

Bird Migration Studies on Surtsey in the Spring of 1968

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I. INTRODUCTION

In 1968 Surtsey was again manned during the height of the spring migration period. Mr. Jón Baldur Sigurdsson, Mr. Völundur Hermódsson, and Mr. William N. Woodin stayed on the island from April 16 to May 10. They made careful observations on all land-birds stopping on or passing the island en route to the mainland of Iceland. Over 200 birds were collected. They were weighed and sexed and many of them were prepared as study skins for the Natural History Museum, Reykjavik.

The degree of fatness of individual birds was determined according to the scale proposed by McCabe (McCabe, T. T. 1943. An aspect of collectors' technique. *Auk* 60:550-558). According to this scale, which is based on both subcutaneous and visceral fat, 6 classes of fatness are recognized: 1) no fat, 2) little fat, 3) moderate fat, 4) fat, 5) very fat, and 6) excessively fat. In view of the fact that annual fat and weight cycles of many birds are still imperfectly known it appeared desirable to check weight and fatness of land-birds upon arrival on Surtsey after a sea-crossing of 500–650 miles, which is the distance between Iceland and the northern- and western-most parts of the British Isles from where most of our migrants no doubt depart for Iceland.

Previous observations on Surtsey have shown that this new volcanic island, which now has an area of approximately 2.8 km² and reaches a height of 160 m, has both advantages and disadvantages as a base for bird migration studies. As the southernmost outpost of Iceland it is obvious that it will attract more or less exhausted

land-birds approaching Iceland, but, on the other hand, the still mainly lifeless habitats of the island do not provide food or other essentials of life for most migrants, with the exception of birds of prey, which have access to a rich selection of prey among the exhausted migrants, as well as scavengers and a few waders, which may subsist for a time on organisms, dead or alive, which are washed upon the shores of the island. Consequently it is not likely that many migrants will stop for any length of time on the island. However, the main disadvantage of the island for migration studies is its location at the western periphery or even west of the main path of migrants arriving in Iceland by way of the British Isles. It is well known that under normal conditions most migrants turn first up in spring in S. E. Iceland and then proceed westward along the south coast or northward along the east coast, although some species no doubt cross the interior. But if the migrants experience strong easterly or northeasterly winds before they reach Iceland they may be subjected to a lateral drift, and it is exactly under such conditions that they will reach Surtsey in considerable numbers. And this applies particularly to the poorest flyers or the small passerines, which are affected by adverse winds to a greater extent than bigger and more powerful flyers. It is obvious, therefore, that the passage of migrants through Surtsey will vary a great deal from one year to another.

As observations on Surtsey in the spring of 1968 did not start until April 16, it must be regarded as certain that the observations did not cover the main arrival of early migrants, such

as the oystercatcher, the redwing, the golden plover, the redshank, and the common snipe. Birds of these species which were encountered on Surtsey during the study period must therefore be regarded as laggards, but all the same their occurrence is no less interesting because it shows how long after the bulk of the population has arrived, certain individuals may continue to turn up.

In the following notes a fairly detailed information will be supplied about the observations carried out and their results.

II. SPECIES LIST

Whooper Swan (*Cygnus musicus*). On April 30 two came flying from SW and headed for the Westman Islands.

Grey Lag Goose (*Anser anser*). Three were seen on April 17 one of which was collected (♂, probably a yearling; weight 2870 g (fat)). Two were again seen on April 20 and on April 22 several small flocks (5-2-3-3-4-12-2-10) passed the island, coming from SW and heading for the Westman Islands. Some of these birds circled the island before continuing their journey. During the following six days grey lags were seen every day, but only in small numbers (2-13 each day). Some of them settled on the island. Four were collected, probably two pairs: April 24: ♂ 3135 g (excessively fat) and ♀ 2922 g (very fat); April 27: ♂ 2780 g (little fat) and ♀ 2252 g (no fat).

Pink-footed Goose (*Anser brachyrhynchus*). On April 29 two flocks (20 birds in each flock) passed the island and headed for NE and N respectively. The next day 32 birds passed the north side of the island, flying in a northerly direction. About the same time 55 came flying from E and headed for the mainland west of the island after having circled it. On May 6 one was sitting among gulls on the northern beach of the island.

Barnacle Goose (*Branta leucopsis*). On April 27 two were flushed from the island. They proceeded straight N. The next day 36 came from S and headed for N-NW, and on April 29 60-65 passed the island. On April 30 one passed the island, flying in a westerly direction, and later that same day four were sitting on the northern beach one of which was collected (♂ 2017 g (little fat)). Towards evening that same day 7 came flying from SW and settled on the island. When flushed they proceeded towards E. They were flying slowly and low and appeared to be exhausted. On May 1 one was sitting

among gulls on the NW corner of the island, and on May 3 eleven passed the island and headed for NNW.

Unidentified Geese (*Anser* spp.). On April 19 two headed for the mainland west of the island. On April 29 a flock of 50 geese passed in a northerly direction between Surtsey and Geirfuglasker, and later that same day 35 geese circled the island. The next day three flocks of geese (6-14-18) passed or settled on the island. On May 4 28 geese passed from SE to NW north of the island.

Mallard (*Anas platyrhynchos*). On May 4 a solitary female was flushed from the shore of the island.

Teal (*Anas crecca*). On April 23 a pair was encountered on the lagoon on the north side of the island.

Widgeon (*Anas penelope*). On May 1 a pair was seen flying towards W along the N shore of the island. It apparently intended to land on the lagoon but gave it up and headed for the Westman Islands.

Eider (*Somateria mollissima*). Eiders were rarely seen around the island. On May 6, however, a solitary male was swimming off the north shore and the next day 2 were seen flying along the north shore (♂ and imm).

Red-breasted Merganser (*Mergus serrator*). On May 28 a solitary bird was swimming close to the shore. The next day one was seen on the lagoon and later the same day one was shot on the lagoon (♂ 722.2 g (no fat)). The bird appeared to be either exhausted or in poor condition.

Merlin (*Falco columbarius*). On April 30 a merlin stayed on the island the whole day. Early the next day a merlin was encountered where it was eating a wheatear. About two hours later one was caught in a mist net at the research station (♂ 168.8 g (little fat)). In the gizzard there were feathers and bones of a small passerine. It had apparently been tempted by 3 meadow pipits and 3 wheatears which had become entangled in the net. Later that same day a female was seen chasing a meadow pipit round the research station. The next day (May 2) a female (probably the same bird) was repeatedly seen. Four or five kills were found (wheatears and meadow pipits).

Oystercatcher (*Haematopus ostralegus*). From April 18 to May 6 oystercatchers were repeatedly seen on the shores of the island, the number seen in any one day varying from 2-18.

Ringed Plover (*Charadrius hiaticula*). On May 7 one was seen flying along the shore on the north side of the island.

Golden Plover (*Pluvialis apricaria*). Seen or heard on many occasions from April 22 to May 10, but mostly only a few birds each time. However, on April 22 a flock of 10 birds came from SE and continued in a northerly direction, and on April 27 three flocks (10–20–15) were flushed from the island. Three were collected: April 27: ♂ 147.9 g (no fat); April 30: ♂ 142.8 g (no fat); May 1: ♂ 132.6 g (no fat).

Turnstone (*Arenaria interpres*). Seen on 5 different days from April 17 to April 27, the number seen each day varying from 3–13. One was shot on April 27: ♀ 114.5 g (very fat). Alimentary tract contained a considerable amount of Euphausiids, which are frequently washed up on the shore of the island in large quantities.

Whimbrel (*Numenius phaeopus*). Only 2 seen and both were collected. April 27: ♂ 301.1 g (no fat) and ♀ 273.4 g (no fat).

Redshank (*Tringa totanus*). Seen on 7 different days from April 24 to May 3, the number seen each day varying from 1–9. Most of these birds made a stop-over on the island. Two were collected. May 3: ♀ 115.9 g (no fat) and ♂ 131.9 g (moderate fat).

Knot (*Calidris canutus*). On May 3 two were seen and collected on the north side of the island: ♂ 100.7 g (no fat) and ♀ 106.1 g (no fat). On April 29 a tight flock of 200–500 waders was observed flying in the direction of N–NW between Surtsey and the Westman Islands. They are thought to have been knots.

Purple Sandpiper (*Calidris maritima*). One of three seen on the north side of the island on April 26 was collected: ♂ 62.3 g (very fat). Not seen on other occasions.

Dunlin (*Calidris alpina*). A few birds were seen on the shores of the island on 5 different days from April 27 to May 6. Eight were collected: April 27: ♂ 42.1 g (moderate fat), ♂ 48.4 g (very fat), and ♀ 43.8 g (very fat); April 28: ♂ 34.4 g (no fat) and ♀ 34.2 g (no fat); April 30: ♂ 31.7 g (no fat); May 1: ♂ 31.7 g (no fat) and ♀ 40.0 g (no fat).

Raven (*Corvus corax*). Two birds (a pair?) stayed on the island throughout the study period. They were frequently seen, but no signs of nest-building or breeding were observed. They habitually patrolled the tideline for anything edible, such as dead sea-birds, fishes or invertebrates, washed upon the shore. On May 3 a third raven

appeared on the island, but it was vigorously attacked and chased away by the two resident ravens.

Redwing (*Turdus iliacus*). One was seen on April 16, about five on April 17, one on April 19, and four on April 30. Four were collected: April 16: ♀ 68.8 g (very fat); April 17: ♀ 58.6 g (moderate fat) and ♀ 61.2 g (little fat); April 30: ♀ 56.6 g (little fat).

Wheatear (*Oenanthe oenanthe*). First seen (a single bird) on April 17 and one collected (the same bird?) the next day. From then on it was not seen until April 26 when one was seen near the research station. During the next two days 5–10 birds were observed each day and several were collected. On April 29 a few scattered birds were observed, but after about 1500 h that day wheatears as well as meadow pipits and white wagtails began to appear in somewhat larger numbers on the island. By 0445 h of April 30 the number of wheatears on the island had greatly increased and it continued to increase throughout that day although many may have left the island for the mainland. Hundreds of wheatears were present on the island that day and many were collected. During the next two days (May 1 and 2) the number of wheatears present on the island gradually decreased (thus on May 2 not more than about 10 birds were observed). On May 3 a similar or a slightly smaller number of wheatears was observed, and on May 5 and 6 only 2–3 birds were seen each day.

As far as is known Icelandic wheatears apparently winter in W. Africa, but we must assume that they reach Iceland in spring by way of the western parts of the British Isles although it is possible that some may travel direct from Western Africa or the Iberian Peninsula to Iceland without touching the British Isles. If we assume that they travel by way of the British Isles and proceed at an average speed of 25 m.p.h. — more or less depending on the direction and velocity of the wind they experience — it should take them at least 20–26 hours to reach Iceland (distance Surtsey — Isle of Lewis, Outer Hebrides, about 500 miles, Surtsey — Cape Wrath, N.W. Scotland, about 550 miles, and Surtsey — Northern Ireland about 650 miles). The wheatears reaching Surtsey during the night of April 30 and the following day must therefore have left the British Isles late on April 28 or during the night of April 29. Figs. 1–3 show the main features of the weather conditions existing in the North Atlantic at 1800 GMT on April 28, April 29, and April 30.

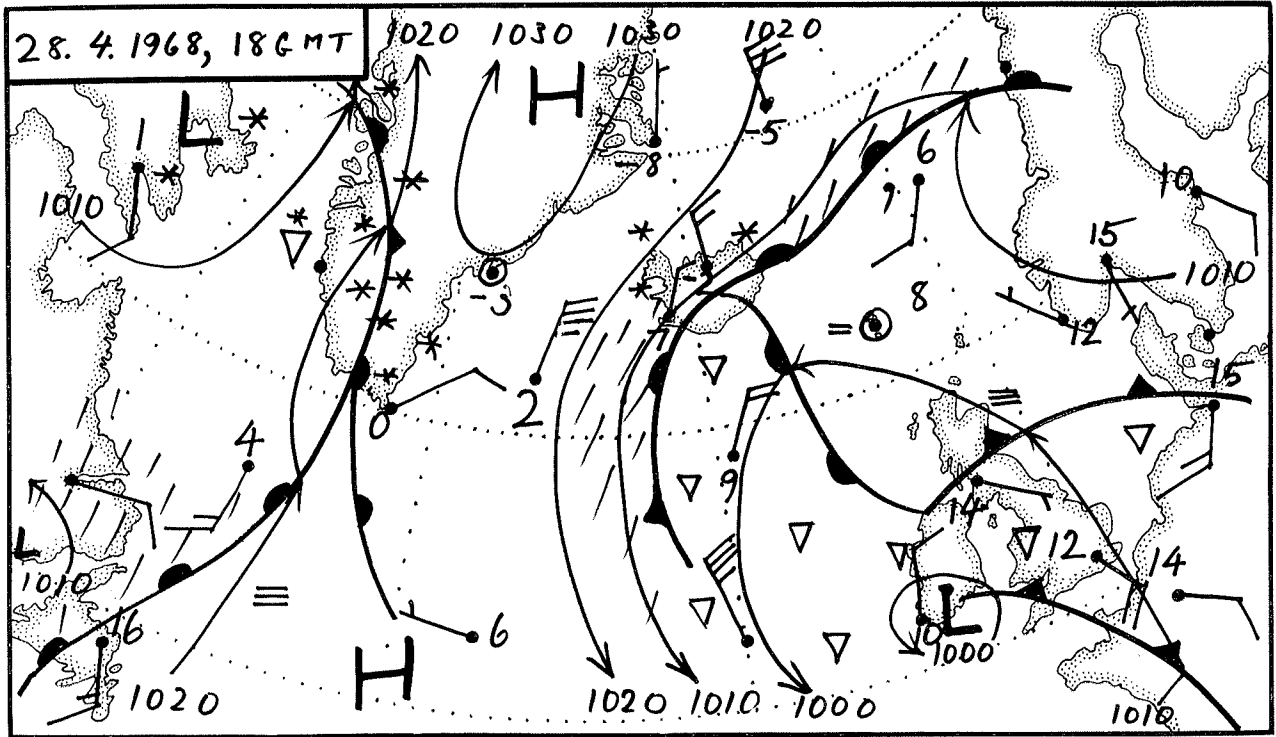


Fig. 1. Weather conditions in the North Atlantic at 0018 GMT on April 28, 1968.

On April 28 (at 1800 GMT) the weather in the British Isles was fair to cloudy with light easterly winds. For about $\frac{2}{3}$ of the way from the British Isles to Iceland light E or ESE winds were prevailing, but for the last $\frac{1}{3}$ of the way the wind changed to N and NE and became stronger as Iceland was approached. At 1800

GMT on April 29 when passage of passerines had already started on Surtsey the weather was very similar to that of the day before. In the area of the British Isles there were light easterly winds, fair to cloudy in Scotland and scattered showers in Ireland. Between the British Isles and Iceland easterly winds prevailed except for

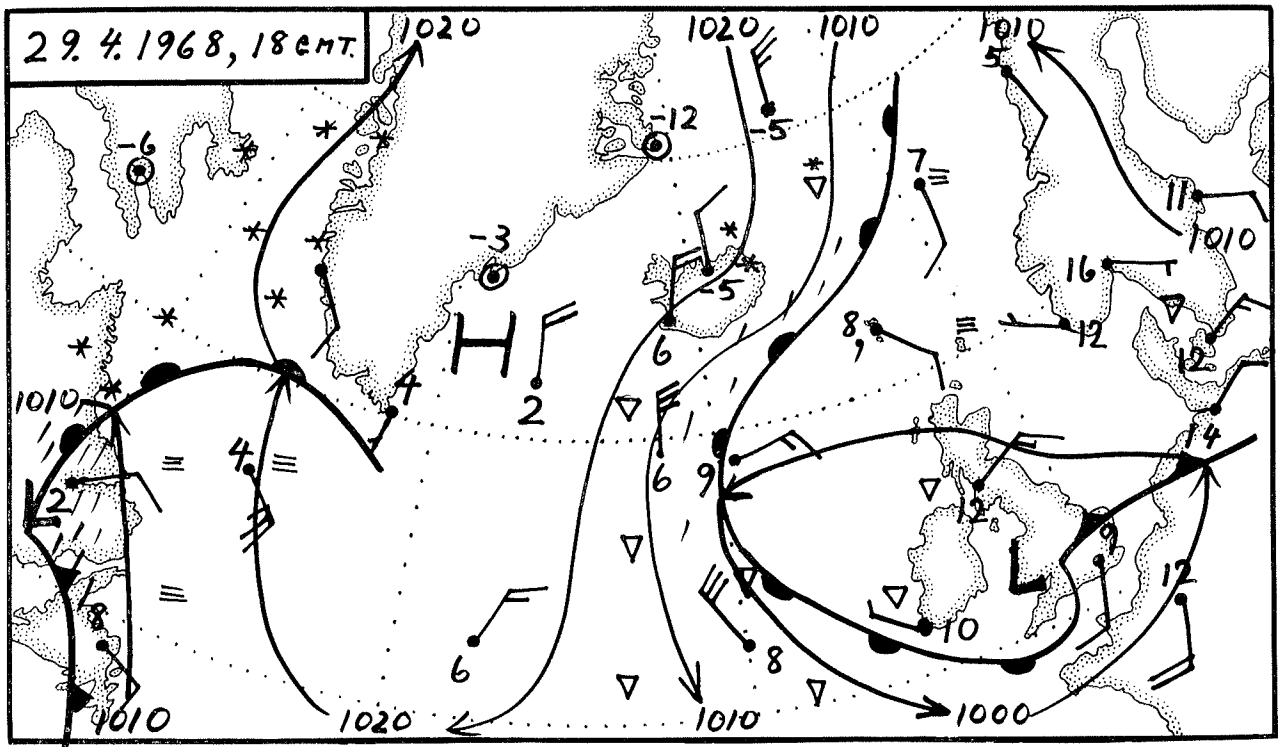


Fig. 2. Weather conditions in the North Atlantic at 0018 GMT on April 29, 1968.

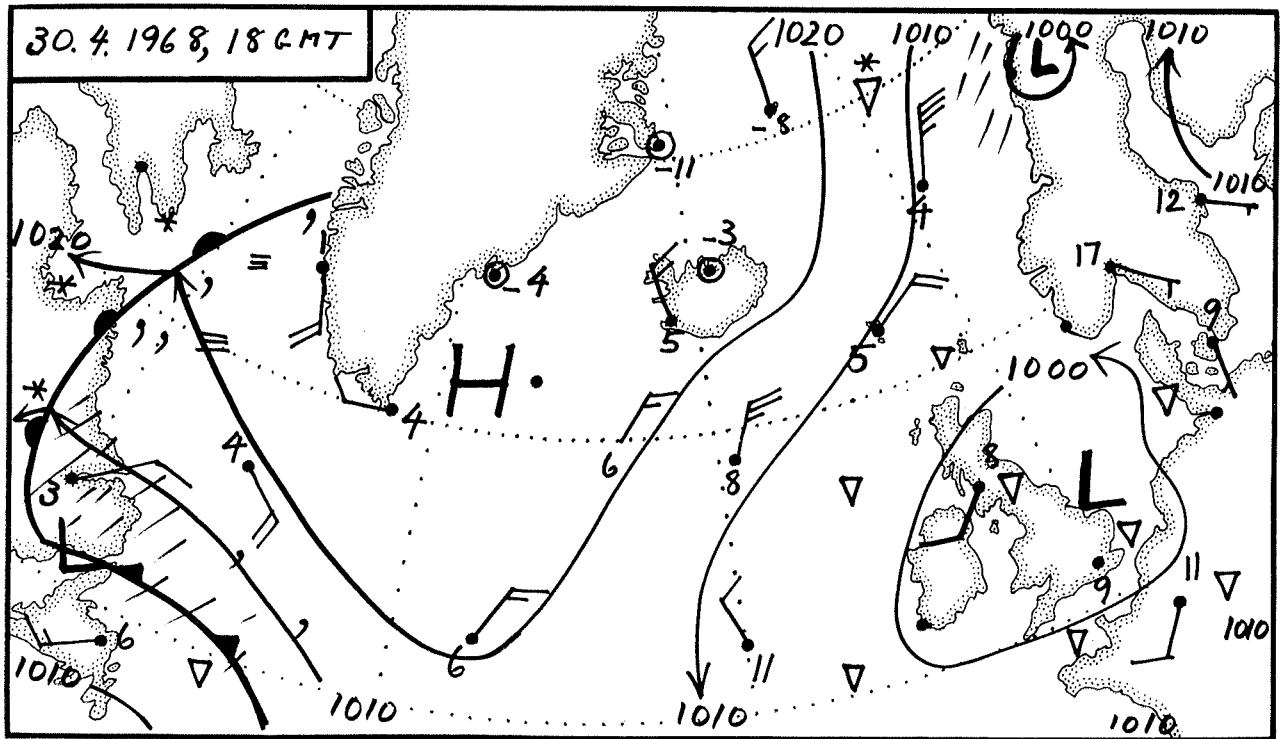


Fig. 3. Weather conditions in the North Atlantic at 0018 GMT on April 30, 1968.

about the last $\frac{1}{4}$ of the way when NE or N winds became prevalent. At 1800 GMT on April 30 there were still NNE winds in Iceland, but lighter than on the two previous days. On all these days there was slight rain or showers in S. Iceland.

The weather conditions on these three days may well have caused migrants heading for Iceland to drift toward W and SW and this may explain their appearance on Surtsey. And the weather conditions on the British Isles at the assumed time of departure of these birds was probably fairly favourable for the onset of migratory movements.

Table I
Sex and collecting dates of wheatears from Surtsey

Dates	Males	Females	Total
April 18	1	-	1
— 27	3	1	4
— 28	3	1	4
— 29	6	3	9
— 30	40	34	74
May 1	7	5	12
— 2	5	1	6
— 3	1	1	2
— 5	-	1	1
— 6	-	1	1
Total	67	48	115

Altogether 115 wheatears were collected on Surtsey in 1968. Their sex and collecting dates are shown in Table I.

The mean weight of these 115 birds was 27.6 g (range 18.2–38.6 g). If we treat the weights of males and females separately we obtain the following results:

67 males: 28.1 ± 0.59 g (range 18.2–38.6 g)

48 females: 26.8 ± 0.61 g (range 18.3–37.0 g)

Although males are slightly larger than females there is not a significant difference between the sexes as regards weight. A distinctive feature, however, is the great individual variation in weight in both sexes. If we group the birds of each sex according to their fatness we obtain a distribution of fatness as shown in Table II. The mean weight of birds in each class of fatness is also given in Table II.

Table II shows clearly that there is a close correlation between weight and fatness of individual birds. Furthermore the table shows that a great majority of the wheatears collected on Surtsey was either excessively fat (47.8% of the males and 47.9% of the females) or very fat (17.9% of the males and 18.8% of the females). This shows that they have not used up much of their pre-migratory fat deposits during their 20–26 hours over-sea-crossing (more or less depending on the direction and velocity of the wind experienced on the way) from the British Isles to Iceland. This is not very surpris-

ing because wheatears are relatively long-winged and powerful flyers. However, a relatively small contingent of the birds (11.9% of the males and 14.6% of the females) had no fat reserves and were correspondingly light (mean weight of males 20.1 g and that of females 19.7 g) If we exclude individual differences in pre-migratory fat deposition, which may be possible, this indicates that the birds in question must have made a much longer journey (direct from West Africa?) or must have experienced very adverse weather conditions during their sea-crossing. However this may be, in both cases they must have used up all pre-migratory fat deposits to provide metabolic water as well as energy to meet the stresses of their oversea flight.

Table II
Degree of fatness and mean weight of each fat class of wheatears from Surtsey

Fatness	Males		
	Numbers	%Frequency	Mean weight
1) No fat	8	11.9	20.1
2) Little fat	3	4.5	21.8
3) Moderate fat	3	4.5	23.1
4) Fat	9	13.4	25.7
5) Very fat	12	17.9	28.2
6) Excessively fat	32	47.8	31.8
Total	67	100.0	

Fatness	Females		
	Numbers	%Frequency	Mean weight
1) No fat	7	14.6	19.7
2) Little fat	2	4.2	23.3
3) Moderate fat	3	6.2	24.4
4) Fat	4	8.3	25.9
5) Very fat	9	18.8	27.3
6) Excessively fat	23	47.9	29.5
Total	48	100.0	

In this connection it is of interest to compare the weight of wheatears as they arrive in spring with the weight of wheatears before their exodus in autumn. Nine wheatears collected in S. Iceland just before departure (on Oktober 4, 1959) were all excessively fat and their mean weight was 38.1 g (34.9–40.3 g). The mean weight of 55 birds (both sexes) of the corresponding fat class collected upon arrival on Surtsey in 1968 was 30.8 g (25.1–38.6 g). The spring birds were therefore only 19.2% lighter than the autumn birds. Such a comparison, however, may not be justifiable, and we will therefore compare the weights of all wheatears (includ-

ing those with no or little fat) collected on Surtsey in 1968 (mean weight 27.6 g) with the weights of the above nine autumn birds (mean weight 38.1 g). In this case the spring birds were 27.6% lighter than the autumn birds.

The possibility that Icelandic birds wintering in West Africa may occasionally proceed direct to Iceland in spring without touching the British Isles or even the Iberian Peninsula can only be accepted if due consideration is taken of the westerly geographical position of Iceland, i. e. its position is more westerly than that of any other European country. The greater part of the British Isles lies between 0° and 10° W. longitude, but the major part of Iceland lies between 14° and 24° W. longitude. And the 17° meridian, which passes through Iceland, also touches the westernmost headlands of Africa, i. e. C. Verde and C. Blanco.

European Robin (*Erithacus rubecula*). A solitary bird of this species was collected at the research station on April 18. It proved to be a ♂ 15.6 g (fat). The robin is not an uncommon drift migrant to Iceland.

Meadow Pipit (*Anthus pratensis*). The migration pattern of this species was very similar to that of the wheatear, although in addition to a pronounced passage on April 29 and 30 there was also a considerable passage of meadow pipits on April 27. However, meadow pipits never turned up on the island in such numbers as wheatears.

The first meadow pipit was heard on April 17, but it was not until April 24 that they were observed on the island in some numbers. On that day flocks of 2–6 birds were seen on several occasions and at 1900 h a flock of 15 birds was seen. During the next two days (April 25 and 26) only a few birds were encountered, but already in the early hours of April 27 (from 0430 onwards) there was a considerable passage of meadow pipits through Surtsey, and both solitary birds, small flocks of 3–5 birds and flocks of up to 25–30 birds were observed. Already at 0800 h most of these birds appeared to have left the island for the mainland, but all the same no less than 14 birds were collected during the rest of the day. On April 28 and during the early part of April 29 the birds present on the island gradually disappeared and at 1500 h on April 29 only 2–3 birds were still present on the northern part of the island. But after that time the number of meadow pipits as well as the number of wheatears and white wag-tails began to increase slowly again. This proved

to be the beginning of a considerable passage which lasted throughout April 30.

On April 30 a fairly large number of meadow pipits were present on the island throughout the day, right from the early morning hours, and 19 were collected. On May 1 meadow pipits were still present in some numbers, but after that only one bird was encountered each day, the last one being seen on May 5. In all 45 meadow pipits were collected (19 males and 26 females). The mean weight of these 45 birds was 15.4 g (11.9–19.2 g). The mean weight of the sexes was as follows:

19 males: 15.7 ± 0.31 g (range 12.8–19.2 g)
 26 females: 15.1 ± 0.34 g (range 11.9–17.8 g)

As in the case of the wheatears there is not, therefore, a significant difference in weight between the sexes, although the males are slightly larger than the females. The sexes are therefore lumped together in Table III which shows the fatness and the mean weight of each fat class of the birds collected.

Table III

Degree of fatness and mean weight of each fat class of meadow pipits (both sexes) from Surtsey

Fatness	Numbers	%Frequency	Mean weight
1) No fat	17	37.8	14.0
2) Little fat	18	40.0	16.1
3) Moderate fat	7	15.6	16.1
4) Fat	3	6.7	16.7
5) Very fat	—	—	—
6) Excessively fat	—	—	—
Total	45	100.1	

Table III reveals a very distinctive difference between the meadow pipits and the wheatears as regards fatness. A great majority of the meadow pipits (77.8%) have either no fat or little fat and only 22.0% are moderate fat or fat. And none are very fat or excessively fat, whereas 66.1% of the wheatears come into these categories. This difference is clearly demonstrated in Fig. 4.

According to the scanty number of recoveries of Iceland ringed meadow pipits they appear to winter mainly in France and the Iberian Peninsula, although one has reached Morocco, and some may even winter in the south-western

parts of the British Isles. There is no doubt, therefore, that most of them reach Iceland in spring by way of the British Isles. The lack of migratory fatness in meadow pipits upon arrival in Iceland in spring must therefore be ascribed to the fact that they are probably less powerful flyers than wheatears and consequently less adapted to meet the stresses of long sea-crossings, which in turn causes their pre-migratory fat reserves to become exhausted before they reach their goal. That meadow pipits, just as wheatears, accumulate fat reserves prior to migration is proven by the fact that 4 meadow pipits collected in S. Iceland just before departure in autumn (on October 4, 1959) were all very fat or excessively fat and weighed on the average 27.0 g (25.6–29.2 g). The meadow pipits collected on Surtsey in spring 1968 (mean weight 15.4 g) were therefore 43.0% lighter than the above four autumn birds. This shows that the weights of most of the meadow pipits collected on Surtsey in the spring of 1968 were in fact starving weights.

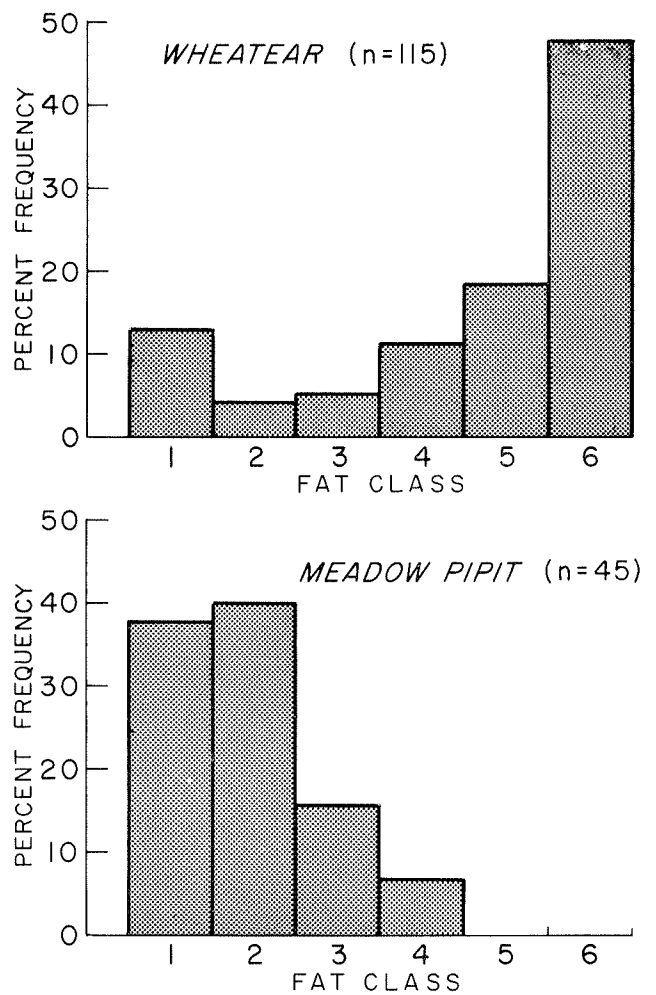


Fig. 4. Difference in fatness of wheatears and meadow pipits collected on Surtsey in the spring of 1968.



Fig. 5. A meadow pipit showing the typical posture of a completely exhausted and emaciated bird (weight 12.0 g). Photo: Jón B. Sigurdsson.

A further manifestation of the poor condition of many of the meadow pipits collected on Surtsey is supplied by the fact that some birds seeking shelter at the research station had a markedly puffed plumage and were shivering. In fact, these birds were in a kind of torpor and could easily be taken and handled without showing any perceptible reactions. Such birds, which were encountered both on April 30 and on May 1, may well have died within a relatively short time.

White Wagtail (*Motacilla alba*). Seen on most days from April 24 to May 10, but mostly only a few birds each day. The only days when there was a marked passage were April 27, April 29 and 30. These dates coincide with passage of meadow pipits and the latter dates (April 29 and 30) also with passage of wheatears. On May 1 wagtails were still present in some numbers, but later on only 1–3 birds were encountered each day. On the whole white wagtails did not turn up on the island in large numbers like the wheatears and they were even considerably less abundant than meadow pipits. But otherwise their migratory pattern was very similar to that of the other two species.

Twenty two white wagtails were collected (10 males, 7 females and 5 unsexed birds). Their mean weight was 21.7 g (16.6–26.3 g). As there was not a significant difference in weight of the sexes, all birds are lumped together in Table IV, which shows fatness and mean weight of each fat class of the birds collected.

Table IV

Degree of fatness and mean weight of each fat class of white wagtails from Surtsey

Fatness	Numbers	%Frequency	Mean weight
1) No fat	2	9.1	17.4
2) Little fat	8	36.4	20.7
3) Moderate fat	11	50.0	22.9
4) Fat			
5) Very fat			
6) Excessively fat	1	4.5	26.3
Total	22	100.0	

Table IV shows that as regards degrees of fatness the wagtails are intermediate between the wheatears and the meadow pipits, and they are therefore probably also intermediate between these two species as regards power of flight and their capacity to accomplish long sea-crossings without having to consume so much of their fat reserves as the meadow pipits. The only excessively fat bird (26.3 g) among the wagtails was collected at 1745 h on April 29, but this was just at the beginning of a marked passage which continued for the next 24 hours.

Icelandic white wagtails apparently winter mainly in West Africa like the wheatears. At any rate the scanty number of true winter recoveries of ringed birds support this assumption.

Starling (*Sturnus vulgaris*). One was collected at the research station at 1610 h on April 17. This was a ♂ 69.0 (no fat). This bird was probably a drift migrant because the indigeneous starling populations, which have become establ-

ished in Iceland since 1940, seem to consist entirely of resident birds.

Redpoll (*Carduelis flammea*). One collected at 1015 h on May 4. This was a ♂ 12.1 g (no fat). The subspecific status of this bird remains uncertain, but it is most likely a specimen of the Greenland race *C. f. rostrata*.

Brambling (*Fringilla montifringilla*). One was collected at 0700 h on April 30. This was a ♂ 23.2 g (fat). The brambling is a fairly common drift migrant and winter visitor to Iceland.

Snow Bunting (*Plectrophenax nivalis*). From April 16 to April 30 snow buntings were heard or seen on 9 different days, but only a few birds (mostly 1–4) each day. Five were collected: April 25: ♂ 25.3 g (no fat) and ♂ 26.2 g (little fat); April 28: ♂ 31.1 g (no fat); April 30: ♂ 26.9 g (very fat) and ♀ 23.4 g (no fat). All four males had a conspicuously white rump. This shows that they must have belonged to the nominate race *Plectrophenax nivalis nivalis* and not to the mostly resident Icelandic race *Plectrophenax nivalis insulae*, in which the male has a black rump. It may be assumed, therefore, that the snow buntings in question were of Greenland origin and that they were on migration from the British Isles to Greenland.

Sea Birds. No special attention was paid to sea-birds seen around or on the island. Large numbers of gulls and kittiwakes habitually roost on the island and this has been so ever since the island rose above sea-level. However, a few observations on sea-birds may be noted here: On

April 17 fulmars (*Fulmarus glacialis*) had occupied five ledges on the northernmost cliffs on the west side of the island. And on April 20 a pair was observed on cliffs in the same part of the island. On April 18 a solitary manx shearwater (*Puffinus puffinus*) was seen at some distance off the island, and on April 20 a fairly big flock of the same species was sighted off the north side of the island. On April 19 a kittiwake (an unsexed immature bird, weight 410.0 g) was collected to find out what the large number of kittiwakes constantly to be found close to the island were feeding on. It turned out that this particular bird had fed exclusively on Euphausiids. A glaucous gull (*Larus hyperboreus*) was collected on May 5. This was an adult ♂ 1755.0 g. In the gizzard there were remains (feathers and bones) of an unidentified bird (probably a carcass).

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