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## STARVATION OF CURLEW *NUMENIUS ARQUATA* CHICKS

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While surveying one of the Peak District moors for breeding Golden Plovers *Pluvialis apricaria* on 11 June 1988, DWY heard anxiety squeaking from wader chicks which, when eventually traced, were emanating from two Curlew *Numenius arquata* chicks. It took about 15 minutes to trace, ring, weigh and release both chicks, during which time there were no adults in attendance. The following day on another moor about 15 km away, the same thing occurred, though only one of these two chicks was actually traced and ringed. Again, no adults were present.

Ten days later, PEY was surveying the first area using our Labrador Chad to search for corpses of chicks killed by other dogs. She located the decayed, almost mummified, remains of the two Curlew chicks, still huddled together apparently where DWY had left them. This prompted a survey of the other area on 3 July, without success. However, on 10 July, Chad picked up a decayed corpse, which proved from its ring to be the third chick, about 300 m away from where it had been ringed.

We had earlier ringed six other chicks, newly hatched, at two nest sites (one on each area). These weighed, on average 50 g, and had bills 19 mm long (Table 1). We thought, from behaviour of adult Curlews in those territories during earlier censuses, that the three older chicks were 8-10 days old, and certainly their bills were around 5 mm longer. However, their weights were on average lower than those of the six newly-hatched chicks. It seems clear that they had died of starvation.

The main early source of food on these

cotton-grass *Eriophorum* dominated moors is the flush of the crane-fly *Tipula subnodicornis*. However, after a mild spring, these hatched rather early in 1988, and the peak counts (over 10 per minute) lasted only from 12-21 May. A second food source, in the form of abundant lycosid spiders and carabid beetles, usually follows the tipulid season, but in 1988 a cool wet spell in mid-June seems to have delayed or minimised this food supply (we were not operating pitfall traps in 1988, but usually one sees spiders running about, and they were not evident during this period).

Probably we are not the only wader-ringers who have heard these alarm calls on the moors, and used them to trace and ring the chicks. We have presumed in the past that the chicks were cold, and calling for their parents to brood them. Only the notable ability of our Chad allows us to suggest with some confidence that they are in fact starving. This raises several interesting ethical problems. Should one ring such chicks? (We could not have made our case without doing so.) Should one try to feed such chicks, or take them into captivity to feed them up for a few days? If one did, would their parents return to brood and guard them? (It seems unlikely.) The scientific argument, undoubtedly, should be that one does ring them, letting nature take its course, and then hope to find the evidence. Clearly, all those people ringing wader chicks on moorland should avail themselves of a good Labrador!

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Table 1. Weights and bill lengths of Curlew *Numenius arquatus* chicks ringed in the Peak District in 1988. (A) newly hatched chicks, ringed at the nest, (B) older chicks, heard giving distress calls on the moor.

RING NO	DATE	WEIGHT (g)	BILL LENGTH (mm)	GRID REF	DATE FOUND
<b>A newly hatched</b>					
FV55491	21.v.88	47	19	SE068063	----
FV55492	21.v.88	45	18	SE068063	----
FV55493	2.vi.88	55	19	SK086921	----
FV55494	2.vi.88	51	18	SK086921	----
FV55495	2.vi.88	50	19	SK086921	----
FV55496	2.vi.88	54	21	SK086921	----
	x	50.3	19.0		
	SD	3.9	1.1		
<b>B older chicks</b>					
FV55497	11.vi.88	47	23	SK066915	21.vi.88
FV55498	11.vi.88	52	25	SK066915	21.vi.88
FV55499	11.vi.88	43	25	SE053049	10.vii.88
	x	47.3	24.3		
	SD	4.5	1.2		