

**WEIGHTS AND PROBABLE ORIGIN OF AN EXCEPTIONAL MOVEMENT OF
BLACKCAPS ETC. ON LUNDY IN OCTOBER 1984**

By

J. M. B. KING

Fiveways, Bratton Road, West Ashton, Trowbridge, Wilts, BA14 6AZ

On 10 October 1984 an unprecedented fall of Blackcaps *Sylvia atricapilla* took place on Lundy accompanied by many Chiffchaffs *Phylloscopus collybita* and the largest ever movement of Goldcrests *Regulus regulus*. There had been a period of over a week before this when little movement had taken place. The weights of all these migrants were remarkably high, which made it reasonable to assume that they had been delayed on passage and put on more weight than is usual this far north.

On 9 October a reasonable movement started, mainly of Swallows *Hirundo rustica* and Goldcrests, which could well have originated fairly locally, and the large influx started around dawn on 10 October. The numbers of Blackcaps were estimated visually and supported by a capture/recapture calculation from du Feu et al's tables. Goldcrest and Chiffchaff numbers were assessed visually. On this basis there were 250 Blackcaps (58 trapped) 400 Goldcrests (94) and 150 Chiffchaffs (28). The largest number of Blackcaps recorded previously in a day was 50 and of Goldcrests 180: Chiffchaffs have been much higher at 350.

The weights for 10 October for Blackcaps and Chiffchaffs were compared with the remaining all-October weights from 1975-84 (Blackcaps) and 1979-84 (Chiffchaffs): the Goldcrest weights for 9 & 10 October were homogeneous and have been amalgamated to compare with the all-October weights from 1979-84 (table 1).

The difference between the means for all three species is highly significant: in all cases the probability of this being a chance variation is much less than 0.1%. The Blackcap weights all fall within the range previously recorded on Lundy (15.7g-25.6g compared with 15.5g-28.1g); the mean is 15% above normal. The Chiffchaff weights are shifted upwards: the minimum of 8.1g is higher than the normal mean, and the maximum of 11.6g was so much above any expected figure that the bird was weighed twice in case some stupid error had been made. Nevertheless, the mean is in line with the Blackcap increase, being 14% above normal. Goldcrests fall within the normal range, and the mean is only 7% above normal.

TABLE 1.

	n	10 Oct 84		all-Oct		
		mean	s.d.	mean	s.d.	
Blackcap	58 239	22.17	1.81	19.23	2.23	p<0.001
Chiffchaff	28 68	9.19	0.86	8.05	0.97	p<0.001
Goldcrest	94 212	5.67	0.40	5.28	0.38	p<0.001

The Blackcap mean all-October weight of 19.23g is consistent with the October figures for Portland (20.0g) and Dungeness (19.4) given by Langslow (1976). These birds were postulated by him to have arrived direct from south Denmark or the Netherlands giving a take-off weight of around 24.0g. If the 10 October birds had been delayed in the west of the Netherlands and moved out on the evening of 9 October they would have had a 300 mile flight to Lundy which would take 12 hours at 25 mph; the wind during this period along their assumed flight path was negligible. At a weight loss of 0.186g per hour a mean take-off weight of 24.4g is indicated: even the heaviest bird at 25.6g would have to be assumed to have a take-off weight of 27.8g, well within the observed maximum on Lundy. Normal October migrants tend

to stay around for a few days; those on 10 October were all gone by the morning of 11th and at the observed weights the majority could have flown directly to southern France or northern Spain (all figures based on Langslow 1976 qv).

Autumn recoveries of ringed Blackcaps in Britain suggest an origin for October birds in the Netherlands, Belgium, West Germany and Austria (Langslow 1979). Weather conditions for the week prior to 9 October were highly unfavourable to the inception of migratory movements anywhere in the North Sea and Channel area. On 8 October an occluded front was passing across Britain, stretching roughly SW-NE and had cleared the Midlands by midnight: by 1800 on 9 October it had passed across Britain and cleared the coastal areas of Belgium and the Netherlands leaving a temporarily clear area with very light winds to the north and west. This could have been sufficient to stimulate delayed migrants in this area to further movement: the front however persisted along the south coast of England and the winds to the north of it remained very light and variable thus keeping the birds on a course more or less due west so that they arrived in the Lundy area around dawn.

There is no evidence on the migration strategy of Chiffchaffs: their movement could have originated in the north of England or even in the same area as the Blackcaps. They also all disappeared by the morning of 11 October and it seems reasonable to assume that they could achieve a single hop say to southern France since their mean weight was a similar percentage above normal to that of the Blackcaps. The Goldcrests may well have come in two waves, both delayed: their weight gain was not so great, but this is consistent with their shorter potential onward movement.

The Bristol Weather Centre supplied Daily Weather Summaries and very kindly advised me on their interpretation.

REFERENCES

- DU FEU, C. R., HOUNSOME, M. V. and SPENCE, I.M. 1983. A Single Session Mark/Recapture Method of Population Estimation. Ringing & Migration 4: 211-226.
 LANGSLOW, D. R. 1976. Weights of Blackcaps on Migration. Ringing & Migration 1: 78-91.
 LANGSLOW, D. R. 1979. Movements of Blackcaps Ringed in Britain & Ireland. Bird Study 26: 239-252.

TABLE 1

Species	n	mean	s.d.	mean	s.d.
Blackcap	28	22.7	1.84	20.7	1.23
Chiffchaff	28	20.19	0.88	19.7	0.97
Goldcrest	24	17.67	0.80	17.28	0.78

The Blackcap mean all October weight of 19.7g is consistent with the October (mean 20.19g) and Langslow (1976) mean of 20.7g. The Chiffchaff mean of 19.7g is consistent with the October (mean 20.19g) and Langslow (1976) mean of 20.7g. The Goldcrest mean of 17.28g is consistent with the October (mean 17.67g) and Langslow (1976) mean of 17.67g. The mean weight of 19.7g for Blackcaps is a mean take-off weight of 21.4g is indicated. At a weight loss of 0.15g per hour, a mean take-off weight of 21.4g is indicated. The mean weight of 19.7g would have to be assumed to have a take-off weight of 21.4g well within the observed maximum for many Northern European migrants (Langslow 1976).