FAIR ISLE BIRD OBSERVATORY

BULLETIN

Edited by

KENNETH WILLIAMSON

Director

1951

Issued to the Friends of Fair Isle

Subscription, £1, 1s, per year

FAIR ISLE BIRD OBSERVATORY TRUST

ANNUAL REPORT 1951

Foreword

In previous forewords I have stressed the two interlocked aspects of the work at Fair Isle that are constantly in our minds - the essentially long term nature of the work, so ably carried out by Kenneth Williamson and under his inspiration, and the corollary of the need for an adequate annual income to sustain this effort.

Already in the comparatively short life of the observatory new techniques have been developed, and old ones have not been neglec-:ted, and results of the greatest interest have already been obtained; but as each fact is discovered, new problems appear and new avenues for explanation open out. The work on the chosen species yield new information annually and as the harvest of knowledge is gained it becomes more and more clear that each year will yield a harvest greater than its predecessor. We are beginning to under-:stand the movements of some, at last, of the birds that occur most regularly and in greatest numbers, but one has only to read of the work on the Wheatears on which so much has already been done, to realise how much can and will be made clear by the inten-:sive work on that species over the years.

If, after reading the Director's report, you will turn to the Treasurer's statement, you will realise how much has yet to be accomplished before the financial structure of the Trust is as solid and storm-proof as Fair Isle itself. Please do try to let others know of our work - it cannot fail to interest them - and with your continued support and the wide support that you can thus bring to us, we will be able to face the future in the knowledge that this enterprise will not be crippled by the lack of the comparatively small sum of money required annually for its adequate working.

ARTHUR B. DUNCAN
Chairman

ANNUAL REPORT OF THE DIRECTOR

1 9 5 1

General

Fair Isle Bird Observatory opened on April 11th and closed on October 30th. Over a hun-:dred visitors, about 70 of whom were bird-watchers, were accommodated during this period. May, August and September were heavily booked, but the remaining months were very bare and the lack of visitors at these times, and more espe-:cially during the midsummer period of June-July, contributed in no small measure to the heavy loss sustained by the hostel.

Six of our Trustees spent a week or more at Fair Isle, and foreign visitors included Dr. W. H. Biermann from Holland, - who first came to the Bird Observatory in autumn 1949 - and Dr. Holger Holgersen, Konservator of the Stavanger Museum, Norway. Fourteen of our visitors were making their second or even third stay at the Bird Observatory.

Following Pat Robertson's departure in April, William Eunson took on the duties of Warden, and he and the two maids, Misses

Willa Wishart and Torgerd Mortensen, served us well. James A. Stout carried on the work of observation and trapping during the winter months.

Bird Migration in 1951

The spring and autumn seasons were excellent for the quality of migration at Fair Isle. Both seasons were unduly prolonged, a number of interesting late migrants appearing in June and November. The chief events have been chronicled in the series of five Bulletins issued during the year, and notes concerning some of the more interesting rarities are to appear in The Scottish Naturalist. A record of the occurrence of the two male SUBALPINE WARBLERS, trapped on May 24th and June 9th, considered in regard to the meteorological conditions prevailing at this time has been sent to the journal British Birds. It is also hoped to publish articles dealing with the spring movements of RING OUSEL and RED-BACKED SHRIKE at British bird observatories.

An analysis of the autumn migration in Scotland, in relation to the meteorological conditions shown in "The Daily Weather Report" of the Meteorological Office, has led to a fuller development of the view that the passage of nocturnal migrants through the British Isles is controlled by weather conditions over the North Sea and adjacent Continental coasts. The southward migration is initiated by the anticyclonic weather which is a marked feature of the Continental type of climate. The easterly airstream of the southern side of the high pressure system creates a certain amount of westwards displacement or "drift"; and if the North Sea weather is such as will maintain or intensify this "drift", very considerable falls of migrants take place along Britain's eastern

seaboard and (or) in the islands to the north of Britain. The nature of this migrational drift, and its importance in the North Sea area, were discussed by the Director at the Conference in Bird Biology organised by Dr. David Lack at the Edward Grey Institute of Field Ornithology, at Oxford, in January, and provided material for lectures given to British Trust for Ornithology joint meetings with London Natural History Soc-:iety, and the Yorkshire Naturalists' Union, in February. A full consideration of the theory, with illustrations from the 1951 autumn records, has been submitted to The Scottish Naturalist for publication.

A party visited Foula in M.B. "The Good Shepherd" on May 19th, and we were able to make a comparison of observations there and at Fair Isle. With a full complement of visitors at the hostel the long day trip can be made for as little as £2 per head, and it is hoped to repeat this venture in future years. A full report by Harry Craw appeared in Bull. No. 3.

The Bulletins

The earlier Bulletins were sent to all Friends of Fair Isle but, in order to save unnecessary expense, a card was enclosed with Bull. No. 3 intimating that the distribution would be restricted in future to those who com-:pleted and returned the card. As the present issue contains our Annual Report for 1951, it will be sent out to all members, and a similar card enclosed so that any who wish to start receiving the Bulletins during 1952 may have the opportunity of doing so. Those Friends who have already returned one card need give no further intimation, of course.

One of our aims has been to present some information concerning migration studies at points other than Fair Isle, these very often having value for comparison with our own field observations. We are grateful to a number of Friends and colleagues who have assisted in the production of the 1951 series, among them Alec Butterfield, H. A. Craw, A. R. Edwards, James Gunn, David Jenkins, members of the Midlothian Ornithological Club, Dr. Ian D. Pennie, Major R. F. Ruttledge, Alexander Tulloch, L. S. V. and Mrs. Venables, Ian Walker, and Dr. K.B. Rooke.

Acknowledgments

It is a pleasure to acknowledge our gratitude for two gifts which have added invaluable items to our laboratory and field equipment. Prof. John Boyes of Newcastle-on-Tyne presented a beam-balance and set of weights, and Harry Craw a lightweight aluminium catching box for use with the Yeoman Net. Thanks are also due to G. T. Kay for his inexhaustible patience and skill in making a Kodachrome film of our work which we hope to put to good use in future lecturing engagements.

A special expression of thanks is due to our friends on the island who have assisted either directly by helping with the observation and trapping, or indirectly by affording us permission to walk over their ground and examine their root-crops for birds. Thanks are also due to the Perth Museum and Art Gallery for the continued loan of bird-skins; and also to Dr. A. C. Stephen of the Royal Scottish Museum, whose co-operation and assistance with the loan of selected species and subspecies have enabled us to continue to develop the taxonomic side of laboratory work.

Bird-Ringing

During the year 2,230 birds of 77 species were ringed, a decrease of 136 birds on 1950, but many more than in 1949. The biggest individual totals were BLACKBIRD 527 (the grand total for this species is now 1004), WHEATEAR 348 (including 120 nestlings), STARLING 211, MEADOW PIPIT 100, ROBIN 92, ROCK PIPIT 91, FULMAR 77 (mostly adults caught in the "fleyg"), REDWING 71, TWITE 66, CHAFFINCH 54, PUFFIN 40, BRAMBLING 36 (none in 1950!), GARDEN WARBLER 32 and GOLDCREST 30. There were over 20 each of House Sparrow, Pied Flycatcher, Willow-warbler, Song-thrush, Redstart, Shag, Oyster-catcher and Arctic Skua.

The splendid variety indicated by the high species total includes Northern Bullfinch, Scarlet Grosbeak, Red-headed Bunting (Bull. No. 3, 30), Woodlark, Tawny Pipit (Bull. No. 4, 36), Great Grey Shrike, Northern Chiffchaff, Wood-Warbler (Bull. No. 4, 40), Yellow-browed Warbler, Reed Warbler, Icterine and Barred Warblers (Bull. No. 4, 34), Subalpine Warbler (Bull. Nos. 2, 20 and 3, 21), Ring Ousel, Black Redstart, Red-spotted Bluethroat, Black-bellied Dipper (Bull. No. 2, 18), Cuckoo, Wryneck, Long-eared Owl, Merlin, Sparrow-hawk, Turtle-Dove, Turnstone, Sanderling, Common Sandpiper, Greenshank and Little Auk.

Since the Observatory opened in 1948 a grand total of 6,390 birds of 100 different species has been ringed. Of 42 recoveries made away from Fair Isle, 21 have been reported from abroad. A number of recoveries of ringed birds are given in paras. 62 and 67 of this Bulletin.

The Traps

The GULLY was again the most profitable trap with close on 1000 birds. VAADAL caught 147, the single DYKE trap 110, HAA 100 and WARD HILL 78. The OBSERVATORY trap showed a big drop from 660 to 388 birds, and now that the North Haven is untenanted for half the year its catch will further diminish.

The Yeoman Net was used to catch the first of the Subalpine Warblers, and was responsible for a dozen birds in all. Spring traps were used to take Red-backed Shrikes (Bull. No. 2, 19) and during August over 60 adult Fulmars were caught by means of the Faeroese fowling net presented in 1949 by Hr. Niels Rein of Torshavn (Bull. No. 4, 43). A clap-net was used to catch the Tawny Pipit, but owing to the prolonged spring drought the Arctic Skuas' bathing-pool at Byrewil dried up and we were unable to get adult skuas for colour-ringing by this means.

A DOUBLE-DYKE trap of our own design was completed in the late autumn, over the dry-stone wall which crosses Vatstrass midway between Duttfield and the Gully. This trap is shaped rather like an hour-glass, each entrance leading inwards to a funnel which runs alongside the left-hand wall of the opposite section. Although in a very exposed position the trap is so sturdily built that it sustained no damage in the winter gales, including the "great gale" which left a trail of destruction in the north islands on January 15th, 1952. One end of the trap, though not quite complete, was in working order during our last fortnight on the isle, and caught 50 Blackbirds. It should do very well in a full season, and we hope it will assist

our study of the dispersal of young Wheatears and the passage-migration of more northerly birds in late August (see Para. 56).

The last night on the island, Oct. 29/30th, was spent by Col. H. G. Brownlow and myself at the South Lighthouse, where 71 birds (mainly Blackbirds, but including 18 Fieldfares and 13 Redwings) were caught and ringed, giving the Observatory a new record total of 210 birds ringed in 24 hours.

Field-work for 1952

Arctic Skua. The study of the Arctic Skua colony will be continued along the same lines as in previous years, - census, documentation of breeding success, distribution of the different colour-phases, fledging period, behaviour of the young, and so on. A general survey of our work on this species was given in the Second Annual Report 1950, pp. 22-27; and a more popular account, by which it was hoped to attract more visitors to the Observatory at this period, appeared in Bird Notes 24: 283-7.

One important new line of enquiry suggested itself in 1951. The average fledging period was only 29 days, as against 31½ days in 1950. It is difficult to account for this more rapid fledging except by postulating a more abundant food supply. We know that "sillocks", one-year-old saithe, were present in myriads in the sea on the south and SE. sides of the isle in July, when the young skuas were being reared. This fish is a staple food of the Kittiwake, the chief victim of the skuas' piracy, and it may be significant that the first young Kittiwakes were on the wing at the end of July, a full week in advance of the normal date for

Shetland. If the theory is correct, then there should be a correlation between the fledging-periods of Arctic Skua and Kittiwake in different seasons. It is proposed to make observations on a selected Kittiwake colony on the north coast of Vaasetter in future years to test this view.

We had a "double pale" mating for the first time in the 1951 season, but as yet are without a "double dark" pairing; also, for the first time, a pale phase youngster was hatched and reared by intermediate phase parents. No colour-ringed young of previous years were indentified at the colony, and in fact visitors in first year plumage were very few. Of 12 adults caught and colour-ringed at the bathing-pool in 1950, seven were identificd in 1951, 3 of them as new breeding-birds. Details are given in Bull. No. 4, 32. The clap-netting and colour-ringing of the non-breeders at the Byrewil Pool is a very desirable activity, and I hope we shall be spared a spring drought in 1952 and will be able to continue this work.

The colony continues to increase, and in 1951 comprised 25 breeding-pairs which reared 23 young.

In August a paper, reviewing some of the results of the Arctic Skua study to the end of the 1951 breeding-season, was read before Section D of the British Association at the Edinburgh meeting. The President, His Royal Highness the Duke of Edinburgh, heard the paper.

Great Skua. The Bonxie is making little or no headway in attempts to colonize Fair Isle. The regular pairs at Eas Brecks, Vaasetter, Mire of Vatnagard and two sites on the Ward Hill nested again, but the second and third were

unsuccessful. However, at least as many non-breeding pairs were present, and established territories, and it is these non-breeders upon whom attention is being focused at present.

Wheatear. A note on our summer investigation of this species appeared in Bull. No. 3, 28. Briefly, 40 nests were located, 120 young being ringed in the accessible ones. A number of the young, from widely separated nests, were subsequently captured in the traps, and if the recovery rate is a fair criterion, then the breeding population can be assessed at over 280 pairs, with a progeny of not less than 1000 young. As it is unlikely that a high proportion of the youngsters reared in the far west and south of the island reach the trapping-area in the middle eastern section, these estimates are almost certainly low.

It is hoped to develop this study of the Wheatear still further in 1952, by locating more nests and marking a greater number of nestlings, perhaps using different colour-combinations for different areas in order to secure data on the post-fledging dispersal. The proportion of 1st summer to older males at the nests was high in 1951, and this line of enquiry seems worth while following up. There is another important aspect of the work on this species, - namely, the year-to-year examination of the big passage-movement of more northerly birds which has now occurred between August 22nd-24th in two successive years. A note on this problem appears in this Bulletin.

Fulmar. The successful application of the Faeroese "fleyg" in ringing the adult Fulmars has already been mentioned, and this technique might prove a useful aid to a study of the habits of

non-breeders "visiting" the cliffs. "Fleyging" should be done regularly, in all months of the season, and variations in the numbers of birds noted. Weighing should be continued, and birds examined for brood-patches and active moult.

Wren. The Fair Isle Wren was described as a new subspecies, Troglodytes t. fridariensis, showing an interesting convergence towards the grey-brown mantle plumage of St. Kilda birds rather than similarity with the darker Shetland stock, in Ibis 63: 599-601 (Oct. 1951). A count of singing males in May and June indicated a population of between 30-40 pairs, all nesting on the coast. It is thought that the Wren was less common in 1951 than in the previous year, an impression which gains force from comparison of the number trapped (only 9 in 1951 against 34 in 1950) and the absence of birds from some inland haunts which were occupied in 1950. A similar census of this interesting island race should be carried out each season in future.

Oyster-catcher. A study of the nature and possible causes of geographical variation in the distraction displays of the Oyster-catcher, based on experience of this species in Fair Isle, Unst (north Shetland), and the Faeroe Islands, was published in Ibis 94: 85-96 (Jan. 1952).

Bird Weights. Some 2,000 additional data on bird-weights, spread over a number of species at various seasons and times of day, were amassed during 1951 and have been passed to Mr. Alec Butterfield, who is working on the statistical aspects of this complex subject. Since we now know that there are daily as well as seasonal cycles of variation, as well as sex and age differences, and that overseas migrants lose

weight on the journey which brings them to Fair Isle, years of patient collection of data must pass before many of the problems can be solved. Two notes on the last-mentioned aspect of this subject appear as paras. 60 and 61 of this Bulletin.

Ectoparasites. During 1951 we developed quite a simple method of collecting a bird's flea and flat-fly parasites, by immersing the bird's body in a bath of chloroform fumes whilst keeping its head clear by means of a cape of oiled silk. The bath is not harmful to the birds, - we frequently retrapped and treated again certain birds, to discover if there had been re-infestation, and these individuals continued to show good weight and perfect health. Indeed, some birds, such as the Starling which gave up 9 Hippoboscid flies and 1 flea, and the Wheatear which lost 8 flies and 3 fleas, are probably much better off without these blood-sucking parasites!

So far as the flies are concerned, this technique is well over 95% efficient: we do not know, as yet, how efficient it is in removing fleas. Some 380 flies were collected and have been examined by A. R. Edwards, who reports on them in para. 65 of this Bulletin, whilst in para. 64 the Hon. Miriam Rothschild summarises her work on the fleas.

The efficacy of the collecting method has made it possible to do quantitative work in this sphere, with the application of statistical tests to the results. Some interesting information has already emerged from Mr. Butterfield's examination of the 1951 data (para. 66), and in 1952 and subsequent seasons we hope to develop still further this quantitative investigation

into the relationship between Starling, Wheatear, Rock and Meadow Pipits and their ectoparasites. So far as I know, work of this nature has not been attempted with similar material before, and I regard this aspect of laboratory examination as a most important one.

Proposed Summer Courses in 1952.

Arrangements are being made to hold a series of five weekly courses in ornithology at Fair Isle during the period July 23rd-August 20th 1952. The aim is to cover a wide range of ornithological subjects and to stress the importance of practical work in the field and laboratory, which students will be encouraged to do on their own initiative after the introductory day. The subject-matter of the lectures has been designed largely with this end in view.

The courses have been planned primarily for science teachers and second-year University students, but it is hoped that they will also attract beginners who are anxious to have a wider experience of ornithological work. They will be conducted by the Director, with the assistance of Messrs. A.R. Edwards, B.Sc. and W.A. Butterfield, B.Sc.

K. WILLIAMSON

TREASURER'S REPORT

If you look at the accounts for this year to 31st December, 1951, one single hard fact stands out - that is that we have spent £886 more than our income. It is an unpalatable fact, but it has got to be faced. This is the first year since the inception of the Trust that we have received no outside help from bodies such as the Pilgrim Trust and Nature Conservancy. It is, therefore, a fair representative year, with no large capital outlays and no windfalls to boost our income. There is only one conclusion to be drawn from the figures. We must either increase our income or cut our expenditure. Otherwise the whole long term project will fail.

The first step is, as it must always be, to try and cut expenditure. During the year we started issuing a series of Bulletins which we would be loath to drop as we regard them as far more valuable in keeping friends in touch than one annual report. Our first economy, therefore, is to incorporate the annual report in this Bulletin. It may not look so good or be so well produced but it saves cost and will enable us, we hope, to continue to send out the Bulletins as we have done this year.

The only other obvious possible saving is to cut the loss on the running of the Hostel on Fair Isle itself. This loss could, of course, be cut at any time but only by letting down the standard of hospitality and comfort which Ken Williamson and his wife have offered visitors in the past. We are reluctant to do this if it can possibly be avoided. Fair Isle is an isolated spot, difficult and somewhat expensive to get to: we feel that all of you who have come there in the past and may come in the future cannot but appreciate the comfort and hospitality which the Williamsons provide. We are dependent to a large extent on voluntary help from visitors for the successful running of the observatory and we feel that if people take the trouble to come to Fair Isle and help they should be made as comfortable as possible. Economies have been, and will be made but it is impossible, in such an out of the way spot, to run the hostel at a profit unless it is full all the time. The migration periods are seasonal and it is highly unlikely that the hostel ever will be permanently full. There will always be a loss and all that we can do is to try and minimise that loss in so far as is humanly possible.

These are the two main economies open to us, and every effort will be made this year to save money, but the real solution lies in widening our membership and increasing our income. Somehow or other this has got to be done, - by legacies, donations and extra friends. We ask you to help us to obtain all three. They are vital to the ultimate success of our venture.

If each one of you made one extra friend it would cover last year's deficit. Please do your best for us. We are certain that there are hundreds of bird lovers that would willingly pay the guinea subscription as a Friend of Fair Isle if they knew of the existence of the Bulletins and the wide interest of the Bulletin contents.

We ourselves can and will try to increase our annual income. We have already had a first class lecture by Peter Scott which has boosted our funds for this present year and we hope with an excellent colour film of the Observatory activities to add to this fine start. But we need your personal help. Do what you can as often as you can.

IAN PITMAN.

Hon. Treasurer

FAIR ISLE BIRD

REVENUE
for
Year ended

1950	RECEIPTS		
£			
716. 2. -	Subscriptions under Deeds of Covenant	£ 392.18. -	
	Subscriptions from Friends of Fair Isle	452.10. -	
198.15. 6	Donations for year	91.18. -	
162. 3.10	Proceeds of Lectures etc.	-. -. -	
55. 5. 1	Proceeds of sale of Booklets etc.	52. 7.10	
10. -. -	Use of Room	10. -. -	
1000. -. -	Grant from Nature Conservancy Dept.	-. -. -	
325.16. 7	Income Tax Recovered	347.15.10	
117.16. -	Miscellaneous Receipt	-. -. -	
£2585.19. -		£ 1347. 9. 8	
50.12. 0	Deficit for year	886. 8. 3	
£2636.11. -		£ 2233.17.11	

OBSERVATORY TRUST

ACCOUNT

31st December, 1951

PAYMENTS

1950			
£1235.15. 7	Salaries, Wages & National Insurance	£ 1321. 8. 2	
500. -. -	Less: Private Contributions	750. -. -	
£ 735. 5. 7		£ 571. 8. 2	
302.10. -	Annual Report	250. -. -	
177. 8. 2	Printing, Postages & Stationery	252. 2.10	
316. 6. -	Supplies, Furniture, Furnishings, etc.	265.17. 9	
223. 3. 8	Rates, Taxes & Insurance	261.11. 5	
26.12.10	Lantern Slides etc.	22.19. 6	
-. -. -	Travelling Expenses	175. 7. 7	
255. 8. 9	Loss in respect of Hostel	351. 4. 2	
99.16. -	Administration and Petty Cash	83. 6. 6	
500. -. -	Sums written off Buildings, Traps, Furniture etc.	-. -. -	
£2636.11. -		£ 2233.17.11	

FAIR ISLE BIRD

BALANCE
As at 31st

LIABILITIES

Sums Advanced per last Balance Sheet	£ 1,968.15. -
Price of Huts	5. -. -
	£ 1,973.15. -

Note: These Advances are repayable only in the event of Funds being available.

Messrs. J. & F. Anderson, W.S., for sums advanced by them:-

Ordinary Account	183. 2. 3
Hostel Account	861. 9. 1

Sundry Creditors:-

Hostel	25. 8. 1
	£ 3,043.14. 5

EDINBURGH, 21st March, 1952

OBSERVATORY TRUST

SHEET
December, 1951

ASSETS

Buildings, Traps etc. at cost		£ 3,026.17. 6
Less: amounts written off		2,676.17. 6
		£ 350. -. -
Furniture, Furnishings etc. at Fair Isle at cost	£1,628.11.10	
Less: amounts written off	1,028.11.10	600. -. -
Furniture, Furnishings etc. at 17 India Street, at cost	£ 712. 4.11	
Less: amounts w/off	242. 4.11	470. -. -
Scientific Equipment etc. at cost	266. 2.11	
Less: amounts w/off	70. 2.11	196. -. -
Consumable Stores:-		
Food Stuffs etc.	£ 30. -. -	
Live Stock (cost)	38. -. -	68. -. -
Sundry Debts.		(8. -. -
		(96.13.11
Cash in Bank and on Hand:-		
Bank (Treasurer's A/c)	£ 4. 9.11	
Bank (Hostel A/c)	2.11. 1	
Cash on hand (Hostel)	34.19. 3	42. -. 3
Deficits on Revenue Account brought forward from previous years	£ 326.12. -	
Add: Deficit for year	886. 8. 3	1,213. -. 3
		£ 3,043.14. 5

Examined and found correct.

LINDSAY, JAMESON & HALDANE,
C.A.

56. Direct Wheatear Passage in August 1951

During the morning of August 24th over forty Wheatears, mostly 1st-winter birds, were caught in the Gully and Dyke Traps, and it was obvious from this fact and from field observation that a big movement of this species was taking place.

As we have reason to believe that not less than 1,000 young Wheatears fledged at Fair Isle in 1951, 200 of which were ringed either as nestlings or juveniles, the absence of "retraps" from this day's captures leads to the conclusion that the birds were passage-migrants from farther north.

This movement immediately suggested a close parallel with the one observed at the South Lighthouse on the nights of August 22/23rd and 23/24th 1950, discussed in "Second Annual Report 1950", pp. 41-44. It now seems certain that these birds were on passage from farther north, despite the contrary belief expressed on p. 37 of that Report.

All the August 24th captures were weighed and measured in accordance with laboratory routine. On analysis the 1st-winter birds proved to have a mean weight of 27.25 g., which is near the weight of the lighthouse birds of 1950, and is 2.69 g. heavier than the mean weight of the island-bred birds we had taken earlier. This difference is highly significant (p 0.01%), and the high weight would seem to point to the newcomers having travelled only a short distance in order to reach Fair Isle.

Where did these birds originate? A study of the weather charts of the Meteorological Office for the night of August 23/24th shows a complex situation with an occluded low (which we believe would be adverse to migration) over the Iceland-Faeroes region, and an active secondary depression covering much of Britain. An extensive anticyclone, however, had formed over South Norway, Denmark and north Germany, and its influence extended to Shetland, which enjoyed complete calm. Drift of a large body of Wheatears westwards from the Continent is out of the question, and the conclusion that the "rush" came from no further afield than Shetland seems inescapable. This view gains support in L.S.V. Venables' observation that on this day Wheatears decreased markedly in Dunrossness, after having been abundant for several days.

An examination of the appropriate weather maps for August 22nd-24th 1950 also reveals the existence of a calm in Shetland from midnight, 22nd, succeeded by a moderate NE. wind later in the day. Shetland at this time lay in a col between high pressure areas centred on Jan Mayen in the north and Germany in the south.

Were these Shetland-bred birds, or were they already passage-migrants which had been held up at that point? We find it difficult to credit that there is a mean difference of 2.7 g. between the Fair Isle and Shetland populations; moreover, Venables' note indicates that the "build-up" in Dunrossness had taken a short time only. The wing-lengths of the new group were, on the whole, greater than those of our local stock, and within the range given by Salomonsen for his race Oenanthe oe. schiøleri of the Faeroes and south Iceland.

Following up this clue, and looking back through the weather maps, we find that the only night which was calm in Faeroe, and therefore most suitable for emigration, was that of August 15/16th, when a ridge extended northwards to these islands from an anticyclone centred SW. of the British Isles. Consulting the Ringing Book we find that on 16th 9 birds were trapped, more than on any previous day since July 14th or any subsequent day till August 24th. The wings of these 9 birds, and of some captures made on the following days, were within the range given for schiøleri in Salomonsen's "Aves", (Zoology of the Faeroes, 1935). This small sample shows a mean weight only slightly higher than that of Fair Isle birds, with a 40% probability that this is due to chance; but a drop of the order of 2 g. would be within expectation for a bird of this size if it had undertaken an overnight flight from Faeroe. There is also a suggestion in the flatfly infestation data that the stock at Fair Isle changed on August 16th (para. 65).

An interesting field observation by John Peterson lends support to the view that passage migrants arrived in Shetland on 16th. Whilst motoring from Walls, on the west side of Mainland, to Lerwick between 2100-2300 hrs. on 16th and 17th, he saw numerous Wheatears along the road, very active in spite of the darkness, and apparently preying on insects illumined by the headlights. He writes: "That their behaviour was abnormal - we had never seen anything like it before - suggests that they were migrants. Every year in August we are travelling in the car at nights, and I feel certain we could not have missed seeing numbers of Wheatears feeding at night if the occurrence were common behaviour among Shetland birds. That they were feeding so

actively in comparative darkness points to their being "off passage". I suppose the birds we saw were only some of those in the near vicinity of the road, though many may have been attracted there by the lights of other cars. At any rate the total movement of Wheatears must have been fairly considerable".

Final proof of the origin of this Wheatear "rush", which has now occurred at almost the same date in two successive years, must await the chance recovery of a ringed bird on the nesting-ground. The tentative conclusion from examination of the meteorological, statistical and observational evidence is that the greater part of these birds may be Faeroe bred. Their migration pattern seems to be a leisurely movement from one island group to the next, making full use of optimum weather conditions.

K. WILLIAMSON
W.A. BUTTERFIELD

57. The "Great Gale" at Fair Isle, January 15th 1952

The great gale which swept across northern Scotland on January 15th, doing much damage in Sutherland, Caithness and Orkney, passed through Fair Isle between 5 and 8 o'clock in the morning. From James Stout's report it is evident that the storm was responsible for some changes in the bird fauna. Fieldfares, which had been at the isle all winter in fluctuating numbers, were reduced from over 60 to about a dozen birds, but the Redwings, which were about half that strength, appear to have stuck it out. Two flocks of Lapwings, 43 and 17 strong, arrived at the isle, and about 12 Golden Plovers appeared. Fair Isle's one wintering Curlew, an injured bird,

was joined by 7 companions. The 43-flock of Lapwings was observed to fly round at about 500 ft. several times on the morning of the 17th, as though intending to depart, and they had in fact gone by the following day. There was a noticeable movement of Wrens, but a local one, birds leaving the cliffs and shores and staying in the village area for several days. House Sparrows decreased by more than half to some 30 or 40 birds: one wonders what can have happemed to them, - were the missing ones caught unawares and whisked out to sea?

Sea-birds were affected too. The 16th continued squally, with strong winds west by south and some snow. Many gulls, including 110 Common and 3 Black-headed Gulls, sought the shelter of the isle. They stayed until 19th, when the rough weather was succeeded by light variable winds with good visibility and hard frost. James Stout writes: "The Common Gulls have been feeding on dead worms with which most of the crofting area was thickly covered after the salt spray saturation of the gale".

A very surprising occurrence was of a medium-sized Tern on the 16th. Terns, both Common and Arctic, ought at this time to have been well south'ard of the Equator, but this one may have been wandering farther north than usual and got carried well beyond its normal range by stress of the gale.

This storm, incidentally, developed on the morning of January 14th in mid-Atlantic 750 miles due west of Malin Head: it was secondary to a big depression then centred slightly NE. of Iceland. It moved eastwards very rapidly and by midnight its fronts and warm sector were sweeping over the north of Scotland and the Hebrides.

From Notes by JAMES A. STOUT.

58. Ivory Gull and Probable Greenland Falcon at Fair Isle

James Stout found an exhausted Ivory Gull Pagophila eburnea on the headland of Meoness on February 9th, a day of fresh north wind following a northerly gale, with snow. He tried to revive it "with warmth and halibut-liver oil capsules", but the bird was too far gone and soon died. It was sent to Edinburgh a few days later and is now a mounted specimen in the British Bird Hall of the Royal Scottish Museum. George Stout of Field saw an Ivory Gull at Fair Isle on Dec. 28th 1933 - the only previous record.

The bird was an adult male in the immaculate white plumage (certainly too clean and pure a white to warrant the description "ivory"), and it weighed 15 ozs. or about 425 g. just after death, - a surprisingly low weight for so large a bird. The following notes were made on the colours of the soft parts 5 days after death. Bill: basal half of lower mandible pale blue shading to green on the cutting-edges; area surrounding nostrils a slightly deeper blue, shading to green on the culmen; forepart of the upper mandible, and the lower mandible from the angle to the tip, dark orange. Eye-rim, bright red. Legs and feet, black with whitish pencillings outlining the scales of the tarsus.

On the same day that the Ivory Gull was found, Jerome Stout of Lower Leogh saw at very close quarters a large white falcon which he believes was a Greenland Falcon Falco rusticolus candicans. It was attacking a Common Gull. A bird possibly of this species had been seen at Brae, Shetland, in the previous week, attempting to carry off a grouse (per J.A. Brown).

59. Possible Occurrences of Bulwer's Petrel in Shetland Waters.

James A. Stout recently sent the following report:- "Jan. 18th: strong squally N. wind, sleet showers, visibility fairly good ... Saw a black bird nearly twice as big as a Storm Petrel fly close past me to SSE. at Head of Tien today. It had a petrel's bill, but that was about all I could be sure of as it was going very fast, - a bird I've never seen before, whatever it was!" He is familiar with the small Storm and Leach's Petrels, and also with the Sooty Shearwater, as a result of sailing regularly aboard "The Good Shepherd".

When crossing Sumburgh Roost on a visit to Fair Isle on September 7th 1949, W.B. Alexander had a brief view of a Leach's Petrel, and, in the same instant, another petrel larger than Leach's but too small and too black to be a Sooty Shearwater. Miss W. Flower, who also saw the birds, had much the same impression. Unfortunately, the notorious roll of "The Good Shepherd" precluded an extended observation.

These incidents, tantalisingly brief and indecisive as they are, are more suggestive of Bulwer's Petrel Bulweria bulwerii than of any other likely species. This bird breeds on the Azores and other Atlantic islands, and in his "Birds of the Ocean" (p.43), W.B. Alexander says it is "widely distributed ... but rarely seen at sea". In his own case he considers the view which circumstances afforded him was insufficiently critical to permit of a definite identification (in litt.). The more recent observation does not materially alter the situation, and we must hope for some better opportunity of adding the name of Bulwer's Petrel to the Scottish list.

60. COMPARISON OF BIRD-WEIGHTS at LISTA and FAIR ISLE

Species		Mean Weight in grams.	Variance of mean	Difference in mean Weights.	Probability
Goldcrest	Lista (7) F.I. (8)	5.82 5.39	0.0305 0.0122	0.41	10%
Garden Warbler	Lista (4) F.I. (10)	17.75 15.97	0.6028 0.1945	1.78	10%
Blackcap	Lista (5) F.I. (7)	18.70 17.41	0.6962 0.2332	1.31	20%
Redstart	Lista(14) F.I. (5)	16.23 14.58	0.2360 0.8585	1.65	20%
Robin	Lista(20) F.I. (24)	17.72 14.92	0.0499 0.0862	2.80	0.01%
Hedge Sparrow	Lista (2) F.I. (4)	22.87 17.51	1.8769 0.4048	5.36	1%

60. A Statistical Note on Bird Weights from Lista (Norway) and Fair Isle

The data on bird weights from Lista confirm the theory that birds lose weight during oversea migratory flights. A comparison of the weights recorded at Lista with those collected at Fair Isle over the same period, Sept.28th-Oct.3rd, is given across. No comparison was made for eight species, viz. Wren (different subspecies), Pied Flycatcher and Willow-warbler (several hours' delay between capture and weighing at Lista), Chaffinch (probable that different races are concerned), Rock Pipit, Meadow Pipit and Wheatear (which breed at Fair Isle).

In the 6 species selected, Lista examples show higher mean weights than Fair Isle birds. Unfortunately the samples are very small except in the case of the Robin, and this throws some doubt on the significance of the differences. Against each species in the table is given the probability of the difference being due to random sampling. The first 4 probabilities are too high to rule out the possibility that this is so (see Mather, "Statistical Analysis in Biology", London, 1946, for the method of calculating the probabilities). If random sampling errors were the cause of the differences, however, it might be expected that some species would show a lower mean weight at Lista than at Fair Isle. The probability that all 6 species show higher mean weights at Lista if the differences were due to random sampling alone is 1.56%.

Taken as a group we may say that this data shows beyond reasonable doubt that birds lose weight during an oversea migration.

W.A. BUTTERFIELD.

61. Some Gains in Weight of Resting Migrants.

As an appendix to the previous note, a few records of gains in weight of migrants "off passage" at Fair Isle may be given. The most striking is that of a HEDGE-SPARROW whose arrival weight of 16.85 g. at 0940 Oct.3rd was included in the calculations made by Mr. Butterfield. It was retrapped at 0715 Oct.16th showing 21.9 g. - an increase of 30% of its arrival weight in a fortnight! It was caught again at 0715 Oct.29th at 24.54 g., so that in 26 days it had increased its weight by 45%.

A ROBIN taken in Vaadal at 0930 Oct.13th at 13.48 g. had increased to 15.39 g. by 1715 Oct. 17th; it was roosted in the laboratory, losing 1.85 g. overnight, so that a slight gain over the 4 days is evident. Robin M.2691, trapped Ward Hill 1530 Oct.15th at 13.68 g. had gone up to 15.55 g. by 0845 Oct.18th, and 16.53 g. by 1615 Oct. 22nd.

CHAFFINCHES, as usual, showed interesting gains, but in their case recuperation was assisted by strewing turnip-seed in the approaches to the traps. Female M.2639, who weighed 17.8 g. at 0700 Oct.7th, was retrapped 7 times down to 24th, showing a progressive gain to 26.04 g. or 46% of her arrival weight. At subsequent recaptures she was unchanged, suggesting that top weight can be achieved in about 17 days under favourable conditions.

Two males, trapped at 19.9 g. and 19.4 g. rather late on Oct.13th, had increased by 3.8 g. and 3.6 g. respectively early on the tenth day. Late on the next day the latter showed 26.03 g. - a gain of 6.6 g. on his arrival weight.

K.W.

62. Some Ringed Bird Recoveries.

STARLING. Sturnus vulgaris. A male ringed at Fair Isle on November 12th 1949, and retrapped on two occasions in December and once the following February, was recovered at AGHADOWEY, Co. DERRY, N.I., on December 8th 1951 (380 miles SW.). The fact that it wintered on the isle in 1949-50 is suggestive of its being a local bird.

REDWING. A 1st-winter bird trapped in the Gully on October 28th 1951 was found dead at ROERMOND, Province of LIMBURG, HOLLAND, on Dec. 8th 1951, (660 miles SE.). The bird, which weighed 62.4 g. and had a wing of 117 mm., was a Continental drift-migrant, Turdus m. musicus.

BLACKBIRD. Turdus merula. 1st-winter male caught in the Gully on October 26th 1950, a day when there was a big "rush" of this species. It was recovered at STRAUMSNES, NORWAY, - Lat. 63 4' N. Long. 8 4' E. (about 400 miles NE.), - on Sept. 2nd 1951.

BLACKBIRD. Adult female from the Dyke Trap, March 11th 1950. Recovered at ANGVIK, NORWAY, - Lat. 62 54' N. Long. 8 6' E. (about 400 miles NE.), - on December 28th 1950. This interesting bird appears to have migrated abroad for the winter of 1949-50 and remained in Scandinavia during the winter of 1950-51.

BLACKBIRD. Adult male taken in a Potter Trap on March 14th 1950 (weight 104.2 g.) and in the Observatory Trap next day (weight 103.1 g.). It was found dead at VÄRING, VASTERGÖTLAND, SWEDEN, on February 16th 1951. (About 600 miles ESE.). This bird also appears to have migrated to Britain

for the winter 1949-50 and to have stayed in Scandinavia during the following season.

BLACKBIRD. 1st-winter female ringed during a huge passage of this species on October 29th 1951. Found dead at TAYNUILT, ARGYLL, November 24th. Our first recovery from the Double Dyke Trap built during October.

BLACKBIRD. 1st-winter female, also from the Double Dyke, October 18th 1951. Found dead at HOLYWOOD, near BELFAST, N.I. (about 400 miles SW) on January 25th 1952.

BLACKBIRD. Adult male trapped in Vaadal on October 5th 1951. Found dead at MILFORD, County DONEGAL, EIRE (about 380 miles SW) on January 27th 1952.

BLACKBIRD. 1st-winter male from the Gully, October 10th 1949. Found dead at KILGARVAN, Co. KERRY, EIRE, early December 1951. (600 miles SW).

BLACKBIRD. 1st-winter male ringed at the Gully during the great "rush" of October 29th 1951. Found dead on February 1st 1952 about 2½ miles west of HALKIRK, CAITHNESS.

WHEATEAR. Oenanthe oenanthe. A local juvenile ringed August 21st 1949 was reported killed at CANETTE DE LAS TORRES, Province of CORDOBA, SPAIN, on September 1st 1951. (1,650 miles S.).

WHEATEAR. Migrant 1st-winter bird ringed on August 31st 1951. Shot at MAUBEUGE, Province of NORD, FRANCE, about November 10th. (About 660 miles SSE.). An example of the "schiøleri" type of Wheatear (see para. 56), with wing 101 mm. and weight 27.63 g.

K.W.

63. Arctic Skua Chick Adoption Scheme.

At a recent lecture a member of the audience made the suggestion that we should have an "Arctic Skua Chick Adoption Scheme", somewhat after the style of the well-known "Duck Adoption Scheme" of the Wildfowl Enquiry Committee. In this, you pay a certain sum for the privilege of "adopting" a ringed duck, and if a recovery of this bird is made subsequently, you are informed by postcard of the circumstances.

We have pleasure in inviting Friends of Fair Isle, and any of their friends who may be interested, to join our scheme, which is as follows. For the sum of 5/- you can adopt an Arctic Skua chick reared at the Fair Isle colony since the 1949 season. You will be informed by letter of its history up to the time of leaving the island in the first year, and of any developments which may take place in connection with the bird in future seasons. Each year's crop of youngsters has two markings: firstly, a numbered aluminium ring (so you may get news of your bird only from abroad); and secondly, a colour-ring combination which will assist recognition of the bird in the field in future years. There is a good chance that some of these young will return to the colony, first as non-breeders, later as adults ready to take their place in the growing community. So the more fortunate subscribers may look forward to receiving news of their adopted chick over a number of years.

Your chances of hearing something further of your chick's career are, on the whole, pretty good. Requests and subscriptions should be sent to the Director, Fair Isle Bird Observatory, Fair Isle, by Lerwick, Shetland.

64. Records of Fleas from Fair Isle Birds.

The Hon. Miriam Rothschild has kindly identified the fleas taken during 1951 from 3 Meadow Pipits, 3 Rock Pipits, 4 Starlings, 13 Wheatears and 2 Blackbirds. The Wheatears were young birds taken from July 8th - August 19th. It is very probable that all the birds, with the exception of a Blackbird on April 13th, were Fair Isle bred. In addition, 3 Wheatear nests have been examined, and these have yielded 129, 336 and about 150 fleas respectively!

The fleas were of 3 species, Dasypsyllus g. gallinulae, Ceratophyllus gallinae, and Ceratophyllus borealis. The first was the only one found on Meadow Pipits, the first and third were taken from Rock Pipits, C. gallinae was the only flea on Starlings, whilst all 3 species occurred on the Wheatear. The migrant Blackbird had a male D. g. gallinulae and the other Blackbird, a 1st-summer male of July 23rd, harboured a female C. borealis. Miss Rothschild writes: "These records are of considerable interest, and confirm the following facts:

1. Ceratophyllus borealis is present on small rocky islands round the coast of Britain, whereas the closely related C. garei, which is distributed widely on the mainland, is absent. See M. Rothschild, in Entomologist 81, pp.84-95 (1948).

2. The sexes of D. g. gallinulae are to be found on the bodies of birds in about equal numbers (15 male, 15 female records), whilst females greatly outnumber males in the case of the other two species, C. gallinae (3 males, 10 females) and C. borealis (1 male, 8 females). See M. Rothschild, Bull. Brit. Mus. Nat. Hist., Entomology (1952, in press).

65. Flatflies taken in the Laboratory during 1951.

The year 1951 was a record one and the large total of 384 flies collected says much for the efficiency of the "delousing" technique evolved by the Director. This is, I believe, the first time that so many birds have been examined systematically for their ectoparasites. In addition to giving us a more accurate picture of the parasite infestation rate of birds (see Mr. Butterfield's report, para. 66) the work will also throw some light on the lives of the parasites and the degree to which they themselves are burdened with mites and lice (Mallophaga).

The following table sets out the situation found to exist this year on the four bird hosts selected for systematic study. I have used the term "phoresy" (the exploitation of one animal by another as a means of transportation), since there is no evidence that the mites or lice are parasitic, i.e. actually feeding, on the flies.

	No. of Infested Birds.	No. of Flies.	Phoresy		
			Mites	Lice	Both
Wheatear	90	205	19	1	1
Starling	29	78	15	17	2
Rock Pipit	27	48	10	-	-
Meadow Pipit	19	31	3	-	-

It will be seen that more than 43% of the flies taken from Starlings were found to be carrying "passengers". We therefore hope to concentrate on this bird to a greater extent in the coming season. Flies were also taken from

Blackbird, Twite, House Sparrow, Tree Pipit, Goldcrest, Long Eared Owl, Sparrow Hawk, and Merlin.

Three of the 384 flies were Ornithomyia avicularia Linn. - a species apparently rare in the north for it was not collected at all at the Observatory in 1950 - and the remainder were all O. fringillina Curtis. One of the O. avicularia, a female taken from a Twite, proved to be of great interest. On its abdomen I found several mites clustered together and surrounded by numerous eggs in a manner reminiscent of Microlichus uncus on the wings of the fly (see Second Annual Report 1950, p. 21). This mite appears to be of the genus Myialges and a close relative of Microlichus, but it has not yet been finally identified.

A. R. EDWARDS.

66. A Quantitative Analysis of the Results of the Ectoparasite Study.

Elsewhere in this Bulletin are notes of general interest on the qualitative aspects of the season's work, and it is proposed here to give some comments on the quantitative results arising from a statistical examination of the data. The actual calculations are filed with the Trust's records at India Street, Edinburgh.

i. Specific variation in infestation. It is clear that Meadow and Rock Pipits are equally liable to infestation by flies and that Starlings and Wheatears are much more prone to infestation than the pipits. At present we cannot say whether this increased liability to infestation

correlates with body size or with nesting habits, the pipits having more open nests than the other two species. Plans are afoot to attack this problem during the coming seasons. No specific differences are revealed so far as attack by fleas is concerned.

ii. Degree of infestation of individuals. Table 2 shows the number of specimens of each of the four species from which x flies were removed.

TABLE 2.

Species.	x									
	0	1	2	3	4	5	6	7	8	9
Starling	3	4	4	3	4	2	1	0	0	2
Meadow Pipit.	12	6	5	1	1	1	0	0	0	0
Rock Pipit	21	12	7	3	3	0	0	0	0	0
Wheatear	29	24	23	18	5	4	1	2	2	0

Calculations show that Starlings are more prone to heavy infestation than the pipits, and again there is no significant difference between the two pipit species. The position of the Wheatear is obscure. There is no significant difference between species so far as fleas are concerned.

iii. Variation of infestation with time. The only category which contains sufficient individuals to give a satisfactory analysis of the variation of infestation with time is the Wheatear-Flatfly class. The periods referred to in Table 3 are 5-day periods from July 4th to August 16th. The first point of note is that 100% infestation is recorded from July 4th-18th in the 43 birds examined. The chance of 43 captured birds all being attacked if x% of the juvenile birds in the population are infested is given in Table 4.

TABLE 3

Period	% Infested	Flies per infested bird	Period	% Infested	Flies per infested bird
1	100	2.33	6	53.7	1.86
2	100	3.50	7	50.0	2.33
3	100	1.78	8	38.8	1.14
4	83.3	3.33	9	25.0	2.00
5.	85.7	2.81	-	-	-

TABLE 4

X	Approximate probability	X	Approximate probability
100	1 in 1	85	1 in 1,000
95	1 in 10	80	1 in 10,000
90	1 in 100		

It is therefore safe to assume that at least 90% of all juvenile Wheatears at Fair Isle during the period July 4-18th were infested with flatflies. There is nothing to rule out the possibility that all were infested. If we assume the infestation to be constant during this period it is possible to calculate the law for the falling off of infestation with time for the later periods. This law may be expressed as $X=99.83 - 12.49 (p-3)$ where "X" is the percentage of birds infested and "p" the number of period. Table 5 shows a comparison of the actual percentages recorded with those calculated from the equation. A close agreement is apparent and is confirmed by statistical tests.

TABLE 5

Period	% Recorded	% From Equation
1	100	Not applicable
2	100	
3	100	99.8
4	83.3	88.3
5	85.7	74.8
6	53.7	62.4
7	50.0	49.9
8	38.8	37.4
9	25.0	24.9

iv. Wheatears captured between August 16-23rd. There are strong grounds for believing that some of the Wheatears captured on and after August 16th were not bred at Fair Isle (see para. 56). Except for 3 taken on August 16th, and previously ringed as nestlings or unmoulted juveniles, it is impossible to be certain which were local and which passage-migrants. As it seems possible that the immigrant birds might belong to the stock breeding in the Faeroe Islands, inclusion of such birds in an investigation of conditions prevailing at Fair Isle is not justified. So, except for the 3 birds mentioned above, all those subsequent to August 15th have been excluded from the foregoing calculations. If the original figures for period 10 are compared with the theoretically calculated figure, we have: actual, 81.7%; calculated, 12.4%. The difference is so striking that this may be further evidence of the extraneous origin of the birds of August 16th and after, or it may be connected with some as yet unknown feature of the life-cycle of the parasite. In any event, the situation is most interesting and it is to be hoped that further light can be cast upon it in future years.

ALEC BUTTERFIELD

67. Further Recoveries of Ringed Birds

Since the foregoing Bulletin notes were completed some further interesting recoveries of birds ringed at Fair Isle have come to hand. Tom Henderson has reported the capture at Scousburgh, south of Shetland, on February 13th, of a STARLING which was marked at Fair Isle on November 17th 1949.

A 1st-winter male SPARROW-HAWK Accipiter nisus caught in the Gully Trap on September 17th 1951 was killed at Rocheserviere, Province of Vendee, France (about 900 miles south) on October 21st. This appears to be the first record of its kind from a bird ringed in the British Isles.

A young OYSTER-CATCHER, one of a brood of 3, hatched on Eas Brecks on June 15th 1951 and ringed in Homisdale a week later, was killed at Cap Ferret, Province of Gironde, France (about 1050 miles S.) on August 21st. At the time of recovery this bird cannot have been more than 5 weeks on the wing. There have been winter recoveries in western France of birds ringed as young at Skokholm, the Isle of Man, and Cumberland localities, but so far as I can find from the published records in the journal British Birds this is the first record from abroad of a Scottish nestling, and no other British bird has performed as long a journey. The majority of Scottish, Orkney and Faeroe birds appear to winter in Ireland or western England, although one Faeroe bird also reached the north of France.

One of two GLAUCOUS GULLS Larus hyperboreus, caught from a roosting flock by James Stout on the night of December 14th 1951, was killed at Porkere, island of Suduroy, Faeroes, on February 11th 1952. This recovery suggests that the bird was on its way north to summer quarters. See para. 68.

K.W.

68. Midwinter Bird Notes from Fair Isle.

ROOK Corvus frugilegus and JACKDAW Corvus monedula. There was an influx of 9 rooks and 6 jackdaws on Jan. 20th, the former increasing to 38 on 21st, and falling away sharply from 26th, on which day they were down to 8 or 9 and had lost their smaller companions. On 22nd: "The rooks and jackdaws are all together in a flock and are very restless and go round the whole crofting area, often in a few hours. I think they have the urge to get off here again, but the wind is too contrary". (It was strong SSW. - they had arrived under light easterly weather conditions). There was a new influx of 23 rooks and 3 jackdaws on Jan. 31st (southerly gale) and on Feb. 3rd these increased to 33 and 4 respectively. From Feb. 14th-24th the daws numbered 7.

STARLING Sturnus vulgaris. Two retrapped recently are now over $4\frac{1}{2}$ years old. They are SK 41, ringed as a juvenile on Sept. 27th 1948, and SK 47, ringed on Oct. 20th 1948. They were recaptured in a Potter at Mires on Feb. 9th 1952 and both showed unusually high weights, - 101 g. and 104 g. respectively. Another bird retrapped on Feb. 12th at 105 g. was an adult male ringed on Dec. 14th 1950.

TWITE Carduelis flavirostris. There have been very few during the winter, and it is clear that the great majority of the large breeding population are summer visitors only to the isle. In mid-Dec. there were 17 or so, but 11 only in the village area in mid-Jan., whilst latterly there have been 5 or 6.

CHAFFINCH Fringilla coelebs and MEADOW PIPIT Anthus pratensis. Single specimens have wintered.

THRUSHES. Fieldfares T. pilaris have fluctuated in numbers since the New Year. There was an arrival of 50 on Jan. 4th, and Jan. 9th-11th was a period of increase, to more than 70. A big decrease followed the gale of 15th, but new arrivals occurred with the rooks and daws on Jan. 20th-21st. Redwings T. musicus also increased from Jan. 9th-11th and remained at about 50 for some time, their numbers decreasing later in the month. Blackbirds T. merula increased with the fieldfares on Jan. 4th and showed a fall after the "great gale". More arrived on 20th, but they were few in February.

ROBIN Erithacus rubecula. Six or 7 were on record regularly until the gale of Jan. 15th, but the highest count afterwards was 3.

BLACK-BELLIED DIPPER Cinclus c. cinclus. The bird which arrived on Nov. 18th was last seen on Dec. 24th.

MERLIN Falco columbarius and SPARROW-HAWK Accipiter nisus. Both species have occurred sporadically in all months of the winter.

DUCKS. Jan. 17th-18th was a good period for ducks. There were 7 Mallard Anas platyrhyncha, 7 Teal A. crecca (the only ones of the winter), a few Wigeon A. penelope, 3 Red-breasted Mergansers Mergus serrator and a Shoveller Spatula clypeata (a great rarity at this season). Some Long-tailed Ducks Clangula hyemalis have been seen, but nothing approaching the 38 birds of Nov. 13th.

GANNET Sula bassana. About 30 were diving in the South Haven bight on Jan. 4th, "unusual for the winter time", and the same number was fishing north of Buness on 11th. Over 300 were noted during the crossing of Sumburgh Roost on Jan. 19th, but on 23rd the biggest concentration (some 200) was close to Grutness. "I have seen remarkably few immature Gannets this winter, - mostly all are adult or 4-year-old birds".

OYSTER CATCHER Haematopus ostralegus. First heard flying over, westwards, on the night of Feb. 17th. Five were seen on the isle on 21st and there were 7 on 23rd, with some further passage at night.

GULLS. On Dec. 13th some 15 Glaucous Gulls Larus hyperboreus were about. The next night a large flock of mixed gulls, in which were approx. 100 Greater Blackbacks L. marinus, 30 Herring L. argentatus, and 20 Glaucous was roosting on the headland of Buness. James Stout paid them a visit, with a 500 candle-power Tilley lamp and reflector, and succeeded in taking two Glaucous. "I also caught Black-backed and Herring but was unable to deal with more as Glaucous are fierce birds and give sore nips!" That they are indeed formidable may be judged from their weights, - 4¼lbs. and 4¾lbs. respectively. Their wings measured 478 mm. and 475 mm., and they are the first of this species to be ringed in the British Isles (see para. 67).

A flock of gulls estimated at 1,000, with over 200 mixed Glaucous and Iceland L. glaucoides the same number of Greater Blackbacks, and the remainder Herring Gulls, arrived on Dec. 27th. They were about 800 strong on 31st. There was a severe WNW. gale on this day, but the wind moderated overnight and on Jan. 1st only a few birds remained.

Three Iceland Gulls are mentioned on Feb. 8th and a dozen on the following day, after strong to gale force northerly winds. These were still at the island, with 300 Greater Blackbacks, on 11th, and next day the total had been increased by some 200 Herring, 4 Glaucous and 4 Scandinavian Lesser Blackbacks Larus f. fuscus.

LITTLE AUK Plautus alle. Over a thousand on Jan. 23rd between Fair Isle and Sumburgh, but only 50 or so on 28th-29th. About 100 on Feb. 18th, 4 only on 26th, and none on March 11th.

WATER RAIL Rallus aquaticus, and MOORHEN Gallinula chloropus. Frequently recorded, and no doubt wintering. Ravens Corvus corax killed and ate a Moorhen at the Gilsetter Burn. Four Water Rails have been ringed, bringing our grand total for this species to 38.

From notes by JAMES STOUT

69. Autumn Migration 1951 at Portland Bill.

Very little intensive observation has been carried on at points along the south coast of England during autumn migration, so that especial interest attaches to the work of Dr. K.B. Rooke, who established a "mobile bird observatory" at Portland Bill, Dorset, in September and October last. Dr. Rooke is preparing a full report of his trapping and ringing activities, and of the complex but interesting diurnal migration which he and his helpers observed.

The commonest visible diurnal migrant at the Bill was the LINNET Carduelis cannabina. During the early morning of Oct. 7th, "in fog with visibility only 300-400 yds., 87 linnets were seen

turning back northwards, compared with only 45 actually starting southwards from the bill, but not proved to leave. It remained foggy until after mid-day, and there was a more or less complete 'hold-up' of linnet emigration that day". A total of 66 birds was ringed (females more than twice as numerous as males), and a female trapped on Oct. 6th was reported at Sestao, Vizcaya, N.E. Spain, on Dec. 29th (500 miles due south).

Small parties of GREENFINCH and GOLDFINCH were also diurnal migrants but very little movement of CHAFFINCH was seen. None of the buntings appeared to be migrating though both CORN and YELLOW were common in the vicinity of the Bill. Three of the former were trapped at 52.5 g., 54.7g. and 55.8 g. There was some suggestion of an east to west movement of SKYLARK, but on the whole little visible migration. A SHORE-LARK Eremophila alpestris frequented a raised shingle beach on the west side of the Bill from Oct. 18th-20th, the first Dorset record since December 1940.

A few migrant TREE PIPITS were identified from Sept.30th-Oct.13th, and until the last date the MEADOW PIPIT was one of the commonest visible migrants. Nearly as common was the PIED WAGTAIL Motacilla alba yarrellii: in this case there were evening movements from the Bill inland, perhaps to a roost in reeds at Radipole Lake, Weymouth, 7½ miles due north.

Some GOLDCREST movement was evident from Oct. 5th-19th and this may have been emigration from the early October drift of large numbers of this species noted at Fair Isle and east coast observatories. Three trapped on 5th-7th were rather grey on the hind-neck, suggesting the Continental Regulus r. regulus, and one found dead on 20th belonged to this race.

Similarly, the CHIFFCHAFF movement between Oct. 3rd-8th, with a peak on 6th, was very likely connected with the influx of this species in the north and east at the beginning of the month. A bird on 8th, with wing 65 mm., was probably the Scandinavian Phylloscopus collybita abietinus. A note on this chiffchaff movement was given in Bull. No. 5, para. 55.

The late dates of the GRASSHOPPER WARBLER Locustella naevia in 1951 are interesting. One was found dead in the Lighthouse garden on Oct. 3rd/4th. Single birds occurred at Little Ross, in the Solway, on Oct. 1st and 4th, and Great Saltee had a probable grasshopper-warbler on 2nd.

WHEATEAR passage showed a peak of 40 birds on Oct. 1st. BLACK REDSTARTS Phoenicurus ochrurus were seen irregularly from Oct. 7th, the date on which the first arrival took place at Great Saltee. The first definite example of a Continental ROBIN Erithacus r. rubecula in Dorset was caught at the lighthouse on Oct. 4th/5th, but "there was no suggestion that the large immigration on the east coast, Oct. 1st-5th, reached Portland in any strength".

The SHORT EARED OWL Asio flammeus, not a common species in Dorset, was in unusual numbers on the Bill. On Oct.13th five were in sight at once, hunting over the stubbles, in which short-tailed voles were extremely common. One bird left the Bill on Oct. 6th flying due south, and was mobbed by two rooks, which returned after going a mile or so, the owl carrying on out to sea. KESTRELS Falco tinnunculus were also unusually numerous and some at least were migrants, 10 being seen to leave the Bill singly in southerly directions on dates between Sept. 21st and Oct. 17th.

From a report by DR. K.B. ROOKE.

FAIR ISLE BIRD OBSERVATORY

THE WORK OF THE OBSERVATORY

The purpose of the Bird Observatory is to provide facilities for visitors to carry out scientific research on the island, not only in the sphere of ornithology, but in every aspect of Natural History. Work will be mainly concentrated however on ornithology under the supervision of the Director.

TERMS

Full board, including service, is *Six Guineas per Head per week.* Reduced terms are available for parties of students from schools and universities.

APPLICATIONS

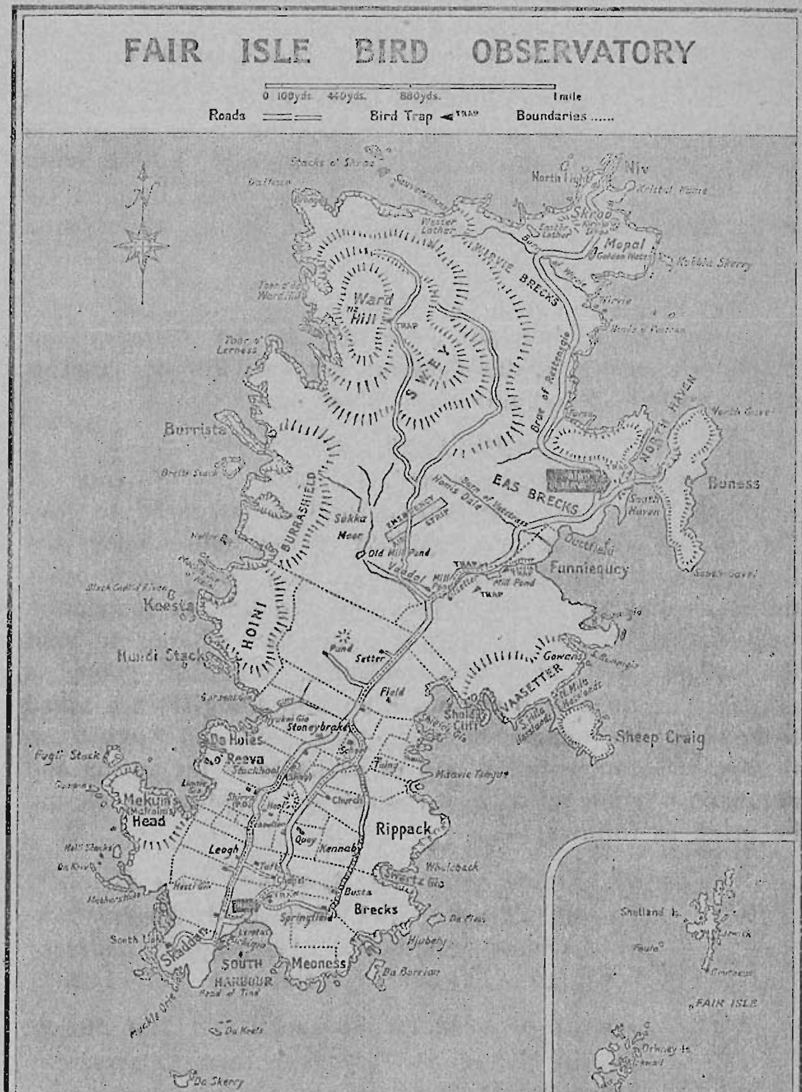
Priority in bookings will be given to "Friends of Fair Isle," and to *bona fide* naturalists prepared to take part in the scientific investigations of the station under the leadership of the Director, and to help with such other duties as may be necessary from time to time in connection with the station or hostel. Anyone else wishing to visit the island will be made welcome, provided room is available. Those who are not keen ornithologists are asked to book for the summer months—June, July, and August—so that more accommodation will be available in the spring and autumn for students of bird migration. Application should be made as follows:—

(1) *If made between* 1*st April and* 31*st* October. To the Director, Fair Isle Bird Observatory, by Lerwick, Shetland. Telegraphic address: "Migrant, Fairisle." Telephone Fair Isle 8.

(2) *If made between* 1*st November and* 31*st March.* To the Director, Fair Isle Bird Observatory Trust, 17 India Street, Edinburgh. Telephone: Edinburgh CENtral 4532.

PROSPECTUS

Prospectus giving details of transport to and from Fair Isle, and other information, will be sent on application.


FAIR ISLE BIRD OBSERVATORY
0 100yds. 440yds. 880yds. 1 mile
Roads
Bird Trap
Boundaries ......
Niv
North Light
Skroo
Mopal
Ward Hill
WIRVIE BRECKS
SWEY
Burrista
BURRASHIELD
Sukka Moor
Old Mill Pond
EAS BRECKS
NORTH HAVEN
Buness
Funniequoy
Mill Pond
Koesta
HOINI
Hundi Stack
Setter
Field
VAASETTER
Sheep Craig
Stoneybrake
Da Holes
Reeva
Fugli Stack
Mekuins Head
Church
Rippack
Leogh
Quoy
Kennaby
Busta
Brecks
Springfield
Skadan
SOUTH HARBOUR
Meoness
Da Skerry
Shetland Is.
FAIR ISLE
Orkney Is.