

FIRST RECORD OF THE LARGE GRASSHOPPER WARBLER *LOCUSTELLA FASCIOLATA* FROM ISLANDS EAST OF NEW GUINEA

The Large Grasshopper Warbler *Locustella fasciolata* (also known as Gray's Grasshopper Warbler) breeds in eastern Siberia and migrates through Japan and coastal China to its winter quarters in the Philippines, Celebes, Moluccas, and New Guinea. Most New Guinean records are from the western half: Kebar Valley, Manokwari, Fakfak, Nabire, Weyland Mts. and Wissel Lakes plus Gebe, Misool, Waigeo, Salawati, Biak, Yapen, and Yamna Islands (Rothschild & Hartert 1903; Hartert *et al.* 1936; Mayr 1941; Junge 1953; Mees 1965; Hoogewerf 1971; King 1979). I am aware of only three records from the eastern half of New Guinea: Moitaka (Finch 1982), Vanimo and Kiunga (Finch 1985). There are also recent records from Northern Territory (McKean 1984).

In 1962 the Danish Noona Dan Expedition collected on islands of the Bismarck Archipelago north-east of New Guinea. The expedition brought back about 1000 bird skins, which are in the Zoological Museum, University of Copenhagen. While studying this collection, I found that it contained one specimen of *L. fasciolata*, collected 10 April 1962 at Lemkamin (elevation 900 m) on the Lelet Plateau of New Ireland. The field label notes that the bird was a young male. Measurements are: wing 74 mm, exposed culmen 16 mm.

This is the easternmost record for *L. fasciolata*, and the sole record for an island east of New Guinea. The date of 10 April also appears to be the latest record for

the New Guinean region: other records fall between 4 October and 9 March plus one record from 26 March.

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THE PARTICIPATION BY CUCKOOS IN MIXED-SPECIES FLOCKS OF INSECTIVOROUS BIRDS IN SOUTH-EASTERN AUSTRALIA

There is little evidence in the literature of parasitic cuckoos joining mixed-species feeding flocks (MSF) of insectivorous birds except accidentally. In the Palearctic, where adult Cuckoos *Cuculus canorus* spend only a short time, which is within the breeding season of their hosts (Wyllie 1981), participation is unlikely. However, even in the tropics, although MSF are a prominent feature of the avifaunas, few cuckoos seem to participate. In African forests, Greig-Smith (1977) recorded the Didric Cuckoo *Chrysococcyx cupreus* in an MSF but

informed me (pers. comm.) that this was an isolated occurrence. Greig-Smith (1978) recorded MSF in African savanna during the wet season but neither of the parasitic cuckoos present, *Chrysococcyx klaas* and *C. caprius*, joined them. G.R. Cunningham-Van Someren and M.P.S. Irwin (pers. comm.) have never seen African cuckoos in MSF. In Malaysia, McClure (1967) only rarely recorded the Violet Cuckoo *Chrysococcyx zanthorhynchus*, Emerald Cuckoo *C. maculatus* and Drongo Cuckoo *Surniculus lugubris* in MSF. In New

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Guinea Bell (1983a) failed to record a parasitic cuckoo in 300 MSF, despite seven species being present in the area. Among other brood parasites only cowbirds *Molothrus* spp. appear to join MSF. In North America the parasitic Brown-headed Cowbird *Molothrus ater* frequently joined MSF and led other species in them more often than being led (Morse 1970). This took place in late summer, after breeding and before autumn migration broke up the mixed-species flocking. Cowbirds are mobbed by host species as are cuckoos (Skutch 1954).

When discussing the composition of MSF of insectivorous birds at Canberra, Australian Capital Territory (35°10'S, 149°06'E) (Bell 1980), I presented data showing participation in the flocks by brood-parasitic cuckoos. These data were queried by some readers so, in later studies at Wollomombi, New South Wales (30°32'S, 152°02'E) I took special note of such occurrences, to rule out mere coincidence.

Studies at Wollomombi were made from September 1978 to May 1982, during which the occurrence and composition of all MSF encountered were recorded. The criteria for membership of an MSF were: that at least three birds of two species were present, that all members had to be within about 25 m of an individual of another species, that a flock had to stay together for at least five minutes and that all members had to move at least about 30 m in the same general direction. I chiefly studied thornbills, *Acanthiza* spp., small insectivorous birds that are both major hosts of cuckoos and nuclear species of MSF, i.e. those that other species follow. Where time permitted, details of foraging behaviour of member species were noted.

Foraging data collected, both in and out of MSF, were: height from ground, substrate and plant species foraged upon, and foraging method used. Censuses on all species of birds were taken four to six times monthly using the 'count on narrow strip' method of Emlen (1971). Instances of cuckoos being mobbed by potential host species were recorded only where time permitted; thus many occurrences were seen but not noted.

RESULTS

Table I shows the numbers of MSF joined by various species of cuckoos, the times of the year in which each species was present at both Canberra and Wollomombi and recorded incidences of mobbing of cuckoos by host species at Wollomombi. Pallid Cuckoos *Cuculus pallidus*, Horsfield's Bronze-Cuckoos *Chrysococcyx basalis* and Shining Bronze-Cuckoos *Chrysococcyx lucidus plagosus* were apparently totally migratory at both localities, arriving in late September and early October. Brush

Cuckoos *Cacomantis variolosus* arrived in November. Only Fan-tailed Cuckoos *Cacomantis pyrrhophanus* were present year-round but in very low numbers during late autumn and winter. Most cuckoos left in March or early April. The periods of presence are taken from my census data from Canberra (Bell 1979) and Wollomombi (unpubl.).

TABLE I

Observations of cuckoos in mixed-species flocks (MSF) of insectivorous birds and mobbing of cuckoos by host species at Canberra A.C.T. and Wollomombi N.S.W. (underlining shows months when species present; double underlining shows period where most abundant).

	J	J	A	S	O	N	D	J	F	M	A	M			
Canberra															
Pallid Cuckoo										1	1				
Fan-tailed Cuckoo										<u>1</u>					
Horsfield's Bronze-Cuckoo										<u>3</u>					
Shining Bronze-Cuckoo										<u>1</u>	<u>4</u>				
Wollomombi															
Fan-tailed Cuckoo	1	2	3	4						4	5	1			
Horsfield's Bronze-Cuckoo										<u>1</u>					
Shining Bronze-Cuckoo										<u>7</u>	<u>1</u>				
Total		1	2	3	4					3	19	7	1		
Mobbing of Cuckoos by host species at Wollomombi															
Fan-tailed Cuckoo										2	1	1			
Shining Bronze-Cuckoo										2	2	3	2	3	1
Total										4	3	4	2	3	1

Table II summarizes the occurrences of cuckoos in and out of MSF, each season, compared with the frequency of all MSF at Wollomombi. Although cuckoos are present in numbers throughout most of the Austral spring (Table I) they rarely join MSF at that period, the main breeding season of birds in south-eastern Australia. Most occurrences of cuckoos in MSF were in the post-breeding period of autumn; even though MSF's are most common in this period, cuckoos were seen in them disproportionately often. During autumn and winter cuckoos were seen more often in MSF than out of them. Over 87% of all MSF included host species and there were no significant differences (χ^2 , $P > 0.1$) between the occurrence of cuckoos in MSF including and not including host species. There is no reason to believe that cuckoos change seasonally in their relative visibility.

The host species of cuckoos in south-eastern Australia are fairly well known (North 1911; Disney 1976). Pallid and Brush Cuckoos parasitize largely open nesters while the others mentioned parasitize mainly builders of domed nests. Pallid and Horsfield's Bronze-Cuckoos frequent