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Weights and measurements of migrant passerines, September 1962

(Reports from Falsterbo Bird Station. No 28)

By

R. E. Scott

Sammanfattning: Vikt- och måttbestämningar på flyttande tättingar under september 1962 (Meddelanden från Falsterbo fågelstation 28)

ELANDERS BOKTRYCKERI AKTIEBOLAG – GÖTEBORG 1965

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Introduction

Between September 9th and 30th, 1962, the writer weighed and measured 825 migrant passerines of 32 species at Falsterbo, Skåne, Sweden. All birds were examined in the "field" during the routine trapping and ringing activities of the bird-station. Weights were obtained on a "field" spring balance calibrated to 0.5 gms. but sensitive enough to allow measurement to 0.1 gms. Wing-lengths were obtained from the carpal joint to the tip of the longest feather, straightening the feathers but not depressing the wing, thereby leaving the natural lateral curvature. Bill-lengths were measured from the skull to the tip of the upper mandible; tarsus-lengths from within the hind toe to the centre of the "ankle" joint; tail-lengths from the body to the tip of the longest feather, measured from below.

Published information on bird weights and measurements in Sweden is comparatively rare and consequently the information acquired during the three weeks' field work is fully summarised in Table I for those species where more than ten examinations are available; and detailed in full for the remainder in the Appendix. The mean and standard deviation (s.d.) for the four measurements and the weight are shown; being based on measurements made to the nearest 0.5 mm. and weights to the nearest 0.1 gms. During the course of statistical tests used later in this paper, a value of p less than .05 was considered to be statistically significant.

This paper is intended to report on the results, and draw attention to one or two points of interest, rather than attempt a detailed analysis of the information, in the hope that it may form the basis for further work in this field.

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Table I. Weights and measurements of migrant passerines at Falsterbo, Skåne, Sweden, in September 1962.

Species	Age/Sex	No	Weight		Wing		Bill		Tarsus		Tail	
			mean	s.d.	mean	s.d.	mean	s.d.	mean	s.d.	mean	s.d.
Wren	FG.	130	8.90	.68	47.59	1.56	13.53	.45	18.63	.74	30.75	2.01
(*T. troglodytes*)												
Redstart	Ad.m.	4	14.45		82.00		14.00		22.83		56.88	
(*P. phoenicurus*)	Ad.f.	3	14.33		80.17		14.00		23.17		57.17	
	1st w.m.	20	14.42	.54	81.30	1.68	14.00	.71	23.60	.73	58.80	1.42
	1st w.f.	28	14.28	.74	78.89	1.29	14.14	.69	23.57	.94	57.25	1.99
Robin	Ad.	16	15.91	.89	71.56	1.80	14.19	.53	26.44	1.00	57.93	2.49
(*E. rubecula*)	1st w.	266	15.81	.87	71.92	1.88	14.07	.59	26.68	.79	57.49	2.27
Garden Warbler ..	1st w.	23	19.01	1.96	78.39	1.34	13.65	.76	22.13	.74	55.22	2.34
(*S. borin*)												
Willow Warbler ...	FG.	1	7.70		64.00		12.00		21.00		49.00	
(*P. trochilus*)	1st w.	25	9.00	.58	67.32	2.20	12.12	.52	21.48	.81	50.16	2.61
Goldcrest	FG.m.	57	5.85	.31	55.32	1.49	11.07	.59	18.74	.74	38.86	2.06
(*R. regulus*)	FG.f.	80	5.80	.33	52.89	1.11	11.29	.62	18.36	.71	37.06	1.83
Pied Flycatcher ..	Ad.	2	13.55		80.75		12.25		19.25		52.50	
(*F. hypoleuca*)	1st w.	22	12.08	.55	79.55	2.17	12.11	.37	18.55	.64	52.05	2.21
Dunnock	FG.	37	19.11	1.18	69.28	1.69	13.44	.55	21.07	.70	58.33	1.86
(*P. modularis*)												
Tree Pipit	FG.	10	22.08	1.23	87.40	2.62	14.40	.55	22.90	.50	63.00	2.05
(*A. trivialis*)												
Chaffinch	1st w.m.	3	23.17		89.50		14.83		20.00		69.33	
(*F. coelebs*)	1st w.f.	17	21.47	1.07	83.06	1.70	13.82	.45	19.50	.51	61.88	1.45

Definition of terms: s.d. — standard deviation; FG — full-grown, age uncertain; Ad. — adult, at least one year old; 1st w. — first-winter; m. — male; f. — female.

Age and sex differences

A statistical consideration of the figures shown in table I for those species which may be aged and/or sexed visually indicates that there is no significant difference between the weights or measurements of adult and first-winter Robins (*Erithacus rubecula*) ($p > .05$ in each case); the wing-lengths of first-winter female Redstarts (*Phoenicurus phoenicurus*) are significantly shorter than those of first-winter males ($p < .001$) but in other measurements and weight there is no difference ($p > .05$); and full-grown male and female Goldcrests (*Regulus regulus*) show no difference in weight ($p > .05$), but the female is markedly shorter in wing and tail ($p < .001$), there being less significance between the remaining two measurements, bill ($p < .05$) and tarsus ($p < .01$). The frequency distributions of wing-lengths for the latter two species are shown in tables II and III.

Table II. Frequency distribution of Redstart (*P. phoenicurus*) wing-lengths at Falsterbo, September, 1962.

Wing-length	75	76	77	78	79	80	81	82	83	84
No. Recorded 1st w.m.					4	3	4	4	2	3
1st w.f.	1	1	4	2	10	12	2		1	

Table III. Frequency distribution of Goldcrest (*R. regulus*) wing-lengths at Falsterbo, September, 1962.

Wing-length	50	51	52	53	54	55	56	57	58	59	60
No. recorded FG.m.		1	3	3	3	16	17	7			1
FG.f.	1	6	15	33	16	1	1	1			

WITHERBY *et.al.* (1940) gives sexual differences in the wing-lengths of both the Robin and Wren, with the male larger in both cases, although considerable overlap occurs; while WILLIAMSON (1951) suggests a similar sex difference in the Wrens that he examined on Fair Isle (Shetland), considering that those with wing-lengths less than 47 mm. were probably females and more than 49 mm. probably males. The frequency distribution of both these species at Falsterbo is shown in fig. I, and the rounded nature of the graphs suggests that each is made up of the sum of two normal distributions (i.e. sexes), with a considerable area of overlap. Similar frequency graphs for the tail-lengths of these species (fig. II) shows a marked bi-model pattern for the Wren, which is presumably the result of the two sexes and a tendency towards such for the Robin. BROWNLOW (1961) in an analysis of autumn Robin wing-lengths at Spurn (Yorkshire, England) considered it probable that females tended to arrive earlier than the males, with longer-winged birds occurring slightly more frequently in the latter part of the autumn. Fig. I indicates a slight preponderance of shorter-winged Robins at Falsterbo in September and possibly a higher proportion were of the female sex, although fig. II indicates a preponderance of longer-tailed birds. The frequency distribution of Wren tail-lengths presents a more normal picture for two sexes, with females peaking at 30 mm. and males at 32 mm. Birds with tail-lengths of less than 30 mm. are probably mainly (around 90%) females and those of more than 32 mm. are probably mainly (around 70%) males.

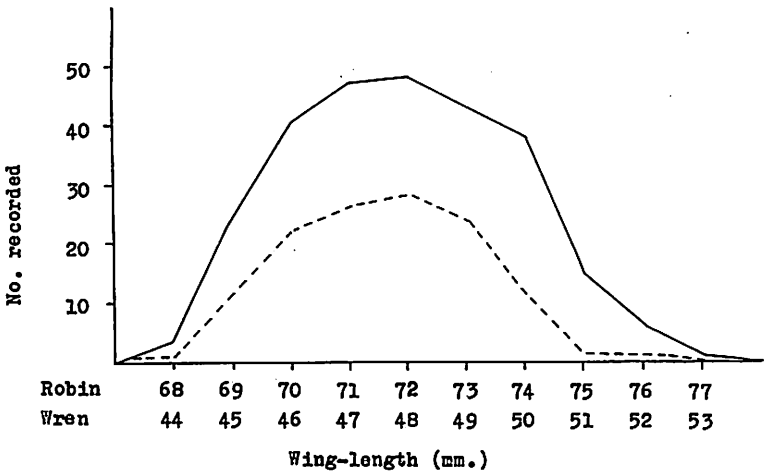

Fig. I. Wing-length frequency of first-winter Robins (*E. rubecula*) —— and fullgrown Wrens (*T. troglodytes*) - - - - at Falsterbo, September, 1962.

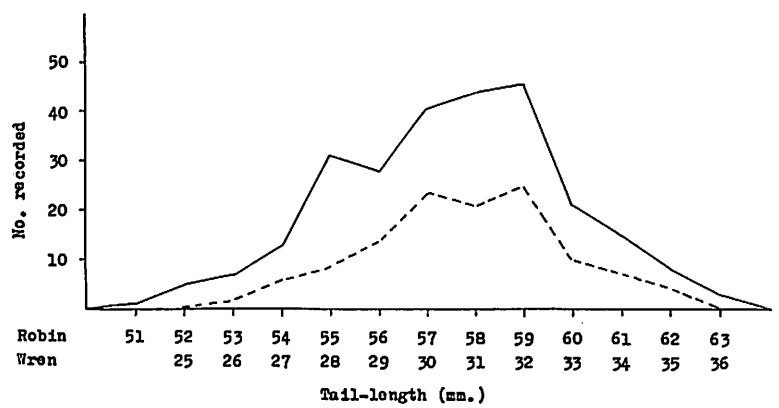

Fig. II. Tail-length frequency of first-winter Robins (*E. rubecula*) —— and fullgrown Wrens (*T. troglodytes*) - - - - at Falsterbo, September, 1962.

Wing-length/weight relationship

RAND (1961 and 1961a) discusses wing-length as a weight indicator in different populations of the same species of North American birds, and concludes that wing-length is not always an indicator of body weight within a species as a whole, particularly if different environmental conditions are involved. Although there are indications (see below) that the birds present at Falsterbo were not always from the same population, there is apparently no size (wing-length) difference between these populations; and obviously all were of migratory stock. Clearly the length of the birds' wings should reflect the bulk of the body that it must carry in flight and several examples of this were cited by WILLIAMSON (1958) in his discussion on Bergmann's rule and migration; although as with RAND he was mainly concerned with size and weight differences in different populations of the same species. Tables IV and V show that for both migrant Wrens and Robins at Falsterbo in September, 1962, increase in wing-length was reflected by an increase in weight. However, weight variation for any given wing-length may be considerable; e.g. Robins with a wing-length of 71 mm. had an observed weight range of 13.3—17.3 gms.

Table IV. Wing-length/weight relationship of FG Wrens (*T. troglodytes*) at Falsterbo, Sweden, September, 1962.

Wing-length	No.	Mean wt.	Variance	Significance
44—45.5 mm.	18	8.64 gms.	.2505	
46—47.5 mm.	52	8.64 gms.	.3121	$p < .001$
48—49.5 mm.	44	9.43 gms.	.3790	$p < .001$
50—51.5 mm.	11	10.15 gms.	.1227	

Table V. Wing-length/weight relationship of 1st w. Robins (*E. rubecula*) at Falsterbo, Sweden, September, 1962.

Wing-length	No.	Mean wt.	Variance	Significance
68—69.5 mm.	42	15.34 gms.	.4564	
70—71.5 mm.	88	15.63 gms.	.6615	$p < .05$
72—73.5 mm.	96	15.95 gms.	.5547	$p < .01$
74—75.5 mm.	33	16.32 gms.	1.1000	$p < .05$
76—77.5 mm.	6	17.18 gms.	.4683	$p < .05$

Daily weight variation in the Robin

During the three-week period of field work at Falsterbo very few recaptures were obtained from previous days' ringings, indicating that a new arrival of birds had taken place overnight with a departure of those birds present the previous day. Only the Robin showed sufficiently high daily totals to warrant a comparison between the weights on different dates. More than 20 Robins were examined on each of five different days and the weights obtained are summarised in Table VI together with a summary of the weather over southern Scandinavia during the preceding night (compiled from the Daily Weather Reports issued by the British Meteorological Office). Only initial captures were used in compiling Table VI; and there were, in fact, no re-trap weights for Robins obtained on the days in question and all examinations were made during the morning between dawn and 1300 hrs. There was no significant difference between the size (i.e. wing-length) of the birds on each of the five dates ($p > .05$ in every case).

Table VI. Weights of 1st w. Robins (*E. rubecula*) on selected dates at Falsterbo, September, 1962, and a summary of weather during the preceding night (see text).

Date	1st w. Robins			Weather		
	No.	mean wt	variance	Wind direction	Wind speed	Cloud amount
18th	44	16.35	.5676	SW	0– 7 (0)	1
19th	70	15.65	.4616	N	3–17 (7)	2
22nd	25	16.24	.5420	NW	0–12 (7)	7
24th	61	15.73	.6169	W	0–17 (2)	4
27th	18	14.79	.6277	SE	3–27 (22)	0

Notes: Wind speed is given in knots, with that for dawn at Falsterbo in brackets. Cloud amount, in oktas, is for dawn at Falsterbo. Wind direction and speed is summarised for southern Scandinavia.

The most marked feature of Table VI is the light weights on 27th, which proved to be significantly lighter than those for any other day ($p < .001$ in each case); similarly the weather was markedly different during the preceding night, with strong south-east winds and clear skies. This would suggest that the birds trapped on 27th September originated from a more easterly population; a crossing of the southern Baltic resulting from a lateral drift from their westerly or south-westerly heading by the strong south-east winds. Having completed

this greater distance during the night they are consequently lighter in weight. This goes some way to support NISBET (1957), who considered that "drift"-migration plays an important part in the movements of night migrants through Scandinavia.

A consideration of the remaining four days shows the weights of 19th and 24th to be significantly ($p<.001$) lighter than those of 18th and 22nd, although here, perhaps, the cause is not so obvious, but it may be more than coincidental that the nights preceding both the former dates were characterised by stronger winds. Further examples would be required before any reliance could be placed on this.

Comparison with southern England

BUTTERFIELD (1952) showed how bird weights at Fair Isle were significantly lower than those from Lista (Norway), and at the time of the Falsterbo field work it was hoped that it would be possible to make a similar comparison between birds departing from southern Scandinavia (Falsterbo Bird Station) and from southern England (Dungeness Bird Observatory). It was found, however, that migration in September at these two places (their positions are shown in fig. III)

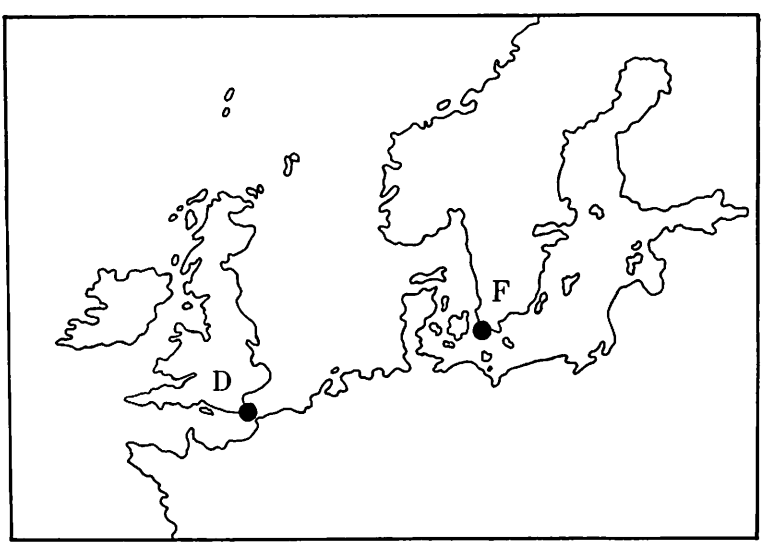

Fig. III. Illustrating the position of the two coastal stations mentioned in the text; Dungeness (D), Kent, England and Falsterbo (F), Skåne, Sweden.

was considerably out of phase; Dungeness was still mainly concerned with the warblers (*Sylviidae*), while the Wrens, Goldcrests, etc., did not appear there until October. In view of this discrepancy, it is perhaps not surprising that there should be a lack of correlation such as found by Butterfield for two areas whose migration was "in phase"; the Fair Isle birds being drift migrants, many direct from Scandinavia. A comparison between weight and size (wing-length) at Falsterbo and Dungeness for those species where sufficient September examinations are available is shown in Table VII, and although no marked general pattern is apparent throughout, several interesting facts emerge and these are detailed below under species heading.

Table VII. A comparison of weights and wing-lengths of migrant passerines in September in southern Sweden (Falsterbo) and southern England (Dungeness).

Species	Age/sex	No.	Weight			Wing-length		
			Mean	Variance	Signif.	Mean	Variance	Signif.
Redstart	1st w.m.	F 20	14.42	0.2916	p> .05	81.30	2.8220	p> .05
		D 12	14.47	0.6842		79.92	10.0000	
	1st w.f.	F 28	14.28	0.5476	p< .01	78.89	1.6640	p< .001
		D 30	15.05	1.3473		77.00	5.8667	
Robin	1st w.	F 266	15.81	0.7569	p> .05	71.92	3.5340	p> .05
		D 11	16.56	1.6346		71.50	3.7273	
Garden Warbler	1st w.	F 23	19.01	3.8420	p> .05	78.39	1.7960	p< .001
		D 13	20.19	5.4800		75.39	4.3846	
Willow Warbler	1st w.	F 25	9.00	0.3364	p> .05	67.32	4.8400	p< .001
		D 34	9.37	1.0310		63.83	6.0300	
Pied Flycatcher	1st w.	F 22	12.08	0.3025	p< .001	79.55	4.7090	p> .05
		D 34	13.85	2.9050		78.54	2.7060	
Dunnock	FG.	F 37	19.11	1.3920	p< .01	69.28	2.8560	p< .05
		D 52	20.04	3.6060		68.52	3.0190	

Within the following discussions comments on breeding, migration and wintering areas are mainly based on ringing recoveries as published by ENEMAR (1955 and 1957) and FRITZ and NILSSON (1960) for Falsterbo; and AXELL (1958 and 1959), ANON (1960) and SCOTT (1961, 1962 and 1963) for Dungeness.

R e d s t a r t. This is perhaps the most interesting species to appear in Table VII, for although the first-winter males showed no significance in the difference between weights and wing-lengths, the first-winter females are significantly lighter at Falsterbo and smaller at Dungeness (this tendency, although not significant, is present in the

males). Basically two different populations appear to be involved, with the Falsterbo Redstarts originating from further north in Scandinavia (although one breeding recovery in Germany); and the Dungeness birds comprising mainly British breeders (although individuals ringed earlier on autumn passage in Germany and Denmark have been trapped at Dungeness, and a recovery cited by THOMSON (1956) suggests that small numbers of Scandinavian birds may be involved). Recoveries from Dungeness indicate an Iberian route to winter quarters, whereas recoveries from Falsterbo would suggest a split between the south-westerly course and a more southerly journey through Italy. It would appear that the Scandinavian Redstarts are larger than the British (particularly the females) and that they have completed a longer flight or built up less fat reserves on their arrival at Falsterbo than the British birds on their arrival at Dungeness.

R o b i n. The bulk of the British Robins are non-migratory (LACK, 1943) and no breeding season recovery within Britain has resulted from a Dungeness-ringed bird. The majority of migrant Robins in south-east England apparently originate from Germany northwards as far as Finland (SPENCER, 1963, etc.). Although direct arrival no doubt takes place at Dungeness, many of the Robins recorded there are probably on onward passage after an earlier drift arrival further north on the English east coast. The Falsterbo birds presumably originate from further north and north-east and to a large extent the same population is probably involved; although a few Falsterbo birds have been recovered wintering in Italy, whereas the Dungeness birds winter mainly from France south-westward into Iberia. Lack of significant difference between the two sets of figures is not surprising, for the bulk of Dungeness birds are probably on overland onward passage and the Falsterbo birds are on overland departure from Scandinavia. In view of the results obtained for the Pied Flycatcher (*Ficedula hypoleuca*) (see below) it is perhaps surprising that there is no significance in the lighter weights for the present species at Falsterbo, although possibly the Robin is more prone to direct drift arrival at Dungeness than the Pied Flycatcher.

G a r d e n and W i l l o w W a r b l e r s: For the purposes of discussion, these two species may be considered together. The significantlS larger size of the Falsterbo birds is probably a reflection of the area of origin, the Dungeness examples consisting mainly of British breeders, the Falsterbo birds originating from further north within Scan-

dinavia or to the east. The Scandinavian population of Willow Warblers (*P. t. acredula*) is known to have a slightly longer wing (WITHERBY *et.al.*, 1940, and WILLIAMSON, 1962). A similar situation can be expected to apply to the Garden Warbler. The fact that there is no significant difference in the weights of these species at the two localities (although the mean Falsterbo weight is slightly lower for both) would suggest that the larger Scandinavian birds have either lost a higher percentage of their weight on arrival at Falsterbo or, alternatively, by this time have not built up their reserves of fat.

P i e d F l y c a t c h e r. On the east coast of Britain the Pied Flycatcher is a regular drift migrant from the Continent (Germany northwards) and as such the Falsterbo and Dungeness birds probably originate from much the same stock (no significant difference in wing-length). The significantly lower weight of the Falsterbo birds is consistent with the other species considered here, and probably many of the heavier birds at Dungeness are on redetermined passage after an earlier drift arrival on the east coast to the north of Dungeness, and by their time of capture have considerably replenished their reserves and increased their weight. (This probably applies to a higher percentage than in the case of the Robin — see above.)

D u n n o c k. Two distinct races are apparently involved, the nominant birds at Falsterbo and *Prunella modularis occidentalis* at Dungeness, although the latter may include some intermediate birds from the Continental areas closest to south-east England (VAURIE, 1959, and SCOTT, 1962a; see below). It is not surprising, perhaps, that the more migratory nature of the Falsterbo birds (wintering recoveries in France, compared with no long-distance recoveries of Dungeness-ringed birds) have resulted in significantly long-winged and low-weighted individuals.

Wing formula in the Dunnock

The present writer has earlier (SCOTT, 1962a) made a study of the wing-formula variation in Dunnock populations, where it was shown that although considerable overlap occurred between populations, the extremes were British and Scandinavian birds (only populations from north-west Europe were considered). During the course of that study, however, the only source of information for the Scandinavian birds

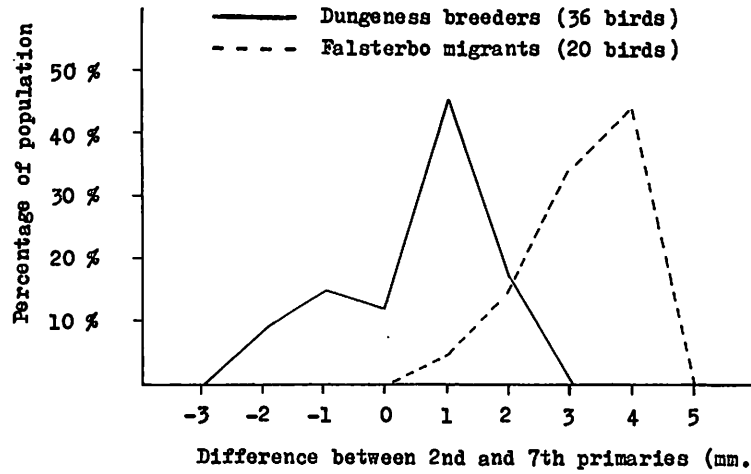

Fig. IV. Relation of 2nd to 7th primary in two Dunnock (*P. modularis*) populations.

was dried museum skins, and the three weeks' field work at Falsterbo provided an excellent opportunity to obtain a series of wing-formulae for comparison with Dungeness material. The birds trapped and examined at Falsterbo were obviously of a migratory nature, while British birds are resident, although subject to periodic eruptions (WILLIAMSON, 1962a). Fig. IV illustrates the difference in wing formula between the migratory Scandinavian population and the Dungeness resident birds (only Dungeness breeders are included in fig. IV), while Table VIII summarises this information.

Table VIII. The relation of the second primary to the seventh primary in two populations of the Dunnock (*Prunella modularis*).

Population	No.	Mean difference	Variance	Significance
Dungeness ..... (breeding birds)	36	+0.48 mm.	1.4620	$p < .001$
Falsterbo ..... (migrant birds)	20	+3.20 mm.	0.7600	

It would appear that the resident form has a more rounded wing (i.e. shorter second primary) than the regular migratory form, and similarly it has been shown above that birds trapped at Dungeness in September have shorter wings than those trapped at Falsterbo during the same month.

Summary

1. During three weeks of September, 1962, a total of 825 migrant passerines of 32 species were weighed and measured at Falsterbo. Details of these are summarised and tabulated.

2. Differences in weight and measurement are commented on for those species which may be sexed and/or aged visually. It appears that sex differences in the Wren (*Troglodytes troglodytes*) and Robin (*Erithacus rubecula*) are more apparent in tail than wing-length.

3. It is shown that mean weights of Wrens and Robins increase with length of wing.

4. Following a night of strong east winds, the Robins arriving at Falsterbo were considerably under weight when compared with those arriving under other wind conditions. Strong overnight winds from other directions may also result in lighter birds.

5. A comparison with weights and wing-lengths from southern England (Dungeness) provides several discrepancies and similarities. These are discussed.

6. A marked difference occurs between the wing-formula of resident British Dunnocks (*Prunella modularis*) and migrant Scandinavian birds of the same species. The former have a shorter more rounded wing.

REFERENCES

ANON, 1960. Dungeness Bird Observatory Report 1959: 14—16.
AXELL, H. E., 1958. Dungeness Bird Observatory Report 1957: 26—27.
— — 1959. Dungeness Bird Observatory Report 1958: 21—23.
BROWNLOW, G., 1961. Wing-lengths of the Robin (*Erithacus rubecula*). — Bird Migration 2 (1): 37.
BUTTERFIELD, W. A., 1952. A statistical note on bird weights from Lista (Norway) and Fair Isle. — Bull. Fair Isle Bird Obs. 1 (6): 30—31.
ENEMAR, A., 1955. Ringmärkningsverksamheten vid Falsterbo fågelstation 1947—1953. — VF 14 (3): 155—165.
— — 1957. Ringmärkningsverksamheten vid Falsterbo fågelstation 1954—1956. — VF 16 (1): 20—36.
FRITZ, B. and NILSSON, R., 1960. Ringmärkningsverksamheten vid Falsterbo fågelstation 1957—1958. — VF 19 (3): 208—220.
LACK, D., 1943. The Life of the Robin, London: 104—116.
NISBET, I. C. T., 1957. Passerine migration in south Scandinavia in the autumn of 1954. — Ibis 99: 228—268.
RAND, A. L., 1961. Wing-lengths as an indicator of weight: a contribution. — Bird Banding 32: 71—79.
— — 1961a. Some size gradients in North American birds. — Wilson Bull. 73: 46—56.

SCOTT, R. E., 1961. Dungeness Bird Observatory Report 1960: 26—29.
— — 1962. Dungeness Bird Observatory Report 1961: 21—26.
— — 1962a. Wing-formula variation in Dunnock populations. — Bird Migration 2 (2): 118—120.
— — 1963. Dungeness Bird Observatory Report 1962: 27—32.
SPENCER, R., 1963. Report on bird-ringing for 1962. — Brit. Birds 56: 477—524 (and earlier reports in this series).
THOMSON, A. L., 1956. The migrations of British chats (*Oenanthe, Saxicola, Phoenicurus*) as shown by the results of ringing. — Brit. Birds 49 (2): 63—73.
VAURIE, C., 1959. The Birds of the Palearctic Fauna, London: 217.
WILLIAMSON, K., 1951. Geographical variation in weight of the Wren. — Fair Isle Bird Obs. Bull. no. 1: 4.
— — 1958. Bergmann's rule and obligatory overseas migration. — Brit. Birds 51 (6): 209—232.
— — 1962. Identification for ringers, 2 The genus *Phylloscopus* Oxford: 67—69.
— — 1962a. An eruptive dispersal of Dunnocks (*Prunella modularis*). — Bird Migration 2 (2): 111—113.
WITHERBY, H. F., JOURDAIN, F. C. R., TICEHURST, N. F. and TUCKER, B. W., 1940. The Handbook of British Birds, London.

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APPENDIX

Weights and measurements of species for which less than 10 individuals were examined at Falsterbo, Skåne in September 1962.

Species	Date	Age/Sex	Wt.	Wing	Bill	Tar.	Tail
Great Tit	17th	1st w.f.	15.1	71.5	11.5	21.0	61.5
(*Parus major*)	18th	1st w.f.	16.4	73.5	12.0	21.0	62.0
	22nd	1st w.f.	16.4	73.0	13.0	21.0	60.0
	22nd	1st w.f.	18.2	73.5	12.5	21.0	58.0
	24th	Ad.f.	17.5	76.0	13.0	20.5	63.0
	25th	Ad.f.	17.2	73.0	12.0	21.0	60.0
	18th	1st w.m.	16.0	71.0	12.0	20.5	56.5
Blue Tit	27th	Ad.m.	11.2	66.0	10.0	17.5	51.5
(*P. caeruleus*)	27th	FG.	10.7	69.0	9.5	18.0	55.0
	27th	FG.	11.2	65.0	8.5	18.0	51.0
	27th	FG.	11.8	70.0	9.0	19.0	57.0
	27th	FG.	13.0	70.0	8.5	19.0	54.5
Coal Tit	17th	FG.	9.2	59.0	11.0	18.0	44.5
(*P. ater*)	17th	FG.	8.2	58.0	10.0	17.5	40.0
	17th	FG.	8.7	60.5	10.5	17.0	45.0
	17th	FG.	8.8	61.5	11.0	18.5	45.5
	18th	FG.	8.8	60.5	10.5	18.0	42.5
	19th	FG.	8.5	58.0	11.0	17.5	39.5
	27th	FG.	8.8	61.0	11.0	16.5	48.5
	27th	FG.	10.5	60.5	11.0	16.5	46.5
Treecreeper	19th	FG.	8.2	62.0	16.0	16.5	62.0
(*Certhia familiaris*)	19th	FG.	9.4	61.0	19.0	17.5	67.0
	19th	FG.	9.5	66.0	16.0	17.0	66.0
	19th	FG.	8.7	61.5	15.0	16.5	60.0
	22nd	FG.	7.9	62.0	14.5	15.0	58.0
	22nd	FG.	9.3	64.5	16.0	17.0	61.0
	24th	FG.	9.4	63.5	17.0	16.0	63.0
	27th	FG.	8.4	64.5	16.0	16.0	65.0
	28th	FG.	9.2	66.5	17.0	17.0	63.5
Wheatear	11th	1st w.	23.6	95.5	16.5	29.5	55.0
(*O. oenanthe*)							
Whinchat	24th	1st w.f.	14.1	73.0	13.5	23.0	42.0
(*Saxicola rubetra*)							
Reed Warbler	19th	1st w.	13.2	64.0	16.0	25.0	46.0
(*Acrocephalus scirpaceus*)							
Icterine Warbler	15th	1st w.	11.6	74.0	15.5	21.5	50.0
(*Hippolais icterina*)							
Blackcap	12th	1st w.m.	18.0	74.0	13.5	19.0	59.5
(*Sylvia atricapilla*)	15th	1st w.m.	19.9	73.5	13.5	22.0	61.5
	18th	1st w.m.	17.8	73.5	13.0	22.0	60.0
	18th	1st w.m.	19.5	75.0	14.0	22.0	62.0
	22nd	1st w.m.	17.2	78.5	14.5	24.0	62.5
	24th	FG.f.	20.7	78.0	15.0	22.0	66.0

Species	Date	Age/Sex	Wt.	Wing	Bill	Tar.	Tail
Whitethroat	11th	1st w.	15.5	74.0	13.0	24.0	62.0
(*S. communis*)	11th	1st w.	16.1	73.0	13.0	23.0	62.0
	18th	1st w.	18.8	72.5	13.0	23.5	65.0
Lesser Whitethroat	11th	FG.	11.9	67.0	13.5	22.5	56.0
(*S. curruca*)	15th	FG.	11.4	65.0	13.0	21.0	54.0
	18th	FG.	11.6	65.0	12.0	21.5	56.0
Chiffchaff	24th	FG.	7.6	64.0	11.0	21.0	52.0
(*Phylloscopus collybita*)	24th	FG.	7.1	60.0	12.0	21.0	49.0
	25th	FG.	7.1	59.0	11.0	20.0	48.0
	25th	FG.	7.6	58.0	12.0	20.0	47.0
Wood Warbler	12th	1st w.	9.0	73.5	12.0	19.0	50.0
(*P. sibilatrix*)							
Spotted Flycatcher	12th	1st w.	14.3	88.0	15.0	16.0	60.0
(*Muscicapa striata*)	12th	1st w.	15.9	85.0	15.0	16.0	60.5
	12th	1st w.	15.6	89.5	14.0	16.0	62.0
	12th	1st w.	15.4	88.5	14.5	17.0	61.5
	19th	1st w.	14.9	87.0	15.5	16.0	59.0
Red-breasted Flycatcher ...	12th	1st w.	10.8	66.0	11.5	18.5	50.0
(*Ficedula parva*)	12th	1st w.	10.3	67.5	11.5	18.0	50.0
	13th	1st w.	9.2	66.5	12.0	18.5	49.5
	18th	1st w.	9.7	68.0	12.0	18.0	48.0
	19th	1st w.	10.0	67.0	12.0	18.0	50.0
	12th	Ad.f.	10.1	69.5	11.5	18.5	53.0
Meadow Pipit	24th	FG.	17.5	79.0	14.0	21.5	60.0
(*Anthus pratensis*)	24th	FG.	17.2	83.0	14.0	22.0	63.0
Blue-headed Wagtail	17th	1st w.	18.8	82.5	15.0	26.0	75.0
(*Motacilla flava*)							
Greenfinch	18th	1st w.f.	25.4	89.0	13.5	19.0	58.0
(*Chloris chloris*)							
Siskin	17th	FG. f.	13.3	73.0	12.0	16.5	45.5
(*Carduelis spinus*)	24th	1st w.m.	13.0	71.5	12.5	15.5	42.0
Crossbill	19th	FG. f.	36.8	96.0	21.5	20.0	58.5
(*Loxia curvirostra*)	19th	1st w.m.	38.0	96.0	21.0	19.0	58.0
Brambling	24th	1st w.f.	18.7	81.0	13.0	19.0	54.5
(*Fringilla monti/ringilla*)	24th	1st w.f.	20.9	87.0	14.0	20.0	57.5
	24th	1st w.m.	23.1	92.0	14.5	19.0	63.0
Reed Bunting	24th	1st w.m.	19.2	80.5	11.5	21.0	67.5
(*Emberiza schoeniclus*)	27th	1st w.m.	20.2	82.0	12.0	21.0	72.0
	27th	FG. f.	17.5	74.0	11.0	20.0	63.5
	27th	FG. f.	18.0	75.0	10.5	20.0	64.0
	27th	FG. f.	17.8	75.5	12.0	21.0	67.5

Note: Definition of terms. FG. — full-grown, age uncertain: 1st w. — first-winter; Ad. — adult, at least one year old; f. — female; m. — male.

Sammanfattning: **Vikt- och måttbestämningar på flyttande tättingar under september 1962** (Meddelanden från Falsterbo fågelstation 28)

Under en vistelse vid Falsterbo fågelstation den 9—30 september 1962 studerades 825 infångade fåglar, fördelade på 32 arter. Samtliga ex. vägdes och dessutom mättes längden på vinge, tars, näbb och stjärt. Samtliga data redovisas. I tabell 1 återfinns måtten för arter som infångades i mer än 10 ex., övriga är samlade i ett appendix (p. 169. Resultaten måste i stort anses preliminära, men de kommenteras nedan bl.a. i den förhoppningen att de skall stimulera till flera undersökningar av detta slag.

Ålders- och könsskillnader. Inga signifikanta skillnader i mått eller vikt kunde påvisas mellan adulta och årsunga rödhakar (tab. 1). Beträffande rödstjärten är vinglängden hos honorna klart mindre än hos hanarna av samma åldersklass (tab. 2) medan däremot övriga data är identiska. Hos kungsfågeln kunde ingen viktskillnad mellan könen påvisas men honan har trots detta avsevärt kortare vinge och stjärt än hanen (tab. 3). I fig. I och II visas grafiskt hur antalet rödhakar och gärdsmygar fördelar sig på olika vinglängd- och stjärtlängdklasser. Den rundade, något utplattade kurvan för vinglängden antyder att den kan vara sammansatt av två normalkurvor (motsvarande gruppering på kön eller annan kategori) med en bred gemensam zon. Motsvarande kurvor för stjärtlängden visar åtminstone för gärdsmygen en tvåtoppighet som antyder en uppdelning av materialet, kanske på kön, i denna karaktär.

Sambandet vinglängd/vikt. I tabell 4 och 5 visas hur vikten ökar med vinglängden i falsterbomaterialet för gärdsmyg och rödhake. Denna tendens är tydlig ehuru spridningen i vikt i varje vinglängdklass är avsevärd, varför skillnaden mellan klasserna i det relativt lilla materialet ej framstår som statistiskt säker.

Variationen i rödhakens vikt mellan olika dagar. Under fältarbetet återfångades mycket sällan en rödhake som studerats föregående dag. Detta antyder att det rastande beståndet av arten i stort förnyades varje natt. Medelvikten för de studerade rödhakarna för var och en av fem dagar med god förekomst av rastare redovisas i tab. 6, där även vissa väderleksdata för föregående dygn anges. Det mest anmärkningsvärda inslaget utgörs av den låga medelvikten den 27.9 (signifikant skild från de övriga värden). Den föregående natten var den enda med stark sydostlig vind. Sambandet mellan dessa data kan vara att SE-vinden tillfört falsterbonäset i större utsträckning än normalt rödhakar av östligt ursprung. Dessa har genom vindavdrift tvingats ut på lång flyttning över Östersjön med ovanligt kraftig viktminskning som följd.

Jämförelse mellan Falsterbo och Dungeness (södra England) beträffande vikt och vinglängd hos några arter. Datamaterialet presenteras i tab. 7. Beträffande rödstjärten är honorna i Falsterbo lättare och mera långvingade än i Dungeness vilket antyder att arten rekryteras från olika områden vid de båda stationerna. I Falsterbo uppträder nordskandinaviska fåglar medan beståndet i Dungeness rekryterats från de Brittiska öarna. Även trädgårdssångarna och lövsångarna har i Falsterbo längre vingar än i Dungeness, en följd av falsterbofåglarnas nordligare ursprung. Beträffande järnsparven berör jämförelsen till största delen två olika raser, av vilka den mera långflyttande rasen i Falsterbo är lättare och mera långvingad.

Järnsparvens vingformel. Denna presenteras för den i Dungeness häckande rasen *Prunella modularis occidentalis* samt för den i Falsterbo sträckande *Prunella m. modularis*. Det nya mätmaterialet från Falsterbo visar att rasen här har spetsigare vinge än de brittiska järnsparvarna.