

NOTES ON THE WEIGHTS AND MEASUREMENTS OF SOME MIGRANT SPECIES

BY BARBARA WHITAKER

The following is a brief synopsis of the weights and measurements of some of the species trapped from 1951-56. The material has not been submitted to a statistical analysis, but it brings out some points of interest and is compared in some instances with the paper on Skokholm Bird Weights by K. and E. Browne (*British Birds*, 1956). (Note.—Juv.=juvenile or 1st winter plumage as does juvenile used subsequently in the text.)

TABLE I
SPRING

| Species | No. Specimens | Mean Wing Length | | No. Specimens | Mean Wing Length | |
|---------------------|---------------|------------------|-------------|----------------|------------------|-------------|
| | | m.m. | Range m.m. | | m.m. | Range m.m. |
| Grasshopper Warbler | 17 | 62.4 | 59-66 | 5 | 60.3 | 57-63.5 |
| Sedge Warbler | 114 | 64.0 | 60-68.5 | 53 | 62.8 | 60-68 |
| Chiffchaff | 89 | 58.3 | 53-64 | 127 | 58.7 | 54-64 |
| Spotted Flycatcher | 31 | 83.8 | 77-88 | 52 | 83.8 | 76-88 |
| | | Mean Weight | | | Mean Weight | |
| | | in grams | Range grams | | in grams | Range grams |
| Black Redstart | 1 | 18.5 | — | 2 Ad. M. | 15.4 | 14.3-16.5 |
| Black Redstart | | | | 9 1st W. or F. | 15.9 | 13.7-19.8 |
| Grasshopper Warbler | 15 | 12.7 | 11.2-14.6 | 4 | 13.3 | 13.0-13.5 |
| Sedge Warbler | 63 | 11.5 | 9.3-14.0 | Ad. 2 | 11.7 | — |
| | | | | Juv. 15 | 12.7 | 10.5-17.3 |
| Whitethroat | 180 | 13.6 | 11.0-19.7 | Ad M. 21 | 16.5 | 15.3-18.7 |
| | | | | Ad. F. 8 | 16.2 | 15.0-17.1 |
| | | | | Juv. 145 | 15.7 | 12.6-18.6 |
| Chiffchaff | 35 | 7.5 | 6.2-9.4 | 87 | 8.2 | 6.7-11.2 |
| Spotted Flycatcher | 18 | 14.4 | 12.0-15.2 | 31 | 15.3 | 13.2-17.5 |
| Pied Flycatcher | — | — | — | Ad. 7 | 14.2 | 12.3-17.3 |
| | | | | Juv. 24 | 13.4 | 11.1-22.0 |

The mean weight in autumn was slightly higher in 1956 than in any of the other five years for Black Redstarts, Sedge Warblers, Whitethroats and Pied Flycatchers. The highest weight of an individual of a species was also found in autumn 1956 for all the above species except the Whitethroat and Chiffchaff. The highest weight for these two species was found in the autumn of 1954. Both 1954 and 1956 were characterized by low average temperatures and high rainfall. It seems that such weather is not disadvantageous to small passerine species.

The above species were also analysed for weight differences according to the time of day, being divided into those trapped before and after 1000 hrs G.M.T. The Spotted Flycatcher was the only species to show a marked difference. During the two daily cruises undertaken in autumn the Flycatchers have been found to be late risers and it seems likely that they have fed little when

trapped early ; whereas the other species analysed would probably have been feeding for several hours before being caught as the trap is seldom reached before 7.30 to 8 a.m.

Sedge Warbler (*Acrocephalus schoenobaenus*)

As is seen from the figures in Table I we get the greatest number of Sedge Warblers passing through in the spring and comparatively few autumn birds. The same situation occurs on Skokholm, but at Jersey Observatory (W. D. Hooke, in litt.) where their main trap is situated in a reed bed, very few spring adults are trapped but large numbers of autumn juveniles are.

| <i>Spring Frequency Distribution of Wing Lengths</i> | | | | | | | | | | |
|--|----|----|----|----|----|----|----|----|----|----|
| Wing Length m.m. | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 |
| No. Specimens | 3 | 3 | 22 | 40 | 52 | 50 | 14 | 7 | 4 | 1 |

The frequency distribution of wing lengths does not show a bimodal curve due to the big overlap in wing lengths between the two sexes, but if the wing lengths are divided into birds trapped before and after May 9th and 15th, there is quite a marked difference due to the earlier passage of the males.

| <i>Before 9th-15th May</i> | | | | <i>After 9th-15th May</i> | | | |
|----------------------------|-------------|--------------|-------------|---------------------------|-------------|--------------|-------------|
| No. | | Mean Average | | No. | | Mean Average | |
| Specimens | Wing Length | Specimens | Wing Length | Specimens | Wing Length | Specimens | Wing Length |
| 1955-56 | 78 | 64.6 | | 40 | 63.3 | | |

The wing lengths (Table I) range both above and below those given by the Handbook, i.e. male and female, 62 m.m. and 67 m.m. The average spring weight of adults on Skokholm was 11.2 grms as compared to our 11.5, their juveniles were 11.3 to our 12.7 grms. Amongst some other species compared, Lundy's juveniles average higher than do Skokholm's. It may be that Lundy with a greater amount of cover available presents far better feeding possibilities than Skokholm, and that this accounts for the higher Lundy weights.

Chiffchaff (*Phylloscopus collybita*).

In autumn first winter and adult birds are difficult to tell apart and, although this has usually been attempted, for this analysis both classes have been lumped together. The autumn birds show the usual heavier weight than the spring birds but not a markedly shorter wing length, possibly due to a passage of Scandinavian birds in autumn.

| <i>Frequency Distribution of Spring Wing Lengths</i> | | | |
|--|--------------------------------------|-------------------------------------|-------|
| Wing Length m.m. | <i>Period I</i> | <i>Period II</i> | Total |
| | <i>Birds Trapped before 11 April</i> | <i>Birds Trapped after 10 April</i> | |
| 53/54 | 1 | 5 | 6 |
| 55/56 | 2 | 24 | 26 |
| 57/58 | 4 | 6 | 10 |
| 59/60 | 16 | 8 | 24 |
| 61/62 | 13 | 6 | 19 |
| 63/64 | 4 | 0 | 4 |

The mean wing length of Period I birds is 60.0 m.m. and for Period II 57.0 m.m. The final column of the table shows two peaks at 55.5 m.m. and 59.5 m.m., corresponding to the average female and male wing lengths. There is a marked lack of female birds in Period I (i.e. only 5% of the total are below male wing length), but at least 21% of the total trapped in Period II are presumably female (i.e. have a wing length above the female range). The weight of the Period I birds average 8.0 grams as compared to 7.3 grams for the Period II birds.

| Period A | | Period B | | Period C | |
|-----------|-------------|-----------|-------------|-----------|-------------|
| No. | Mean | No. | Mean | No. | Mean |
| Specimens | Wing Length | Specimens | Wing Length | Specimens | Wing Length |
| 65 | 57.6 m.m. | 37 | 60.9 m.m. | 25 | 58.4 m.m. |
| | Mean Weight | | Mean Weight | | Mean Weight |
| 45 | 7.9 g. | 31 | 8.6 g. | 11 | 8.1 g. |

The autumn birds have been divided into three time periods. Period A, August and September 1st to 15th. Period B, September 16th to 30th. Period C, October 1st to mid November. Tentatively it is suggested that Period A birds may be British *P.c. collybita* (wing range male and female, 52—63 m.m.) ; Period B birds, Scandinavian *P.c. abietinus* (wing range male and female, 56—66 m.m.) and Period C birds Siberian *P.c. tristis* (wing range male and female, 54—66). Most of the autumn birds are judged to be first winter or juvenile which normally have a shorter average wing length than do the adults of the same population and yet the Period B birds had a wing averaging 0.9 m.m. longer than the spring males of Period I, which suggests very definitely the passage of a longer winged group. There is a certain amount of additional evidence from plumage details and from call notes supporting the view that the October and November birds belong to the Siberian race.

Frequency Distribution of Autumn Wing Lengths

| Wing Lengths | Period A | Period B | Period C | Period A, B & C |
|--------------|----------|----------|----------|-----------------|
| 53-54 m.m. | 3 | 0 | 2 | 5 |
| 55-56 m.m. | 23 | 2 | 5 | 30 |
| 57-58 m.m. | 15 | 6 | 6 | 27 |
| 59-60 m.m. | 11 | 4 | 5 | 20 |
| 61-62 m.m. | 10 | 14 | 7 | 31 |
| 63-64 m.m. | 2 | 10 | 0 | 12 |

On Skokholm the mean average weight in spring was exactly similar to ours i.e. 7.5 grams, in the autumn it was 8.0 grams, slightly lighter than ours (see Table I).

Whitethroat (*Sylvia communis*)

From this species it is possible to obtain some reliable data on the weight difference between adults in spring and autumn, the autumn birds averaging 2.8 grams heavier than those caught in spring. The low weight in spring is possibly due to loss of weight

on migration, the bird probably being fairly near the end of its journey, while the high weight in autumn is presumably due to the birds being near the beginning of migration. Many passerines have been shown to increase in weight before migrating. The autumn adults are also slightly heavier than the juveniles (Table I).

The spring weight of Whitethroats on Skokholm averaged 13.7 g., little different from the Lundy weight. In autumn Skokholm juveniles average 0.6 grams heavier than those from Lundy.

Spotted Flycatcher (*Muscicapa striata*)

The mean average wing length for this species is the same in autumn as in spring; this is surprising as nearly all the autumn birds are thought to be first winter which, in many other passerine species have a shorter wing than do the adults. The diurnal differences in weight for twenty-six autumn birds are listed below.

Trapped before 1000 hrs G.M.T. Trapped after 1000 hrs G.M.T.

Ten birds averaged 14.4 grams. Sixteen birds averaged 15.9 g.

Speculation as to the reason for this quite marked difference has been made earlier in the paper.

A SUMMARY OF WORK ON SOME BREEDING BIRDS, 1947-56

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The following is a summary of observations and counts made by members of the Lundy Field Society and more particularly by the somewhat rapid succession of wardens, i.e. Hugh Boyd 1948-49, David Lea 1950-51, Peter Davis 1952-53, Barbara Whitaker 1954-56.

Fulmarus glacialis. **Fulmar Petrel.**

Eggs were first recorded by F. W. Gade at the Jenny's Cove colony in 1944. Since the Society's formation, the following facts about breeding have been recorded.

| Year | Jenny's Cove | | | Gannets' Rock | | | Devil's Chimney | | |
|------|--------------------|----------|------------|--------------------|----------|------------|--------------------|----------|------------|
| | No. Sites Occupied | No. Eggs | No. Chicks | No. Sites Occupied | No. Eggs | No. Chicks | No. Sites Occupied | No. Eggs | No. Chicks |
| 1947 | 6 | 3 | 1 hatched | 3 | 1 | | | | |
| 1948 | 6 | 5 | none | 6 | 4 | 3 hatched | | | |
| 1949 | — | — | 1 hatched | — | 5 | 1 fledged | | | |
| 1950 | — | 4 | 2 fledged | — | 3 | 2 fledged | | | |
| 1951 | — | 6 | | — | 5 | | | | |
| 1952 | 11 | 9 | 3 hatched | 10 | 7 | 3 hatched | | | |
| 1953 | 15 | — | 2 ringed | 12 | — | 2 ringed | | | |
| 1954 | 12 | 9 | 3 hatched | 8 | 6 | 3 hatched | | | |
| 1955 | 13 | 7 | 5 hatched | — | 8 | 4 hatched | 1 | 1 | 1 hatched |
| 1956 | 13 | 8 | 5 hatched | 11 | 10 | 7 hatched | 1 | 1 | 1 hatched |

The numbers of Fulmars frequenting the Jenny's Cove colony seem to have remained comparatively steady for the last four years. The Gannets' Rock colony has shown a more sustained increase in