its parents. Rogan's (1964) observation of a breeding of two females and one male may have been a case of a young female remaining with its parents. At Wollomombi there was no pressure on space for territories but there may not have been eligible mates for both the banded young males.

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THE FOOD OF ANTARCTIC PETRELS (*THALASSOICA ANTARCTICA*)

For two years the Australian Antarctic Division has been studying the oceanography and biology of the Prydz Bay area (Lat. 67°S, Long 75°E), specially the distribution and abundance of Antarctic krill *Euphausia superba*. The present study was conducted to clarify the importance of krill in the diet of Antarctic Petrels *Thalassoica antarctica*, about 3-5 million of which nest in the Prydz Bay area.

Wilson (1907), Gain (1914), Falla (1937), Voous (1949), Bierman & Voous (1950) and Griffiths (1983) found krill along with other species in the stomachs of Antarctic Petrels. However because of the circumstances under which the birds were collected and the small sample sizes involved, it was felt that further investigation was warranted.

Seventeen (11 male, five female and one unsexed) Antarctic Petrels were shot as they flew to and from a roosting site on an iceberg at 67°31'S, 74°39'E, between

midnight and 0300 GMT on 16 December 1982. The birds were shot and collected from a rubber dinghy, launched from the resupply vessel M.V. Nella Dan. Dead birds were weighed, sexed, and frozen and transported back to Hobart. Here their stomach contents were weighed to the nearest gram and the prey species identified. Prey was usually in good condition so the identification of most species was not difficult. Euphausiids were identified using the key in Kirkwood (1982), fish were identified by R. Williams (Australian Antarctic Division) and cephalopod beaks by M.R. Clarke (Marine Biological Association, Plymouth). The percentage contribution of each food type to the total stomach contents was estimated and, whenever possible, the Standard Lengths of the fish, the Reference Measurement (RM) of the euphausiids and the number of euphausiid eyes recorded. The frequencies of occurrence of prey species found in the stomachs in this and other studies are shown in Table I.

TABLE I

The frequency of occurrence of the major food types in the diet of Antarctic Petrels.

	Number Examined	Crustacea	Cephalopoda	Pteropoda	Fish	Whale Remains
This study	17	17 (100)	3 (18)	0	1 (6)	0
Falla (1937)	14	7 (50)*	6 (43)	0	3 (21)	0
Voous (1949)	28	18 (64)	13 (46)	5 (18)	10 (36)	8 (29)
Griffiths (1983)	34	24 (71)	22 (65)	0	26 (76)	0
Total	93	66 (71)	44 (47)	5 (5)	40 (43)	8 (9)

* Falla split crustacea up into *Euphausia* and other crustacea so the frequency of occurrence of Euphausiids is shown. No such distinction was made by others.

() = percentage frequency of occurrence.