

THE SCOTTISH ORNITHOLOGISTS' CLUB
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FAIR ISLE BIRD OBSERVATORY

ANNUAL REPORT 1953



Edited by
KENNETH WILLIAMSON
Director

Issued to the Friends of Fair Isle

Subscription, £1, 1s. per year

Fair Isle Bird Observatory Trust.

35, George Street,
Edinburgh,

August, 1954.

Dear Friend of Fair Isle,

An important announcement on the future of Fair Isle will be made at a Press Conference in Edinburgh on 3rd September, 1954. The news will be of great interest to all our well-wishers and it is being released to coincide with a radio feature programme on the work of the Bird Observatory to be broadcast on the B.B.C. Home Service on Sunday 5th September, 9.30/10.15 p.m.

Yours sincerely,

GEORGE WATERSTON.

Hon. Secretary.

FOREWORD

One of the fascinating features of the study of bird migration is that each year is different. The main pattern of the ebb and flow of the birds from their winter quarters to their breeding grounds and back again follows roughly the same pattern, just as the seasons are annually similar, but as every countryman, and certainly every farmer knows, no two years are precisely the same. So it is with the birds; one year at Fair Isle we have an influx of Crossbills and Lapland Buntings, another year maybe is highlighted by great numbers of Blue-throats and Ortolans in the spring.

In contrast as the years roll on my annual foreword is still dominated by two themes. The first is the excellence of the work once more accomplished by the Director on the Scientific side at Fair Isle, and this is fully matched by that of his wife on the domestic side.

It must be particularly heartening to my fellow Scots that the pre-eminence of Scotland in the study of bird migration, so clearly achieved by an Englishman - Dr. Eagle Clarke - working in Scotland, so distinguishedly upheld by a Scot - Sir Landsborough Thomson - sojourning in England, is being so worthily maintained by another Englishman working on Fair Isle!

My other theme is once more the need for money. I regret having to harp annually on this theme. A glance at the accounts and the treasurer's statement will however make it all too clear to you that it would be a dereliction of duty not to do so. We have had to postpone worthwhile and much needed expansion for lack of cash, the shortage of which does indeed endanger our work on its present scale. I appeal to every one of you to try and remedy this state of affairs - enlist the support of others in our work, enlarge your own generous support if you can.

ARTHUR B. DUNCAN.

Chairman.

FAIR ISLE BIRD OBSERVATORY TRUST

ANNUAL REPORT OF THE
DIRECTOR
1953

G e n e r a l.

The Observatory was open from the beginning of May to mid-November in 1953. Fewer visitors were accommodated than in previous years, just over 60 staying for periods of a week or more, but once again it was a pleasure to welcome several who had spent holidays on the isle before.

The Chairman of the Trust, Mr. Arthur Duncan, spent a fortnight at the Observatory in July, continuing entomological studies which he began in the summer of 1952. Other Trustees visiting the island were Mr. George Waterston, the Laird, and Professor M.F.M. Meiklejohn.

Studies in the migration field took a new and promising turn in 1953 as a result of the visit of Dr. W.A. Timperley M.B., Ch.B., M.Sc., of Sheffield, an authority on diseases of the blood. His discoveries concerning the nature of avian blood are described in a later section of the report.

By arrangement with Professor D. Peacock of Dundee University College the Director had the assistance of a zoology student, Mr. Gordon Corbet, for work on bird ecto-parasites during the summer.

A memorable feature of the season was the stay of the Joint Schools' Expedition in camp close to the hostel in late August and early September. This well-organised and highly energetic party consisted of 16 boys from Merchant Taylors School (Crosby) and Monkton Combe School (Bath) under the leadership of two masters, Messrs. Paul Witherington and Noel Wylie. They were a great help in the routine observational, trapping and laboratory work at this busy period, played an active part in our field-study of the Fulmar, and also carried out natural history research on their own account. They are preparing a full report of their visit which will be printed and published at the Monkton Combe School Press.

Domestic

Misses Willa and Mary Wishart gave excellent service at the

hostel as in previous seasons, and Mr. William Eunson again served us well with general duties. During the spring this team ran the hostel most efficiently in the absence on leave of the Director and Mrs. Williamson. Mr. James A. Stout took charge of the ornithological work during this period, and he had the assistance early in the spring of Messrs. James Anderson and James Wilson. Our thanks are due to Mrs. Agnes W. Thom for her voluntary work during the year both at Fair Isle in June and July, and at the Edinburgh headquarters.

Social

The re-conditioning of the old "Canteen Hut" adjoining the Bird Observatory buildings was complete in the early spring, and we are happy to record that the first public function held there was a party on June 2nd, the occasion of the Coronation of Her Majesty Queen Elizabeth. It was thus only natural that this centre of the summer social life should be christened "Coronation Hall". Several dances, with or without their attendant whist-drives, and one or two picture shows were held there during the summer and were thoroughly enjoyed by visitors and villagers alike.

Island

The installation of a power-winch at the head of the slipway was completed during the summer, to everyone's gratification, and when the "Good Shepherd" had to be hauled high and dry above the danger-zone of the autumn storms the operation was done speedily and efficiently. This new installation reduces the time necessary for the "round trip" to Shetland by about an hour, which means a welcome reduction in the number of winter trips when the crew must approach Fair Isle in darkness, - always a difficult, and sometimes a hazardous task.

The islanders' own contribution to the cost of the power-winch was considerably enhanced by the response to the appeal issued with the 1952 Annual Report. Many Friends of Fair Isle sent donations, for which we thank them most heartily, and the sum forwarded to the Zetland County Council was in the region of £ 354. Some further work on strengthening the rails of the slipway remains to be done in the summer of 1954.

Bird Migration

Progress

In the 5 years that have elapsed since the Fair Isle Bird Observatory began its work great strides have been made in correlating observed migration phenomena with the nature and properties of the meteorological environment. Until our work became known, it was believed that Shetland and Fair Isle were the first "stepping-stones" in autumn on a direct southbound migration "route" originating beyond the North Sea in south-west Norway, - a route which the birds were able to navigate with accuracy in spite of the vicissitudes of changing weather. Conversely, these northern isles were regarded as the last port of call of the same migrants northbound through the British Isles in spring.

Research at Fair Isle indicates that this orthodox and long-established view is a fallacy, and that a regular pre-determined "route" through Britain, in the case of Continental birds, does not exist. The vast immigration of migrant species noted in the northern isles and along the east coast of Britain, at both seasons, is due to a down-wind "drift" or displacement across the North Sea of flocks whose normal route follows the coastal "guiding-line" between Denmark and the Low Countries, and whose only regular sea-crossings are the short ones over the Skagerrak and (in some cases) across the southern North Sea into East Anglia.

Migration analysis at Fair Isle has also shown that the birds reaching north and west Britain from Greenland and Iceland are also subject to this phenomenon of migrational drift. All the movements recorded at Fair Isle are the subject of careful routine analysis in the light of modern meteorological theory and the prevailing weather situation, and an overwhelming mass of data, much of it as yet unpublished, is accumulating in support of this new concept. A coincidence between certain types of pressure distribution and migratory movements has been demonstrated, and an intimate knowledge of the relationship between weather and migration is providing us with an entirely new approach to many aspects of the general problem.

The Director has lectured on this concept of migrational drift to a number of ornithological societies, including the British Ornithologists' Club in London and meetings of the British Trust for Ornithology, and he has been invited to give a

paper at the XIth International Ornithological Congress at Basel, Switzerland, in late May 1954.

Migration in 1953.

Spring. The spring period did not produce any outstanding movements, but some interesting rarities were recorded at the isle, including Woodchat Shrike, Lanceolated Warbler and Lesser Yellowlegs (Bull. no. 11, paras. 132-4). During this period the Director made observations on the spring migration - particularly of waterfowl - in the Faeroe Islands, and a synoptical study of these movements, drawing comparison with events recorded at Fair Isle, has been accepted for publication in Dansk Ornithologiske Forenings Tidsskrift. A report on changes in status of some Faeroese breeding-birds since the close of the war will also appear in that journal.

Summer. The midsummer period usually has little of interest for the migration student except the occasional vagrant such as the Red-headed Bunting which arrived during the unloading of the island's yearly coal supply on July 22nd, but in 1953 this part of the season was enlivened by the Crossbill "irruption" which began in mid-June. The first flocks came in from 14th-16th and a second movement followed on 23rd-24th: thereafter, throughout July, we had Crossbills on the moorland almost daily, mostly passing through from Shetland and Faeroe. A third big invasion took place on August 12th-13th, well over 200 being present in the crofting area, and at this time two Richard's Pipits also appeared (Bull. 2: 14).

Since these periodic Crossbill "irruptions" are held to be cyclic in character and a result of high population density on the breeding-grounds, particular attention was paid to the various movements to discover if these showed any marked parallel with, or divergence from, normal migration in so far as the meteorological environment is concerned. The results served to confirm our previous work in this field. Articles on the progress of the Crossbill "irruption" appeared in Bulletins no. 11 (para. 128), 12 (para. 152) and vol. 2: 19-24, and a paper on the synoptical aspects of the invasion is being prepared.

Autumn. The Merlin immigration which began in mid-August was once more a subject of special study (see TAXONOMY). The

most interesting period of Wheatear passage was the week following August 31st, when arrivals of Greenland birds took place at low weights and under weather conditions suggesting a cyclonic journey across the eastern Atlantic (Bull. 2: 35-37).

An interesting feature of the autumn was the phenomenal invasion of Lapland Buntings, believed to have come from the same source, in September. Numbers at the isle were greatly in excess of previous years and big arrivals were also noted at Inishtrahull (N.W. Ireland) and Lundy (N. Devon), as described in Bull. 2: 51-55. The nature of this movement and of others in past seasons is being studied in collaboration with Peter Davis of Lundy Bird Observatory.

An anticyclonic drift of migrants from the Low Countries in mid-September brought many interesting Continental species, including the biggest influx of Kestrels we have had in the 5 years. Among the interesting rarities which appeared at this time were a Paddyfield Warbler, Red-breasted Flycatcher and Pied Woodpeckers (Bull. 2: 15-18). This was followed by another very interesting drift from the Skagerrak on September 22nd-23rd, bringing many Siskins and the biggest autumn influx of Tree Pipits we have yet noted. A Petchora Pipit and a Yellow-browed Warbler were seen at this time.

The ornithological event of the Autumn was William Eunson's capture of a small, olive-brown bird in the Observatory Trap on October 5th: it proved to be an American Gray-cheeked Thrush, the first record of this species in the British Isles. About this date, and again a week later, several New World cuckoos turned up in different parts of Scotland, wind-borne across the Atlantic storm-track (Bull. 2: 1-9). In the middle of October there was a big passage of Bramblings, and from this time onwards to mid-November the usual big influxes of Blackbirds, Fieldfares and Redwings took place whenever weather conditions were suitable.

A full account of the autumn migration of 1953 at Fair Isle will be published in Bulletin form.

Ringling and Recoveries.

The marking of captured birds with a numbered aluminium leg-ring, bearing the address of the British Museum (Natural History), London, is a standard technique at all bird observatories. The bird thus marked is individually recognisable, and much of our knowledge of migration "routes" and wintering-areas is based upon

the recovery of such birds at home and abroad. The amount of information available from recoveries has hitherto been of a rather restricted kind, but already further knowledge is accruing from an application of the concept of migrational drift to the records of birds ringed as passage-migrants.

Since the start of operations at Fair Isle the ringing total has grown as shown in the table below:

1948	288 birds	38 species
1949	1,505 "	63 "
1950	2,366 "	74 "
1951	2,236 "	77 "
1952	1,933 "	74 "
1953	2,552 "	80 "
<hr/>		
Grand total	10,880 "	of 119 "

It will be seen that the 1953 season was our best since the Bird Observatory was established. Ten new species were added to the Ringing Book, including two ringed in the British Isles for the first time, - Gray-cheeked Thrush and Paddyfield Warbler. Other interesting captures in 1953 were 10 Siskins, 4 Lapland Buntings, a Little Bunting, 2 Red-breasted Flycatchers, a Northern Chiffchaff, a Marsh Warbler, 2 Barred Warblers, 4 Bluethroats, 2 Northern Pied Woodpeckers, 3 Iceland Redshanks, and single Goldeneye, Slavonian Grebe, Jack Snipe and Little Auk. Some comments on the main species are given below.

Wheatear. Efforts to increase the total ringed, in order to provide more information for migration analysis and for study of the local population, met with marked success, 483 birds being ringed, - 101 more than last year. The total of marked nestlings was increased to 140 and many of the trappings were accounted for by the "Double Dyke" trap, which was built specially for this purpose. Some birds ringed in previous seasons were recaptured at the isle (Bull. 2: 80) but there were no further recoveries abroad.

Blackbird. With a grand total of 1,763 birds in the 5 years, this species is just ahead of the Wheatear: 424 were ringed in 1953, all but 40 of these being autumn migrants. This species continues to be the most productive of recoveries,

and there are now 33 (as against 5 in the Wheatear!). Returns reported in 1953 include 4 birds ringed as passage migrants and found in Norway and south-west Sweden in July (presumably on their breeding-grounds), 3 ringed as autumn migrants in a previous season and recovered in Norway in October-November 1953 and February 1954, and 2 1953 autumn birds found dead in Orkney and Eire.

Pipits. Totals for the season were 198 Rock and 156 Meadow. Two recoveries of the latter species were reported from Spain and one from Holland.

Twite. 138 ringed, one of which flew aboard a ship in the North Sea, off the Danish coast, in late October.

Redwing. The total of 110 ringed was the best in any season. One, an Icelandic bird trapped on October 10th, was recovered near Antwerp a month later, and a 1952 spring migrant was wintering in Portugal in January 1953.

Crossbill. In all 110 were ringed, and one marked on July 6th had reached Bergamo in northern Italy by August 25th.

Raptors. There was again a good total, 13 Merlins and 6 Sparrow-hawks. Two September migrant Sparrow-hawks were recovered in early winter, one in Aberdeenshire and the other in Holland, and an Icelandic Merlin ringed on August 18th (when 4 were trapped) was killed in Belgium 2 months later.

Arctic Skua. We ringed 53 of the 54 young reared on the island. One of last year's youngsters was shot at Benguela, Portugese West Africa, on October 25th.

Details of these and other recoveries have been or will be published in the Bulletin.

TREASURER'S REPORT

This year's Accounts unfortunately show a loss of £356 as opposed to the profit of £64 shown last year. Expenses were up by £70 mainly due to the cost of Bulletins. We consider that the Bulletins should be continued, if at all possible, and we are, therefore, taking steps to economise in other quarters. The Hostel loss remains much the same as last year and will be difficult to reduce any further without sacrificing comfort, or raising charges. We are reluctant to do either, except as a last resort. Income is £300 down, due to a large drop in donations and a smaller return from lectures. Donations are variable in any event, and largely dependent upon advertising. The Trustees are considering ways and means of keeping our name before the public. Anything that you yourself can do will be welcomed. As regards lectures we have tentatively arranged for Peter Scott to give a series of lectures this winter for the joint benefit of the Severn Wild Fowl Trust and Fair Isle, and we hope to better last year's figures.

There is little more to comment upon in the Accounts but I would like to keep you advised of a new development. The Executive Trustees, on the suggestion of Colonel Meinertzhagen, have decided to set up a Permanent Endowment Fund of which the Trustee will be the Union Bank of Scotland Ltd. The Bank will be instructed to hold any Capital which may be subscribed as a permanent Endowment Fund for the furtherance and benefit of Ornithology and Bird Preservation in the widest sense, paying the Annual Income from the Fund to the Observatory Trustees. The terms of the Trust Deed under which the Bank hold the Fund also provide that in the, I hope unlikely, event of the Fair Isle Trust being brought to an end, the Endowment Fund shall be paid over or held for such other Ornithological or Bird Preservation Society as the Trustees of the Observatory Trust shall direct.

This means that any money subscribed or left to the Endowment Fund will always be permanently available for the

benefit of Ornithological Research, Bird Sanctuaries or Bird Preservation. It is hoped that the knowledge of the permanency and wide scope of this Fund will encourage legacies and donations from all who are interested in Bird Life. The Income of the Fund will be primarily used for the benefit of the Fair Isle Observatory, but we hope, if sufficient money can be raised, to extend our activities beyond the Island to the Mainland of Scotland, not only in Migrational Research but in the setting up and management of Bird Sanctuaries in suitable spots. An approach has been made in this connection to the Secretary of the Pilgrim Trust and certain other Private Trusts have also expressed their interest.

If we are to succeed, it is essential that we build up the Endowment Fund over a period of years to a really substantial figure. I hope that you will do everything that you can, either by legacy or donation, to help.

The Endowment Trust Deed has already been signed by eleven of the Bird Observatory Trustees and is in process of being circulated to the remainder. Donations and Legacies can be accepted from now onward and should be made payable to "The Fair Isle Endowment Trust", c/o my Firm as Agents or myself as Treasurer of the Observatory Trust.

IAN R. PITMAN.

FAIR ISLE BIRD OBSERVATORY TRUST

REVENUE ACCOUNT

For year ended 31st December, 1953

R E C E I P T S

1952

£ 471. 9. 6.	Subscriptions under Deeds of Covenant	£ 450.16. 6.
228.10.11.	Subscriptions from Friends of Fair Isle	250.15. 5.
302.10. 6.	Donations for year	104. 8. 0.
277.14. 1.	Proceeds of Lecture, etc.	117. 6. 4.
2.11.11.	Proceeds of Sale of Booklets, etc.	5. 1. 2.
- . - .	Repayment of Expenses	5. 2. 0.
385. 4. 5.	Income Tax Recovered	392.15. 1.
10. 0. 0.	Rent - Use of Room	10. 0. 0.
10. 5. 0.	Miscellaneous Receipts	0. 0. 0.
<u>£1,688. 6. 4.</u>		<u>£1,336. 4. 6.</u>

P A Y M E N T S

£1,161. 4. 4.	Wages, etc.	£1,179. 0. 0.
<u>750. 0. 0.</u>	Less Private Contribution	<u>750. 0. 0.</u>
£ 411. 4. 4.		£ 429. 0. 0.
94.17. 9.	Books, Stationery & Advertising	77.16. 8.
183.17. 1.	Publication of Bulletins, etc.	308. 6. 2.
140. 2. 6.	Supplies	£ 76. 0. 4.
0. 0. 0.	Extraordinary payments	<u>53. 4. 8.</u> 129. 5. 0.
183. 8. 7.	Rates, Taxes & Insurance	189. 9. 1.
56.17. 9.	Lantern Slides	20.12. 2.
103.19. 5.	Travelling Expenses	92.14.11
370. 1.10.	Loss in respect of Hostel	365.11. 6.
79.12. 4.	Administration and Petty Cash	<u>79.19. 9.</u>
<u>£1,624. 1. 7.</u>		<u>1,692.15. 3.</u>
<u>£ 64. 4. 9.</u>	<u>Surplus for year</u>	<u>Deficit for year</u> <u>£ 356.10. 9.</u>

FAIR ISLE BIRD OBSERVATORY TRUST

BALANCE SHEET

As at 31st December, 1953

<u>LIABILITIES</u>		<u>ASSETS</u>	
Sum advanced as per last Balance Sheet	£ 1,968.15. 0.	Buildings, Traps, etc. per last Balance Sheet	£ 350. 0. 0.
Price of Huts	<u>5. 0. 0.</u>	Furniture, Furnishings, etc. at Fair Isle per last Balance Sheet	600. 0. 0.
	£ 1,973.15. 0.	Furniture, Furnishings, etc. at 17 India Street, as per last Balance Sheet	470. 0. 0.
Sundry Creditor		Scientific Equipment, etc. as per last Balance Sheet	196. 0. 0.
Hostel	18. 4. 0.	Consumable Stores:-	
J. & F. Anderson	351.19. 2.	Food Stuffs	£ 10. 0. 0.
		Livestock	38. 0. 0.
Balance due to Bank - Treasurer's Account	0.13. 9.	Fuel	<u>10. 0. 0.</u> 58. 0. 0.
		Cash in Bank and on Hand - Hostel Account	165. 5. 8.
		Deficit on Revenue Account	£ 148.15. 6.
		Add: Loss for year	<u>356.10. 9.</u> 505. 6. 3.
	<u>£ 2,344.11.11.</u>		<u>£2,344.11.11.</u>

2nd JULY, 1954.

EXAMINED AND FOUND CORRECT.

LINDSAY, JAMIESON & HALDANE, C.A.

Taxonomy

Taxonomic studies have been undertaken primarily in connection with the major research problem of bird-migration. Since different populations of the same species (e.g. Icelandic and Continental) may show slight plumage or structural differences, it is clearly important to apply such knowledge as we have or can obtain in this field to the work of migration analysis in an effort to identify the source of a trapped "sample" of migrants. The development of taxonomic studies in connection with Scandinavian and Icelandic populations of Redwing, Water Rail, Merlin and Snow Bunting, and of Continental and Greenland populations of Redpoll and Lapland Bunting, is providing useful corroborative evidence of the concept of migrational drift.

The most important species so far studied are the Merlin and Lapland Bunting: their autumn migration through Fair Isle, previously considered by the authorities to have its origin in Scandinavia, has now been shown to originate in Iceland (Merlin) and Greenland (Lapland Bunting). Mr. Alec Butterfield has examined statistically a long series of Merlin measurements and has confirmed that the Icelandic population is clearly separable from the Continental in over 90 per cent, and papers dealing with this and with the migration-weather correlation will appear shortly in British Birds. Similar studies involving the examination of museum material were also undertaken to provide a more accurate basis for migration analysis in the case of the Northern Chiffchaff (see British Birds February 1954).

The Director has been invited to join the Taxonomic Subcommittee of the British Ornithologists' Union, formed in 1954 for the purpose of examining and reporting upon the status of British Birds.

Bird Weights.

All birds taken in the traps at Fair Isle are weighed in the laboratory, and a very large mass of data concerning daily and seasonal cycles of variation, age and sex differences in various species, overnight loss in roosting birds, and so on, is accumulating. These records are being filed and studied by Mr. Alec Butterfield, an expert statistician who has associated himself with our work in

this field since his first visit to the Observatory in 1949.

Our chief contribution is that the study of bird-weights has important relevance to the migration problem, since it is clear that migrants called upon to make a long overseas journey may lose up to 30 or 40 per cent of their normal body weight, depending on the distance covered and the type of weather encountered en route. Drift-migrants remaining at Fair Isle for a week or more exhibit a gradual recovery of this loss, as shown by our weight-records of re-trapped birds. This new light on avian metabolism is of major interest to us since it is clearly an important factor in migration analysis. It enables us to distinguish "fresh" drift-arrivals from the "re-determined" passage through Fair Isle of birds which have been recuperating in Shetland for several days. Eventually we hope to be able to use the amount of weight-loss as a criterion of the distance travelled, and such a correlation would perhaps throw further light on the validity or otherwise of migrational drift.

However, we are still in the fact-finding stage. The greatest difficulty is that the samples trapped on any particular day are still too small, as a general rule, to afford statistically significant data.

Avian blood

During a part of August 1953 samples of blood were taken from several species of trapped birds and preparations made from this material by Dr. W.A. Timperley have led to the entirely new and unexpected discovery that avian blood differs much in structure from mammalian blood, the red corpuscles consisting of a nucleus surrounded by an aggregation of fat. The preliminary treatment and micro-photography of these blood-smears shows that (a) the resident species examined have the largest amount of fat in the corpuscles, and (b) the migratory species which had recently performed an overseas journey had little of this fat remaining.

It would appear, tentatively, - and it must be emphasised that the findings are provisional, - that avian blood may be a storehouse of readily assimilable fat essential to the successful prosecution of a migratory flight. The attainment of this condition may be an important "internal proximate factor" in releasing migratory behaviour, and the absorption of the fat must go some way towards explaining the weight-loss we have found to

be associated with a long migratory flight.

It is emphasised that these blood-samples can be taken from a captured bird by means of a micrometer syringe without inflicting the slightest harm upon it: several of the birds examined were later recaptured in perfect health.

Bird Ectoparasites

It is obvious that a bird observatory, which handles and examines large numbers of living birds of different species and ecology, has unique opportunities for conducting both qualitative and quantitative studies on bird ectoparasites. In order to make the most of these opportunities, a highly efficient collecting technique is essential.

In former years we have carried out trials with a simple arrangement consisting of a glass jar large enough to admit the body and wings of a small bird: a swab of cotton wool soaked in chloroform was introduced to the jar, and the bird's head protected from the fumes by means of an oiled silk "cape" fitted round the neck. An improved apparatus has now been designed and made for the Observatory by Dr. W.A. Timperley: it has many advantages over the old method, being much more economical in the use of chloroform, and greatly facilitating the recovery of minute parasitic forms which were previously overlooked. The model was demonstrated at a conference of Regional Representatives of the British Trust for Ornithology held at Grantley Hall, near Ripon, in March 1954, and a detailed description of it will be published shortly in British Birds.

Owing to the large amount of material available through adopting this "chloroform bath" technique it is now possible to make quantitative studies, and again in 1953 the basis of our work in this field was a statistical analysis of the progressive decline in host-infestation by the flat-fly Ornithomyia fringillina during the summer months. Over 730 flies were examined, but this year specimens were only collected if they came from an unusual host, or themselves showed infestation by mites or cases of phoresy in which Mallophaga were concerned. The great majority of the flies

were used in a new programme of colour-marking individuals with cellulose paints for release on selected hosts. The recapture of a number of these marked flies on subsequent dates gave interesting information and indicated lines for future research. This work was undertaken by Mr. Gordon Corbet, a zoology student at Dundee University College, who has published a brief preliminary account of it in Bulletin No. 12, para. 156.

The Hon. Miriam Rothschild and Miss Theresa Clay have kindly given their services in identifying bird-fleas and Mallophaga respectively. Our collection of bird-fleas, the most comprehensive ever made from the bodies of birds, is deposited at the British Museum (Natural History) at Tring, and a discussion of the results of the Fair Isle investigations is being prepared by Miss Rothschild for publication in the near future. Dr. Owen Evans and Mr. E. Browning, also of the Natural History Museum at South Kensington, have given valuable assistance with the identification of ticks and mites (Arachnida), important specimens of which have been deposited in the national collections in London and Edinburgh. A tick new to the British Isles, Haemophysalis leporis-palustris Packard (larva), was collected from the American visitor, the Gray-cheeked Thrush, and a number of interesting occurrences of the Sheep-tick, Ixodes reduvius Linnaeus, were noted on migrant birds.

Mr. A. R. Edwards, formerly of Dundee University College (St. Andrew's University), is working through the large collections of blood-sucking flies Ornithomyia sp., with special reference to the incidence of phoresy involving mites and Mallophaga, and it is hoped that a full report will be prepared eventually and the specimens deposited at the Royal Scottish Museum.

It is clear that the study of the seasonal cycles, annual variation in numbers, and so on, of the flea and flat-fly ectoparasites can only be conducted on a long-term basis, and in future it is hoped to integrate the work more closely with the general biology of the parasites. The breeding-habits of Ornithomyia are virtually unknown, and it is confidently anticipated that prosecution of the work now under way will bring to light new information in this field, and perhaps indicate profitable lines of laboratory research.

So rewarding was the 1953 colour-marking work on captured flies that Mr. Gordon Corbet, a student of zoology at University

College, Dundee, will be returning to the isle in the summer of 1954 to conduct further research along these lines as an Honours exercise.

Breeding Birds

The Arctic Skua.

Although the Arctic Skua colony had one pair fewer than in 1952 (31 breeding pairs), the season was the best ever with 90 per cent. of the live eggs subsequently reared. Moreover, 90 per cent of the pairs reared the full brood of two young as against only 69 per cent in 1952 and 42 per cent in 1951. With one exception the 54 chicks were colour-ringed as in previous seasons as part of our programme of study in the inheritance of the factor or factors responsible for the dimorphism which exists in this species, and which has been outlined in previous reports. A full report of the Arctic Skuas' breeding season was given in Bull. no. 12, para. 141.

The Great Skua

The Great Skuas had a poor season, 9 pairs (one less than in 1952) hatching 50 per cent of their eggs and rearing only 8 young. An account of these birds is given in Bull. no. 12, para. 143.

The Fulmar.

Studies in the breeding-biology of the Fulmar were begun in 1952, when attention was paid to the behaviour during the incubation period, and were extended in 1953, when four members of the Joint Schools' Expedition assisted with observations on the latter part of the fledging-period. A paper on this subject is to be published shortly in the Scottish Naturalist. It is hoped to expand these observations in future seasons.

The Wheatear.

Study of fluctuations in the island population of the Wheatear and the post-fledging dispersal of the young was continued, mainly through the recapture of young birds ringed

previously as nestlings.

Other Species.

In common with the Arctic Skuas, the Oyster catchers and Eider Ducks had an excellent season - the best for several years - in 1953, rearing a high percentage of young. The first Eider ducklings were seen on the water in late May, and from then on until mid-July there was a constant succession of broods reaching the sea. It is believed that the comparative scarcity in 1953 of Raven and Hooded Crow was the main factor in their success.

B u l l e t i n s

During the season 4 Bulletins, no. 9 - 12, were issued, and a new lithographic process which greatly enhances the appearance of the Bulletin was adopted with the first issue of Volume 2 in December. The primary aim, of course, is to give Friends of Fair Isle and others who are interested an up-to-date account of the field and laboratory work at Fair Isle, but many notes and articles have dealt with work of a similar nature conducted elsewhere, both in this country and abroad. Some of the more important items are listed below to give an idea of the wide scope of the Bulletin and its service to the study of bird-migration in general. Complimentary and exchange copies go to libraries and other research institutes in Scandinavia, Finland, Germany, Italy, France, Iceland, Yugo-Slavia, New Zealand, Africa, Australia and North America.

The Range-expansion of certain birds in Scandinavia. A series of articles by Carl-Frederick Lundevall of great value to Bird Observatory workers in this country.

Migration at Utsira in south-west Norway in autumn 1952, and other notes on Norwegian records. Dr. Holger Holgersen.

The progress of the Crossbill "irruption" in Britain in summer 1953.

Migrants observed at sea. Notes by W.K. Richmond, R.E. Sharland and others.

Late autumn migration from Pembrokeshire to Ireland. R.S.R. Fitter.

Autumn migration in Kenya. Ian Wallace.

Reports on spring and autumn migration at Great Saltee Bird Observatory. Continuing an important series of records by Major R.F. Ruttledge and John Weaving.

Spring migration in the Faeroe Islands in 1953, and some notes on mutants in Faeroese bird populations.
Kenneth Williamson.

Recoveries of birds ringed at Fair Isle.

American Vagrants in Britain. Peter Davis (American Robin at Lundy). K. Williamson (Gray-cheeked Thrush and American Water Pipit at Fair Isle, Blue Goose in Shetland). James Gunn (Snow Goose in Caithness). And other records.

P u b l i c a t i o n s

The following papers were published by the Directors during 1953.

Migration into Britain from the North-west, autumn 1952.
Scot. Nat. 65: 65-94.

Redwing passage in autumn at Fair Isle. Bull. Brit. Orn. Club. 73: 18-23.

"Check-list of the birds of Great Britain and Ireland (1952)": some comments. (In collaboration with R. Meinertzhagen).
Ibis. 95: 365-369.

The nature of spring and autumn passage migration through Britain. Bull. Fair Is. B. Obs., no. 10, 3 - 10.

Flocking behaviour of Oyster-catchers. Brit. Birds, 46: 108-110.

Rare larks and pipits at Fair Isle in 1952. Brit. Birds. 46: 210-212.

Publications (Contd.)

Report from Fair Isle Bird Observatory in 1952. Brit. Birds.
46: 422-425.

"Northern" Chiffchaffs and their area of origin. Brit. Birds.
47: 49-58.

The incubation rhythm of the Fulmar. Scot. Nat. 64: 138-147.

A c k n o w l e d g e m e n t s .

In concluding this report I should like to say once again how much we appreciate the co-operation and help of the residents of Fair Isle in our work among the birds, and their kind friendliness and hospitality to the visitors and ourselves. The pleasure and profit which this happy association brings us increase year by year, and there is nothing we look forward to so much as our return to the island in the spring. A number of Friends have made donations or presentations of laboratory equipment, and among these I would like to thank Dr. Timperley for his very considerable help and encouragement. We are grateful to Dr. A.C. Stephen of the Royal Scottish Museum for his generosity in making available a very useful loan collection of cabinet skins for comparative work; and to the Perth Museum and Art Gallery and St. Andrew's University for other specimens. Our thanks are due to Mrs. A.W. Thom for her considerable help in the secretarial sphere, to all those who have contributed notes and articles to the Bulletins, and to many other kind friends in Shetland and elsewhere for services rendered

1954.

During the 1954 season we hope to consolidate the work already in progress, and an effort will be made to extend and improve the trapping equipment, since this is the basis of all our laboratory research. Dr. Timperley proposes to return for a longer period during the present season to continue his research on the properties of avian blood, and we hope for interesting and important discoveries in this field. Mr. Gordon Corbet will be back to carry on with the Ornithomyia investigation.

A sub-station is being established on the island of Foula, some 35 miles north-west, by Mr. Christopher K. Mylne, who has been appointed Schoolmaster-Missionary on the isle. Equipment and record-books have been provided by the Trust, and it is hoped that Mr. Mylne will be able to study the local Arctic and Great Skua populations during the summer, and will have a Heligoland Trap working in time for the autumn migration. The record-keeping and laboratory work will be modelled on Fair Isle practice, and although Mr. Mylne's time will naturally be limited in view of his duties, we look for the establishment of an invaluable link with our own work.

FAIR ISLE BIRD OBSERVATORY

0 100yds. 440yds. 880yds. 1mile
Roads == Bird Trap ← TRAP Boundaries

