

## SHORT COMMUNICATIONS

### SUGGESTED DEFENSIVE DISPLAY BY BLACK-FACED CUCKOO-SHRIKES

On 5 November 1968 Mrs T. Kloot, Mr J. Hyett and I watched a pair of Black-faced Cuckoo-Shrikes *Coracina novaehollandiae*, that had a nest, 2 m from the ground, with two young about a week old, at Altona, Victoria. When the nest was approached, the two adults, which were indistinguishable, dived continually at us, calling, but came no closer than 1.5 m. When we withdrew about 10 m, both flew about in the trees above the nest. When they alighted between attacks, they raised the feathers of crown and nape, fanned their tails, and held their beaks open showing the pinky-red palates. While gaping they were silent. One flew out of sight. The other perched, preened the breast feathers, puffing them out while it preened under the slightly raised wings, and preened the rump feathers, raising all back and rump feathers. It moved its position in the tree twice, then flew to another tree about 10 m from the nest, and began to preen, again raising the body feathers continually so that the silhouette was rounded. The wings were constantly flicked higher than normal. After five minutes it stopped preening, but held the body feathers raised. The first bird returned, remaining normally sleek. The displaying bird still held the plumage of breast, rump and back raised, and did not preen. It then turned its back to us, and raised even more fully the rump and back feathers, with the wings lying like knife blades on either side. We moved away; gradually the bird hopped and flew closer to the nest, and finally settled on it.

On 8 November 1968 Mrs T. Kloot, Mr R. Cooper and I visited the nest. An adult flew off the nest when we approached, and two adults dived at us, once coming within 0.3 m, calling repeatedly. One bird perched, and fanned its tail and white under tail-coverts, with beak open, silent. It then fanned only the under tail-coverts three more times, without opening its beak and with the feathers of the crown raised. Both birds flew about in the trees, constantly changing position and calling, and wiped their beaks repeatedly on branches. Once a breast feather was wiped against a branch. Both preened the breast, rump and under the wings, and while

doing so raised these feathers, but it appeared to be normal preening and not the sudden spectacular raising of feathers without preening that we saw before. The birds never seemed as agitated as they did the first time; wing-lifting was not markedly higher than is normal, and the attacks were not as persistent.

All Australian Campephagidae except the Ground Cuckoo-Shrike *Pteropodocys maxima* have the plumage of the back and rump 'thickly matted, partially erectile, and equipped with rigid pointed shafts' (Thomson 1964, A New Dictionary of Birds: 173). When describing behaviour of both sexes of the Black Cuckoo-Shrike *Campephaga phoenicia*, Skead (1966, Ostrich 38: 74) suggests that the raising of rump-feathers may act as a mechanism of defence. Marshall *et al.* (1968, Ostrich 39: 203) described a similar display seen just before copulation. Except that they seem to have stronger shafts, the feathers of the rump of this South African species resemble those of Australian birds. Mr L. W. C. Filewood (*in litt.*) describing behaviour of the Papuan Cuckoo-Shrike *Coracina papuensis* at Kieta, Bougainville, Solomon Islands on 7 June 1969 states: 'I saw a Cuckoo-Shrike displaying its "spinescent" rump-feathers — or so it seemed — the other day . . . The display took place in a large leguminaceous tree, about 10 m above ground level . . . The whole rump-tuft was raised as a unit, while the tail and wings drooped, and the beak gaped . . . A similar display by Cicada-birds *Edoliusoma tenuirostris* but without raised rump-tuft was also seen several times.' There seem to be no published records of displays in the field in Australia.

Records of such displays by Australian species would be valuable. This note may perhaps stimulate interest in a matter which is nowhere well documented and is still poorly understood.

I thank Mrs T. Kloot for her field notes, Mr A. R. McEvey for allowing me to examine skins in the National Museum of Victoria, and the Director of the NMV for arranging to obtain South African material on loan from the South African Museum of Cape Town.

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# PRE-MIGRATORY DEPOSITION OF FAT IN THE RED-NECKED STINT

It is generally accepted that, before migrating, long-distance migrants acquire substantial deposits of fat, which cause a significant increase in weight. However, there are very few quantitative data on this increase in waders. This note records the increase in weight of Red-necked Stints *Calidris ruficollis* before they leave south-eastern Tasmania for the breeding grounds. Birds were collected, by permission of the Animals and Birds Protection Board, from early September to late April, and the monthly mean weights, together with the range of weights, are shown in Figure 1. We have been unable to detect any significant difference in size between the sexes in this species, and have therefore not shown the sexes separately in Figure 1. All birds were adults, except three collected on 27 April after the majority had left the area. Because these were moulting into first summer (non-breeding) plumage, they were thought to be immature and are shown separately in Figure 1.

Weight varies little from September to March, both months inclusive, the average weight of 87 birds for the period being 21.7 gm. The heaviest bird, collected in April, weighed 41 gm, 19.3 gm heavier than the September–March average, an increase of no less than 89 per cent. Middlemiss (1961, Ostrich 32: 107-121) recorded an April weight 91 per cent above the March average for a Little Stint *C. minuta*. The measurements of the bird (♀) that weighed 41 gm did not suggest that it was larger than average. The 95 per cent confidence limits for the distribution of individual weights about the September–March average are  $\pm 4.7$  gm, so that 97.5 per cent of all birds would weigh less than 26.4 gm. Even if this is taken as the normal winter weight

of the bird in question, an April weight of 41 gm still represents a gain in weight of 55 per cent.

Most birds retained some subcutaneous fat

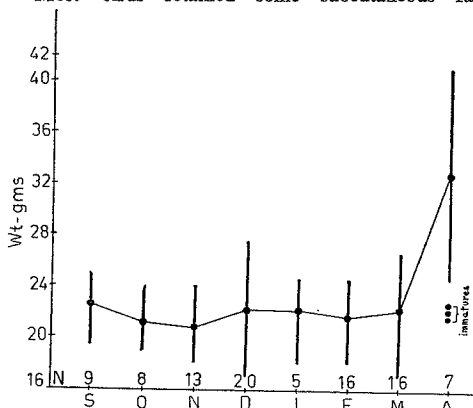


Figure 1. Monthly variation in weight (mean and range) of Red-necked Stints wintering in south-eastern Tasmania.

throughout the time they were in south-eastern Tasmania, and the amount of fat in several was determined. After removal of the stomachs the carcasses were ground, the fat extracted with ether which was evaporated, and the oily residue heated until no emulsion products were visible. This was the only method available and probably gave results that are comparative rather than absolute (Table I). The female collected on 12 December had very little fat, but in general the amount of fat probably does not change importantly until near the end of the wintering period, i.e. as migration approaches.

TABLE I  
Fat content of Red-necked Stints wintering in south-eastern Tasmania

Sex	Date collected	Total weight gm	Fat gm	Body weight Fat weight
♂♂	26.x.67	19	2.53	7.5
	26.xii.67	19	2.05	9.3
	31.xii.67	22	3.81	5.7
	10.iii.68	21	4.06	5.2
	16.iii.68	24.5	4.59	5.3
♀♀	9.ix.67	21	2.35	8.9
	12.xii.67	21.5	1.44	14.9
	2.ii.68	23	3.30	7.0
	2.ii.68	23.5	3.12	7.5
	16.iii.68	23.5	5.03	4.7

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