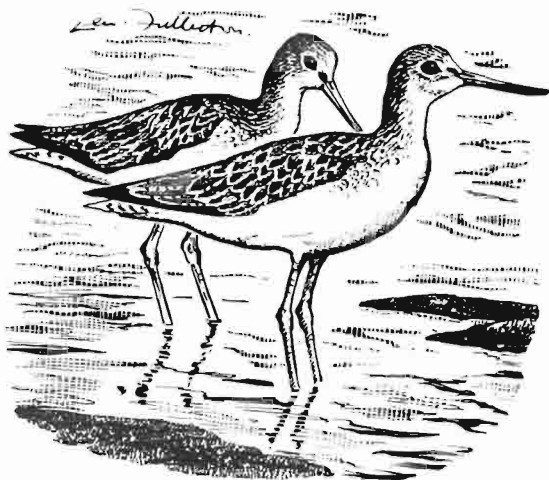


# Scottish Birds



## The Journal of The Scottish Ornithologists' Club

*Vol. 4 No. 5*

*Spring 1967*

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# Scottish Birds

THE JOURNAL OF THE SCOTTISH ORNITHOLOGISTS' CLUB

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**C A S S E L L**

# Scottish Birds



THE JOURNAL OF THE SCOTTISH ORNITHOLOGISTS' CLUB

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Vol. 4 No. 5

Spring 1967

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Edited by A. T. MACMILLAN with the assistance of D. G. ANDREW, T. C. SMOUT and P. J. B. SLATER. Business Editor, T. C. SMOUT.  
Cover Design (Greenshanks) by LEN FULLERTON.

## Editorial

**The cost of watching birds.** One of the attractions of bird-watching is that it is a hobby which can cost as little or as much as one likes. No more is needed than an observant eye. Birds are everywhere, or almost. Go where you may, you can watch them free of charge. It is our right. Or is it?

We have to share the countryside with many people. They want to build houses, do research, farm, shoot, mine, picnic, camp, walk, climb, swim, ski, make roads, fly hovercraft, generate electricity, plant trees, and live there. Recreation or development, these are perfectly defensible activities. But they cannot all take place together, and we have to compromise. Many of these interests are willing to pay highly for the use of the land; not just to exploit it for themselves but to fit in with the wants and needs of others. Should we expect to have it all for nothing? Should we leave it to other people to provide us with facilities for watching birds free of charge? Nature reserves are an excellent idea; it is good to see more and more being created, we say; but do we do enough about it?

At the 1966 S.O.C. annual conference Dr Ian Pennie alluded to this. We should be prepared, he said, to pay more than we do for our birdwatching. Admission charges for good bird reserves are still the exception, but it is a thought that, with the cry for space on all sides and the wish of so many people to get out into the country, the day could come when such oases were the only places worth visiting. If we enjoy watching birds ought we not to be willing to pay for the pleasure, each within his own means, to make sure that we can continue to enjoy it? Not everyone wants to be a campaigner, but most of us can help quite simply by supporting the voluntary organisations which will do the work for us. If you do not already support them you might like to think about some excellent bodies, each of

which will gladly send fuller details and welcome subscriptions, donations and legacies. If you already subscribe, perhaps you have a friend who might be interested.

*Royal Society for the Protection of Birds.* Though the protection of the Speyside Ospreys is one of the R.S.P.B.'s most spectacular activities, membership in Scotland is only 60% of the national average. Maybe the press advertising is more telling in England, but this is a body that every birdwatcher should support. It is big enough to be heard effectively at a national level when it speaks for birds. The Scottish office, run by George Waterston, is at the Scottish Centre for Ornithology and Bird Protection, 21 Regent Terrace, Edinburgh 7, and the good work being done in Shetland, Orkney, the Hebrides, Speyside and all over the country is quite out of proportion to the Scottish membership. Important new projects are in the pipeline. A mere 31/6 a year not only supports all this but brings you six issues of *Birds*, with interesting general bird articles and news of the society's activities.

*British Trust for Ornithology.* The B.T.O. appeals particularly to the more serious birdwatcher with a rather more scientific leaning. It organises cooperative enquiries such as the Common Bird Census, of vital importance in assessing the effects of changing conditions on birds. People all over Britain contribute in this way to the study of problems affecting birds and their relationships with man. When conservation issues arise it is to such studies that one looks for the facts. The B.T.O. does not create nature reserves but aims to direct the activities of field workers, mostly amateurs, along the most useful lines. The subscription of 50/- includes regular bulletins and the quarterly issues of *Bird Study*; new members are urgently needed to help finance the work being done. In recent years the B.T.O. and R.S.P.B. have joined forces on several important projects, notably the work on the effects of toxic farm chemicals. Details may be had from Beech Grove, Tring, Herts, or from the Scottish Centre.

*Scottish Wildlife Trust.* This is the newest of these bodies and purely Scottish, playing a similar role to the county naturalists' trusts in England. In line with modern thought its scope is wider than just birds. Preservation of sites of natural history interest against unjustified threats and exploitation, and their conservation in a planned and intelligent way, are clearly of value to birdlife, even where a particular site is of interest mainly for some other reason, for birds cannot live in a vacuum. The emphasis is on management to preserve the wildlife interest. The S.W.T. is not just con-



cerned with meeting threats and creating reserves; it is primarily anxious to work with other people, to see that the interests of natural history are considered at the time developments are planned, while it is still possible to do something. Subscriptions (20/-) should be sent to 8 Dublin Street, Edinburgh 1.

*Fair Isle Bird Observatory Trust.* If you want to see rare migrants in Scotland or learn observatory techniques in the most unforgettable surroundings Fair Isle is the ideal place. Yet there is no guarantee that you will always be able to get there. The observatory and the island community are so closely linked that the one might not survive without the other. The problems of the people are primarily social: those of the observatory are purely financial. For one guinea a year you may become a Friend of Fair Isle and have copies of the *Fair Isle Bird Observatory Bulletin* twice a year and an annual report. If you would like to give a lump sum there is the *Fair Isle Bird Observatory Endowment Fund*. Details may be had from George Waterston at the Scottish Centre.

*Scottish Ornithologists' Club Endowment Fund.* To round off this survey, we mention our own fund for the advancement of ornithology, announced in the Summer 1966 issue of *Scottish Birds*. The club secretary will be happy to send particulars.

**Current literature.** Recent references of particular interest to Scottish ornithologists include:

*A Check-List of the Birds of Ayrshire.* G. A. Richards, 1966. *Ayrshire Archaeological and Natural History Collections*, second series 7: 128-169. Printed edition, slightly revised, of duplicated list reviewed *Scot. Birds* 3: 434.

The breeding biology of the Gannet *Sula bassana* on the Bass Rock, Scotland. J. B. Nelson, 1966. *Ibis* 108: 584-626.

The behaviour of the young Gannet. J. B. Nelson, 1966. *Brit. Birds* 59: 393-419. Bass Rock studies.

Numbers of Capercaillie in the Black Wood of Rannoch. G. W. Johnstone and F. C. Zwickel, 1966. *Brit. Birds* 59: 498-499.

Notes on the breeding biology of the Black Guillemot *Cephus grylle*. Roy H. Dennis, 1966. *Fair Isle Bird Obs. Bull.* 5: 205-208. New study started on Fair Isle.

Redwings breeding in Sutherland. E. G. Holt, 1966. *Brit. Birds* 59: 500-501. North Sutherland record and summary of Scottish records.

## Numbers of Great Skuas and other seabirds of Hermaness, Unst

HAROLD E. M. DOTT

### Introduction

From 18th June to 1st July 1965, D. S. McLusky and I, both of Aberdeen University, were at Hermaness National Nature Reserve, in Unst, Shetland. The primary object was to carry out a census of the Great Skua population, and observe any of its effects on the Arctic Skuas there. Some work was done on other breeding seabirds. A full report has been submitted to the Nature Conservancy, Edinburgh. A similar census of the Great Skuas was made in 1958 by W. J. Egge-ling, and his report is in possession of the Nature Conservancy. The present paper deals with numbers and distribution of species, and methods of counting are discussed for future comparison.

### The reserve

Unst is the most northerly island of the Shetland group. The Nature Reserve of Hermaness is a peninsula in the extreme northwest of the island, three miles in length and over one mile in breadth. It is separated from another major headland to the east by the Burra Firth, and to the west it faces the open Atlantic. To the north there is an offshore skerry of rocks, the most northerly land in Britain, on which stands the Muckle Flugga lighthouse. These rocks, which form part of the reserve, and on which Gannets and other birds breed, were not visited during this study.

The entire coastline is rocky, with the rock strata dipping strongly to the east. There are therefore no cliffs on the shore of the Burra Firth, but at the north end the coastline becomes indented by steep, narrow geos, and in the west these become interspersed with great rock stacks and cliffs, which rise to over 500 ft. Inland, the reserve is characterised by smooth massive landforms rising to the west, the highest point being Hermaness Hill, 657 ft. Peat covers almost the entire surface, sometimes to great depths, with many pools and bogs. The vegetation consists mainly of grass with sedges and heather, and other bog and maritime plants. Crofters cut peat, and their sheep range freely over the reserve.

### Great Skua

The census was made from 19th to 25th June inclusive, with general observations continuing till 30th June. It is thought that the peak hatching date occurred during or just before the census.

The census Eggeling (1958) divided the reserve into eleven areas which could be conveniently covered in a day or less. The divisions were based principally on landforms, boundaries being streams, ditches or fences. To aid comparison, we worked with the same areas, and have used the same reference letters A to K, as shown in fig. 1.

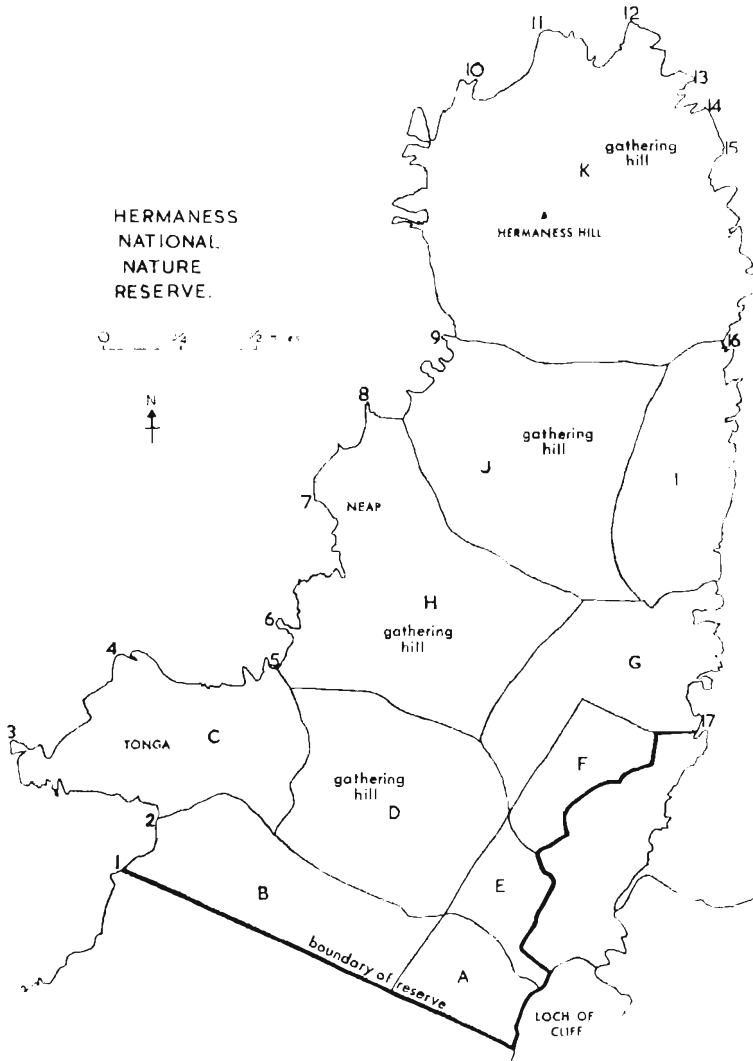


FIG. 1. Map of Hermaness Nature Reserve showing areas of the reserve and sections of the coast used in the census work, and also the Great Skuas' 'gathering hills.'

Each area in turn was traversed systematically by both workers, with the aim of encountering every Great Skua territory. A territory was detected by the behaviour of the occupying birds. With a breeding pair this was normally as follows. Already disturbed and in the air, the pair would direct swoops at the observer whenever he trespassed into the territory. If he then moved in different directions the persistence of attack by the parents increased directly as a nest or chick was neared (chicks wander from the nest from as early as one day old). But this method did not detect all breeding pairs. The aggression of parents increased noticeably about the time of hatching, and intensified as the chicks grew older. Strongest aggression was seen in parents with chicks of about two weeks old (the oldest encountered during the visit), when the observers' heads were hit hard by the parents' trailing feet. Aggression also varied individually. On a few occasions an unhatched (warm) clutch was chanced upon without either parent demonstrating its presence. This could have resulted from the parents being absent, or particularly unaggressive, and it is not known how many other nests may have been missed in this way. Thus breeding pairs were missed from this cause, or from our failing to penetrate territories when we passed close between two of them, or in some other way.

Estimation of numbers of breeding pairs was therefore made by two methods. The first consisted of recording all nests or broods actually located, each nest or brood being marked by a numbered wooden peg to eliminate double counting. The second method was designed to account for all other breeding pairs. The total numbers of birds within each area were counted. From these totals we subtracted the numbers of pairs proved breeding (above method) and the numbers of birds not breeding (see below). The counts thus obtained, of pairs proved breeding and of additional estimated pairs, are given in table 1. Details of all clutches and broods found are given in an appendix.

Up to this point I have dealt only with breeding birds. In any colony birds which do not breed successfully or at all in a given year may belong to any of several categories. Carrick and Dunnet (1954) have defined four such categories—non-breeders, prevented breeders, failed-breeders, and pre-breeders. I follow their definitions here and use 'birds not breeding' for the four categories collectively. It is not known whether 'non-breeders' exist amongst Great Skuas, and 'prevented-breeders' may exist in certain years only.

There were some paired birds holding territories whose behaviour was distinct from that of breeding pairs. Their territories were typically well away from those of other

**Table 1. Numbers of breeding Great Skuas at Hermaness**

Area	Pairs with nests or broods found	Pairs whose nests or broods were not located	Total breeding pairs
A	0	0	0
B	10	5	15
C	19	7	26
D	14	20	34
E	0	0	0
F	0	0	0
G	2	3	5
H	16	24	40
I	26	5	31
J	20	12	32
K	48	55	103
	155	131	286

Great Skuas (as in areas A and E), in less dense breeding areas (as in B), or at the edge of denser breeding areas (as in I). When their territory was entered by an observer these birds made a few casual dives at the intruder and then retired to watch from an observation mound. Scrapes without nest material were sometimes found and birds were seen to sit in them. It is probable that these birds were pre-breeders, as described by Williamson (1965, p. 77), but they could have included prevented-breeders, failed-breeders or even non-breeders. The numbers counted are given in table 2.

**Table 2. Numbers of territory-occupying Great Skuas in late June not breeding**

Area	A	B	C	D	E	F	G	H	I	J	K	Total
'Pairs'	1	3	3	0	2	0	4	0	11	0	0	24

A regular feature of the colony was the presence of what Perry (1948) describes as 'gathering hills,' and corresponding to what in other species have been called 'clubs' or 'parliaments' by other authors. These were well-defined, compact, non-territorial areas where numbers of birds congregated singly or in pairs. There were four gathering hills within the reserve, and their positions are shown on fig. 1. Some movement of birds between gathering hills may conceivably occur, and the one in area D was apparently not permanent. As it was occupied when area D was counted (and at other times) it is included here. The numbers counted for the gathering hills in areas D, H, J and K were 16, 80, 41 and 40 birds respectively, giving a total of 177 individuals. The impression gained was that the great majority of these birds were not breeding, perhaps pre-breeders and failed-breeders; but there was also the distinct possibility of the presence of off-duty parents amongst them. A very profitable future

study would be the investigation of the status of birds present at gathering hills, and of territory-holding birds not breeding, by marking birds individually.

There were yet other birds which had to be considered in estimating the size of the colony. The Loch of Cliff (see fig. 1) was regularly used by the colony for bathing. Every day birds were present either on the water or on the banks during daylight hours, numbers declining sharply each evening. All counting was done during the middle hours of the day and the average number present per day at the bathing loch was 60 birds. Finally, Great Skuas could be seen patrolling round the coast each day, and three days' watching gave an average of 24 such birds 'at sea,' assuming that a negligible number was not visible from the shore; in fact very few were seen during arrival and departure voyages.

**Summary of results** The Great Skua population of Hermaness National Nature Reserve, in late June 1965, may be estimated from the above counts as follows:

1. Breeding pairs counted (table 1):
 

with nests or broods located	155)	286 pairs
estimated additional pairs	131)	
2. Territory-occupying birds not breeding (table 2):  
24 'pairs'
3. Counts incorporating several categories of birds:
 

at gathering hills	177)	
at Loch of Cliff	60)	261 birds
'at sea'	24)	

Total population as sum of counts: 881 birds

As all counts were minimal:

Probable true population: between 875 and 975 birds,  
including birds not breeding (guess only): between 250  
and 300 birds.

A proportion of the 261 birds in the third group may have been accounted for in the total of pairs with nests or broods located, as occasionally both parents were not present at a nest together. But counteracting this, the total of estimated additional pairs may be too low, owing to the same possible source of error.

### Arctic Skua

The behaviour of the Arctic Skuas was such that it was not possible to count them as the Great Skuas were counted. Although aggressive towards the latter, Arctic Skuas seldom attacked either of the observers. When disturbed they usually rose and made wild flights over wide areas, frequently in groups of three or five, and would land again apparently anywhere. Three nests only were found (by chance), all with

unhatched eggs. This, and the birds' behaviour, confirmed that the breeding season was later than the Great Skua's, as Perry (1948) found on Noss.

In the limited time available (patient watching from a distance should have been employed) we were unable to distinguish many pairs, or where breeding occurred. Therefore we counted individuals. As the figures (table 3) show, Arctic Skuas were most numerous in areas E, F, G and the adjacent part of D (fig. 1). These were places where Great Skuas were scarce or absent, and the nearest Great Skuas were not breeding. Small numbers of Arctic Skuas were, however, present in every area of the reserve. In some places a pair was surrounded by breeding Great Skuas and, while no nests were found, the Arctic Skuas vigorously defended the areas from their larger neighbours.

**Table 3. Total numbers of Arctic Skuas by areas**

A	B	C	D	E	F	G	H	I	J	K	'at sea' (average)	Total
2	4	2	12	22	17	28	6	8	2	4	6	113

#### Coast-nesting seabirds

The remaining species to be considered are the Fulmar, Gannet, Shag, Kittiwake, Razorbill, Guillemot, Black Guillemot and Puffin. An attempt to establish the approximate numbers and distribution of these species was made on 27th, 28th and 29th June. As the coastline is complex, with cliffs rising to over 500 ft at one point, the accuracy obtainable in assessing numbers was limited.

**Counting methods and problems** Counts were made from cliff-tops and numerous promontories with the aid of 10x50 binoculars. Little of the coast was completely invisible from the land. The only hidden parts of major importance were the western faces of the large sea stacks on the western coast of area K. That part of the Neap facing northwest was partly invisible. The north-facing cliff beside the number 11 in fig. 1 was not visible, but as no seabird activity was seen around it the number of nests was probably few or none. In addition a large number of minor sections of rock-face were just out of sight (notably parts of the Tonga headland), most of them appearing unsuitable for nesting species except perhaps the Fulmar.

For each species separate counts were made for each of a number of short successive sections of coast. Along with each count an estimate of the margin of error was recorded in the field—a combined measure of the difficulties presented by the species and the particular section of coast concerned. The totals of the counts and the estimated margins of error

Table 4. Number of coast-nesting seabirds at Hermaness in late June 1965

	Reference (fig. 1)	Fulmar	Gannet	Shag	Kittiwake	Razorbill	Guillemot	Black Guillemot	Puffin
West coast of area B	1-2	450±50	0	6	0	0	0	0	1100±300
Goturn's Hole to Tonga Stack	2-3	400±50	0	35	0	100±10	0	0	800±200
Tonga Stack to Grunka Hellier	3-4	700±100	0	20	0	120±10	0	0	1100±400
Grunka Hellier to area D	4-5	400±50	0	40±10	120±10	250±50	1500±300	0	800±300
Area D to Bluescudda Kame	5-6	350±100	0	5	50±20	20	500±200	0	200±50
Bluescudda Kame to 'the point of' the Neap	6-7	900±200	1900±500	10	2000±500	10	2800±700	0	600±200
'Point of' the Neap to Kame of Flouravoug	7-8	220±30	350±100	6	320±50	100±50	900±250	0	800±300
Kame of Flouravoug to Sothers Stack	8-9	300±50	0	5	150±50	10	1300±300	0	800±300
Sothers Stack to Taing of Loos- swick (excluding seaward sides of stacks)	9-10	200±50	1200±300	10	650±100	50±10	1300±300	0	1700±500
Looswick	10-11	180±10	0	30	0	30	0	0	260±50
'Next headland' to the Gord	11-12	500±20	0	0	13	10	380±20	0	120±30
The Gord to the Framd	12-13	300±50	0	4	0	80±10	50±5	0	300±100
The Framd to the Fild	13-14	250±30	0	4	0	0	0	0	80±50
The Fild	14-15	0	0	40	0	0	0	0	0
The Fild to border of areas K & I	15-16	460±50	0	70±5	0	0	0	7	30±10
Coastline of areas I & G	16-17	270±20	0	30	0	0	0	8	0
		5880±860	3450±900	315±15	3303±730	780±140	8730±2075	15	8690±2790
		sites	sites	birds on land	sites	birds on land	birds on land	birds offshore	'pairs'

GREAT SKUAS ETC. OF HERMANESS



for each species are given in table 4. All place names mentioned can be found on the 1" Ordnance Survey map, but for convenience the limits of each section of coast have been given numbers, identified in table 4 and shown in fig. 1. Each species presented its own particular problems of counting,

**Fulmar** The number of apparently occupied nest sites was counted. This included many sites containing no egg, perhaps mainly owing to the presence of pre-breeders and failed-breeders, but all categories of birds not breeding could have been represented. The proportion of Fulmars without egg or chick but occupying sites at colonies is known to be very great in late June. Thus the present census of 'sites' embraces birds breeding and birds not breeding, in unknown proportions.

**Gannet** The number of 'sites' was counted, as for the Fulmar but with more difficulty. The closely spaced nests made it less readily obvious when a second parent was present, which might have given rise to double counting. There were ledges at the edges of the colonies where birds gathered in 'clubs.' These may well have included off-duty parents and birds not breeding. Neither of these difficulties is thought to have had a great effect on the counts.

**Shag** This was a very difficult species owing to its behaviour and to the situation of nests. All 'birds on land' were counted. Although many of these were obviously resting before or after fishing, and others were at or near nests, others were not definitely in either situation. A rigid distinction was therefore impossible. It is doubtful if these figures are very meaningful, but they are given as they may indicate to which part of the coast the birds were attached, and to give a guide to total numbers. Very few birds not in breeding plumage were seen, and nests were seen at Taing of Looswick and on the north and east coasts of area K.

**Kittiwake** As with the Fulmar and Gannet, 'sites' were counted. These were readily distinguished whether or not one or both parents were present. It is possible that the figures represent breeding pairs almost exclusively. No suggestion of 'clubs' was noted.

**Razorbill and Guillemot** These two species were treated in the same manner. The method applied was the only one possible, consisting of counting all birds seen on land. Distinguishing members of pairs amongst the tightly packed individuals was quite impossible, and there was also no way of discovering what proportion of birds was on the breeding ledges or on the sea. As the state of the weather

may have an effect on these proportions it may be worth recording that a strong west wind of about Beaufort force 7 was blowing at the time of counting.

**Black Guillemot** This is the only species considered here which was not proved to be breeding. The birds seen were swimming just offshore, usually singly, and no time was available for further investigations. But as it is probable that breeding occurred, numbers of 'birds offshore' are given.

**Puffin** This was the most problematic species to count, and no proper method was established. Although very many Puffins were on land at or in their burrows or resting elsewhere, there was at the same time a vast number both swimming and flying. There was a constant passage of birds between sea and burrow. The counts actually recorded were of 'pairs,' but were arrived at largely by impression. By observing a small area with burrows, and noting the arrivals and departures of birds over a short period, an indication was obtained of the number of pairs represented by the number of birds visible at a single time. This had to be a flexible method where, for instance, birds were obviously merely perched on convenient places unrelated to any burrows. Owing to the great difficulties presented by this species the estimated margins of error were greater than for others.

### Conclusion

The increase in size of the Great Skua colony at Hermaness during this century, from a very few pairs present throughout the 19th century, is traced by the Venables (1955). The most recent estimate given is their own—300-350 pairs including 'many' birds not breeding, in 1949, in the reserve and the adjacent land 'south to opposite the Loch of Watlee.' In 1958 the population in the reserve alone was estimated to be 340 breeding pairs, or 900-1000 birds altogether, including not more than 200-300 birds not breeding (Eggeling 1958). Between 1958 and 1965 the numbers are believed to have risen slightly and fallen again (Miss N. J. Gordon, pers. comm.). But the results of the present census are strikingly similar to those of 1958, and the methods used are closely comparable. It could thus be inferred that any change over the period 1958-65 has been insignificant, and that the population within the reserve has, in effect, recently remained constant.

The numbers of Arctic Skuas cannot be traced with any accuracy. Seton Gordon states that in 1937 there were 'at least 100 pairs' (Baxter & Rintoul 1953), and the species is said to have 'decreased within living memory' (Venables 1955) at Hermaness. No proper census was made in 1958, but the population of the reserve was then judged to be 50-75

pairs (Eggeling 1958). It has been widely assumed that the decline of the Arctic Skua, in places where the Great Skua has become established, is a direct result of the increase of the latter. The present census suggests that the number of Arctic Skuas at Hermaness has decreased only slightly, if at all, since 1958, and it is thus possible that the species is now holding its own against the Great Skua. This may or may not be due to a recent stabilisation of the Great Skua population.

I know of no relevant recorded information on the coast-nesting seabirds of Hermaness, except for the Fulmar and Gannet. The Fulmar was first proved to breed there in 1897, and estimates for 1939, 1944 and 1949 are c. 1000, c. 1500, and c. 2000 'sites' respectively (Fisher 1952). The time of year when these estimates were made is unfortunately not specified, but it can safely be said that the present estimate shows a substantial increase in numbers since 1949. Gannets were not known to breed at Hermaness until a 'few pairs' bred in 1917. A 'count from land' in 1938 gave 1581 pairs (but a full count including all the stacks gave 2045 pairs), and an 'estimate from land' in 1949 gave 3150 pairs (Venables 1955). The present estimate, which was similarly made from land, indicates that the rate of increase has been considerably reduced.

However, the relative distributions of the coast-nesting species revealed by this work are likely to be of more precise value than the numerical estimates. The composition of seabird colonies may always be in a state of change, and the Gannet and Fulmar have certainly spread recently at Hermaness, possibly at the expense of some other species. Competition between any of the species discussed is poorly understood. It is hoped that others will continue seabird studies at Hermaness, and compare their findings with those recorded here.

### Acknowledgments

My first thanks are due to my companion, Donald S. McLusky, without whom this work would never have been accomplished. Financial assistance was kindly given by the Nature Conservancy. I am grateful to Dr W. J. Eggeling and Dr G. M. Dunnet for advice, and in particular to A. Anderson for valuable criticism of earlier drafts.

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### Appendix

#### Clutches and broods of Great Skuas at Hermaness in late June 1965

155 separate nests or broods were found

Date found	Area	Nests empty or with eggshell only	1 egg	2 eggs	1 egg and 1 chick	1 chick	2 chicks
20th	I	3	4	6	4	7	2
20th	G	0	1	0	0	0	1
21st	J	1	1	8	4	5	1
22nd	B	1	1	1	3	2	2
22nd	C	5	3	8	0	3	0
24th	K	8	4	9	7	15	6
25th	D	1	2	4	0	4	3
25th	H	0	2	4	0	4	5
		19	18	40	18	40	20

- Notes** 1. Eggshell indicates either hatched or destroyed eggs.  
 2. A bias exists towards finding one chick rather than two chicks.

## Isle of May Bird Observatory and Field Station Report for 1966

Prepared for the Observatory Committee by  
 NANCY J. GORDON, *Honorary Secretary*

The Observatory was manned for a total of 202 days between 2nd April and 25th November 1966 and was officially closed down for the season rather later than usual—7th January 1967. The number of observer nights was 670.

The spring migration was fairly normal, but some was missed during a gap in mid April. For the first time for many years the Low Light was occupied almost continuously throughout the summer months, mainly by the Durham University team carrying out research on the gulls; this provided a valuable continuity of observation. Apart from a gap in mid August, the autumn migration was entirely covered and the several sizeable falls in late August and the first half of October included a good crop of rarities. Thanks mainly to Miss Winifred Flower, who volunteered to keep the observatory open much later than usual, much useful in-

formation has been obtained on late autumn and winter movements on the island.

No new species were recorded in 1966, but the rarities included Firecrest, Aquatic Warbler, Red-headed Bunting and Yellow-breasted Bunting (see below).

Two species ringed for the first time were seven Dunlin on 1st-2nd September and a Waxwing on 24th October.

### Spring migration

Observers were on the island 2nd-13th, 21st-28th April, and 6th May-11th June.

**April.** For the first half of the month winds were consistently east, but there was no more than a small trickle of migrants until the visibility deteriorated overnight on 5th/6th, bringing in many birds—the first Chiffchaffs (10 or more), 2 very early Blackcaps, one common and 4 Black Redstarts, about 40 Wheatears, a Stonechat, 5 Ring Ouzels, 35 Goldcrests, 3 Bramblings, 3 Redwings, 15 Fieldfares, 4 Song Thrushes, 2 Mistle Thrushes and 20 Blackbirds. Similar movements continued during the next six days, when fog and mist accompanied the east winds. On the 7th the number of Goldcrests increased to 80, Ring Ouzels to 8, Black Redstarts to 6, and the first Willow Warbler arrived. Over the next few days numbers of Goldcrests and warblers diminished, Wheatears (up to 20 daily) and Meadow Pipits (up to 35) were passing through, and numbers of other species increased to a climax on the 10th with an influx of 200 Robins, 150 Song Thrushes, 60 Bramblings, 40 Fieldfares, 10 Ring Ouzels, a Green Sandpiper and a Woodcock, most of which appeared very tired and remained on the island for several days. Observers returning to the island on the 21st found quite a heavy population of migrants—more than 100 Blackbirds, 200 Robins and 150 Song Thrushes—but most of these departed when the wind swung to the west on the 24th. From then until the 28th there was a small trickle of warblers including the first Sedge Warbler and Whitethroats. Up to 20 Dunnocks passed through each day, but very few waders, and few Wheatears until the 27th when about 30 arrived, despite a strong SW wind, with 18 Fieldfares, 5 Redpolls, a Cuckoo, a Whinchat, 7 Redstarts, a Swift and 6 House Martins (the first Swallow had arrived on the 22nd, the first Sand Martin on the 23rd). Few Linnets were seen. Apart from a Peregrine on the 25th, perhaps the most interesting bird of the week was a Dipper on the 22nd, correctly described by the writer of the Daily Log as “only the second recorded since the Boer War”!

**May-June.** There were east winds and rain between 7th and 12th May, but only small numbers of migrants—a Lesser

Whitethroat and 30 Dunlin on the 7th, a few Blackbirds, Redwings and Redstarts on the 8th; a few warblers arrived overnight on 8th/9th and on 10th/11th, followed by a slight build-up of hirundine passage over the next few days. The season's first Garden Warbler came on the 12th, the first Spotted Flycatcher on the 13th.

The 14th was the start of a 12-day spell of mainly west winds, but was not without interest—a trickle of hirundines, a common and a Black Redstart, a White and a Yellow Wagtail and an Osprey. The small passage of terns started on the 10th and continued all month, mainly 'Comic' (up to 30 daily) and Sandwich (up to 18 daily), with 3 Roseate Terns and one Little Tern on the 17th. Up to 5 Manx Shearwaters were seen daily between the 17th and 20th. The 16th and 17th saw a small influx of warblers after a short spell of east winds, and also one Merlin, a Cuckoo and a Turtle Dove. Two spells of east winds on the 21st and 24th each brought some warblers, the second date 35 Willow Warblers, 12 Sedge Warblers and 6 Whitethroats overnight. An uncommon visitor on the 26th was a Corn Bunting, only the seventh record for the island. Despite east winds the only species of interest during the last few days of May was a Collared Dove which arrived at 1700 hrs on the 31st.

June started with fine weather and west winds and a few late warblers, notably a Chiffchaff on the 1st, single Whitethroats on the 4th and 11th, and 2 Sedge Warblers on the 4th. A very late Brambling arrived on the 1st in company with the only Tree Sparrow seen in 1966. Other late stragglers were a Robin on the 7th and a Greenfinch on the 11th (only two others were seen during the year). A typical June fog blanketed the island, off and on, from 7th to 10th June, the only arrivals being a Willow Warbler and a stray House Sparrow on the 10th.

### Summer

From mid June to the end of July, observers were concentrating on studies of the breeding populations, but a few late oddments turned up, notably 2 Long-eared Owls on the 16th and a Chiffchaff, Redstart and Turtle Dove on 17th June after SE wind and fog. The rest of the month, and July, were mainly fine and sunny. July produced a Greenshank and a Green Sandpiper on the 4th, a young Cuckoo on the 8th, and saw the arrival of Purple Sandpipers, 6 on the 13th rising to 35 by the 15th. A Great Skua was seen on the 19th.

### Autumn

Observers were in residence from 30th July to 7th August and from 19th August to 25th November.

**August.** After several days of NW winds the first sign of movement after a change to east winds and rain on the 3rd was a single Willow Warbler, followed by two more on the 4th with a Wood Warbler and a few Wheatears. In spite of a change of wind to NW that evening, the first Garden Warbler, Swift and Pied Flycatcher of the autumn arrived on the 5th. Observers returned to the island on the 19th to find that some migration was in progress, with Wheatears passing, and 7 Pied Flycatchers, 25 Willow Warblers, and a Whimbrel already on the island. The next influx was on the 21st when with east winds and mist Wheatears trickled through all day with a few Willow Warblers, and in late afternoon 3 Pied Flycatchers, 2 Garden Warblers and a Barred Warbler. Other arrivals were 18 Curlews, a Green Sandpiper, a Common Sandpiper and 2 Teal.

For the next three days winds were mainly west and little movement was recorded; then it was east winds until the end of the month and ideal weather for seeing migrants. The movements started overnight on 24th/25th with 15 Pied Flycatchers, a Barred Warbler and a Scarlet Grosbeak (the earliest yet recorded), followed by a few Swallows, Willow Warblers and Wheatears during the next day. There was similar movement on the 26th, with the addition of 5 Whinchats, a Redstart, a Red-backed Shrike and the first Whitethroat of the autumn; and again on the 27th, with a Green Sandpiper, 3 Whimbrels, 9 Sandwich Terns, 25 Whinchats, 10 Garden Warblers, a Lesser Whitethroat and a Tree Pipit. Most of these migrants had gone by early morning on the 28th, but that day, with east winds and hazy spells, turned into the best day of the year for variety of migrants. With the Redstarts (15), Whinchats (30), Willow Warblers (20), Garden Warblers (10) and Pied Flycatchers (50) came 2 Barred and 2 Icterine Warblers, an Aquatic Warbler, 2 Spotted Flycatchers, a Red-breasted Flycatcher, a Blue-headed Wagtail, 9 Crossbills, a Yellow-breasted Bunting, 5 Whimbrels, a Green Sandpiper, 2 Common Sandpipers and a Greenshank. There was further passage next day, and several species reached maximum numbers—Pied Flycatcher (150), Garden Warbler (50) and Willow Warbler (40). Additions were the first Blackcap of the autumn, 5 Tree Pipits, a "flava" Wagtail and an Ortolan Bunting. On the 30th thick fog inhibited visible migration, but newcomers included 5 Lesser Whitethroats, a Red-headed Bunting, 30 Dunlin and 4 Golden Plovers. As the weather cleared and the wind dropped on the 31st there arrived 2 Red-backed Shrikes, 3 Wrynecks, a Wood Warbler and a Nightingale—a fitting postscript to an exciting spell of migration.

**September.** The first day of the month started with east

winds and the tail end of the late-August influx (plus one Cuckoo), but for the next two weeks winds remained inexorably and unutterably west. However, there was a good deal of coastal movement—Swallows, Skylarks, Wheatears, pipits and a few 'Comic' and Sandwich Terns, also a Spotted Redshank on the 2nd. This movement reached a maximum on the 3rd with 500 Swallows and 1200 Meadow Pipits, but dwindled over the next few days as the wind strengthened. The first Goldcrest of the autumn arrived on the 4th, but without a change of wind, and about 10 Willow Warblers and a Sedge Warbler came in on the 7th. The first 2 Song Thrushes were seen on the 9th with a few more Goldcrests and the first Chiffchaff of the autumn. After this there was only small local movement (including several Kestrels) until two days of SE wind brought in 9 Pied Flycatchers 4 Whinchats, 25 Goldcrests, a Long-eared Owl, 3 Garden Warblers, a White Wagtail and a Redstart on the 18th. The autumn's first Snow Bunting was seen this day too. The wind returned to the west for the next six days and apart from local pipit and hirundine passage (50 Sand Martins on the 20th) the only arrivals were the odd Golden Plover and Dunlin, a Common Sandpiper, and on the 22nd the season's first Brambling. A Merlin was seen on the 24th, as if to herald a change in the weather; there followed several days of east winds, bringing the autumn's first Fieldfare, 2 Redwing, 20 Pied Wagtails, a Tree-creeper, a Whimbrel and 10 Brambling by the evening of the 25th, and the next day a Garden Warbler, a Chiffchaff, a Reed Bunting and more Brambling. Several flocks of Redwings and Fieldfares came in on the 27th, 25 Canada Geese flew past Kirkhaven, and a Bluethroat was seen. The 28th was calm and misty, and observers were rewarded during the day with 12 Siskins, a Lesser Whitethroat, a Yellow-browed Warbler, 2 Redstarts, a Peregrine and the first autumn Chaffinches. Next day saw a slight change in the pattern of migration, with the first sign of Blackbird movement, accompanied by 2 Ring Ouzels, 2 Short-eared Owls, a Whitethroat and the year's second Scarlet Grosbeak. The last of the spell of east winds yielded a Grasshopper Warbler on the 30th; the same day an Arctic Skua, a Golden Plover and a Whimbrel were seen.

**October.** Before the wind backed SW on the 1st a number of thrushes arrived—200 Redwings, 40 Song Thrushes, 40 Blackbirds and also 40 Goldcrests. Only local movement was recorded in the clear weather that followed, with a Green-shank on the 2nd, the last Whimbrel on the 3rd, a few Pied Flycatchers and Goldcrests on the 5th, when a Long-tailed Duck and the last tern of the season were also seen. After an overnight easterly gale there was sudden calm and mist



on the 6th and heavy arrival and movement of turridae (about 1500 passing per hour all morning) and Bramblings (about 500 per hour). The totals estimated were 3000 each of Song Thrushes, Redwings and Blackbirds, 200 Fieldfares and 20 Ring Ouzels. With them came 2 Woodcock, 48 Lapwing, a Jack Snipe, a Turtle Dove, 2 Whinchats, 20 Redstarts, 2 Garden Warblers, a Lesser Whitethroat, 6 Chiffchaffs, 3 Pied Flycatchers, a Great Grey Shrike, 50 Chaffinches and 3 Reed Buntings. Smaller numbers of the same species were moving during the next few days, newcomers being 20 Dunnocks, 15 Siskins, 5 Corn Buntings and a Firecrest on the 7th, and a Red-throated Diver, a Great Skua and a Tree Pipit on the 8th. With continuing easterly winds there was another huge movement of turridae from dawn until noon on the 10th, and flocks of 20 to 50 Fieldfares, Redwings, Blackbirds, Song Thrushes coming in from the east every few minutes, some alighting, many continuing towards the Lothians. Bramblings were also migrating, and other arrivals were a Red-breasted Flycatcher, a Bluethroat, a Sparrowhawk, a Great Grey Shrike, Chiffchaffs, Redstarts, Goldcrests, Robins and a Blackcap. Numbers of turridae dwindled over the next two days, but there were more Siskins, Chaffinches and Robins. More mist on the 13th brought a fresh influx of turridae, especially Blackbirds, also Goldcrests, Redstarts and Robins, 5 Great Grey Shrikes, 2 Black Redstarts and 2 Barred Warblers. There were still thousands of birds on the island on the 14th, plus a large number of Starlings and many more Robins. Most of the migrants passed on during the next few days, only a few species increasing in number (Chiffchaffs to 200 on the 15th, Blackcaps to 10 on the 16th). There was a small passage of Starlings and Skylarks on the 16th, but few new arrivals until the 19th—40 Bramblings, a late Spotted Flycatcher and one Red-breasted Flycatcher, 2 Redstarts and a Water Rail. This day marked the end of a long spell of east winds and visible migration, and the wind blew from the northwest for the rest of the month. The only significant arrivals were 250 Blackbirds, a Woodcock and a Waxwing on the 24th, a Long-eared Owl on the 25th, a Bar-tailed Godwit on the 26th, and 70 Blackbirds, 200 Starlings and a Barred Warbler on the 28th.

**November.** There was very little visible migration during November, with strong, mainly west, winds and good visibility. There were small movements of Blackbirds and thrushes on the 2nd, 3rd, 10th and 11th, accompanied by the odd Bramblings and Snow Buntings. Other arrivals were 2 Northern Chiffchaffs on the 3rd, single Blackcaps on the 5th and 7th, a late Dunlin on the 7th, another Chiffchaff on the 8th, a Greenfinch on the 9th, and then nothing until a short spell

of east winds bringing about 24 Blackbirds, 2 Redwings, and a Robin on the 19th; and on the 20th 8 Fieldfares, 3 Redwings, 20 more Blackbirds and a Blackcap. Despite the return to west winds there was another very similar small movement on the 23rd, including a late Blackcap.

### Winter

Because of the rarity of winter observers it is worth recording that at the closing of the Observatory on 7th January 1967 there were 5 Blackbirds, 1 Song Thrush, 3 Redwings, 1 Fieldfare, 2 Short-eared Owls, 1 Dunnock and 2 Wrens present on the island, and a Black Guillemot and a Little Auk offshore.

### Unusual occurrences

**Velvet Scoter** One, 17th May. First spring or summer record.

**Canada Goose** Twenty-five, 17th September. Fourth record.

**Mute Swan** Two, 26th September; one, 25th-30th October. Only second record.

**Osprey** One, 14th May. Seventh record.

**Greenshank** One, 4th July. First July record, and earliest by a month.

**Little Tern** One, 17th May; four, 7th June. First spring records.

**Turtle Dove** One, 6th October. Latest record.

**Collared Dove** One each, 31st May, 3rd June. Third year of occurrence.

**Dipper** One, 22nd April. Sixth record (only the second this century).

**Nightingale** One, 31st August. Eighth year of occurrence.

**Bluethroat** One, 10th October. A late record. Red-spotted.

**Aquatic Warbler** One, 28th-30th August. Fifth record.

**Blackcap** Two, 6th April. Earliest spring record.

**Barred Warbler** One, 28th October. Latest autumn record.

**Chiffchaff** Two, 11th November. Latest autumn record. "Northern."

**Firecrest** One, 7th October. Third record.

**Spotted Flycatcher** One, 19th-20th October. Latest autumn record.

**Pied Flycatcher** 150, 29th August. Largest number in one day.

**Red-breasted Flycatcher** One, 28th August. Earliest autumn record.

**Great Grey Shrike** Five, 13th October. Highest number in one day.

**Scarlet Grosbeak** One, 25th-27th August. Earliest autumn record.

**Brambling** One, 1st-2nd June. Latest spring record.

**Red-headed Bunting** One, 30th August-2nd September. Second record.

**Yellow-breasted Bunting** One, 28th August and 2nd September. Fifth record.

### Breeding populations

In his count of Shag nests in June, Dick Potts reached a total of 709, slightly fewer than in his 1965 count. The breeding birds include a number ringed as pulli on the Farne Islands. No estimate of Puffin numbers was made, but several observers reported an increase, and noticed a spread of the nesting area towards the Low Light. Fulmar numbers remain steady at about 30 pairs, and 10 young were reared. Between 100 and 200 pairs of Eider Duck were present during the breeding season and many attempted to nest; as usual hatching success was limited by gull (and human) disturbance. Great Black-backed Gulls bred for the fifth succes-

sive year—this time at least two pairs (one bird wearing a ring); two young were ringed. A three-year study of the Herring and Lesser Black-backed Gull breeding colonies was started in 1966 by two members of Durham University, who spent the whole of July on the island and ringed a large number of pulli. They estimated there to be about 7000 pairs of Herring Gulls and 900 pairs of Lesser Black-backed Gulls. In June, John Coulson estimated 2143 pairs of Kittiwakes—an increase of 500 pairs on his 1959 count. About 15 pairs of Oystercatchers nested; and of the smaller birds a pair of Swallows reared two young, a pair of Dunnocks reared four young by the Low Trap, and at least two pairs of Pied Wag-tails nested successfully, the first time for five years, and four young were reared.

#### Ringling and recoveries

6877 birds of 58 species were ringed. This impressive record annual total (several thousand more than the previous highest) was due mainly to the large-scale ringling of gulls—4413 Herring and 183 Lesser Black-backed—by Durham University. But apart from this there was more ringling activity than usual, especially during the heavy autumn migration. Record totals for the year were Razorbill (12), Puffin (87), Wren (51), Chiffchaff (34), Icterine Warbler (4), Goldcrest (138), Pied Flycatcher (86) and Great Grey Shrike (5). Other high totals were Brambling (99), Chaffinch (75), Ring Ouzel (8), Robin (273), Blackcap (43), Barred Warbler (9) and Siskin (15). Apart from the Dunlin and Waxwing, unusual birds ringed included 2 Scarlet Grosbeaks, a Kestrel, a Water Rail, an Aquatic Warbler and a Yellow-breasted Bunting. Low totals were Whitethroats (42) and Rock Pipits (21), and no Linnets or Greenfinches were ringed. Fewer Shags (210) were ringed than in 1965.

The list of recoveries totals 109, and includes 33 Shags. Recoveries of the 1966-ringed Herring Gulls have been coming in fairly steadily, and of the 42 so far reported, there were 17 from the Fife coast (where there have also been sightings of colour-ringed birds), 8 from the Lothians, and the rest further afield in Northumberland, Ayr, Dumfries, Essex and Ireland. In addition there were 379 recoveries of dead un-fledged birds.

The following recoveries from abroad include the island's first Chiffchaff recovery.

		Ringed	Recovered	
Lesser Black-backed Gull	Ad.	26. 4.66	Vizcaya, Spain	20.10.66
Lesser Black-backed Gull	Pull.	24. 7.66	Plomeur, Finisterre, France	30.10.66
Lesser Black-backed Gull	Pull.	27. 7.66	Agadir, Morocco	30.11.66

Fieldfare	Ad♀	27.10.63	Oise, France	11.12.66
Song Thrush	1st W	7.10.65	Moissac, Tarn-et-Garonne, France	end 11.65
Song Thrush	1st W	2.10.65	Meschers, Charante Maritime, France	15. 1.66
Song Thrush	1st W	2.10.65	Bazas, Gironde, France	12.12.65
Ring Ouzel	Ad♀	3.10.65	Campan, Hautes-Pyrénées, France	7.11.65
Blackbird	Ad♂	1.11.63	Stokka, Sandnes, Norway	26.3.66
Blackbird	1stW♂	21.10.64	Fjelberg, Hordaland, Norway	26. 3.66
Blackbird	Ad♀	26.10.63	Lillesand, Norway	20. 4.66
Blackbird	Ad♀	28.10.64	Visseltoita, Osby, Sweden	21. 4.66
Blackbird	Ad♀	3. 4.65	Valle, Aust Agder, Norway	18. 4.66
Blackbird	1stW♀	21. 4.66	Röfors, Laxa, Sweden	6.10.66
Blackbird	FG	6.11.62	Isoroyhis, Ikaalinen, Finland	--. 8.66
Redstart	1stW♀	25. 9.65	Zanzur, nr. Tripoli, Libya	6. 4.66
Robin	FG	29. 4.65	Benaria, Orleansville, Algeria	12. 2.66
Garden Warbler	FG	13. 8.65	Biarritz, France	25. 4.66
Willow Warbler	FG	9. 3.66	Cadima, Cantanhede, Portugal	7. 9.66
Chiffchaff	1st W	9.10.65	Trapani, Sicily	22. 3.66
Spotted Flycatcher	1st W	4. 9.66	Amou, Landes, France	20. 9.66

Interesting recoveries of birds ringed elsewhere included a Greenfinch caught on 23.4.66 (ringed Alnwick, 23.9.60), and two Puffins, ringed as pulli on the Farnes in 1960 and 1961, the first confirmation of the suspected origin of the new large breeding colony on the May.

### Other observations

Rabbits are once again very numerous, and there is no sign of the myxomatosis which nearly wiped out the population in 1964.

No change in the grey seal population has been observed, groups of up to 50 frequenting the shores throughout the year; no pups were born.

Malcolm Smith of the Nature Conservancy spent a week on the island in August collecting insects. In two visits he has added 71 species to the island's list of Coleoptera (which now stands at 169 species) and verified a 60-year-old record of one species by a chance discovery at the bottom of a corn-bin in the tomato shed!

The island's geology came under some scrutiny in April when staff of the Geological Survey came to investigate the possibility of using island water for the lighthouse instead of imported water. One of them, R. A. Eden, returned in summer with a group of divers to search (off the east shore) for the junction between the island's volcanic rock and surroun-

ding sedimentary rocks. Among the several submerged wrecks encountered was the remains of the *Island*, identified by the crockery on board, which matched that salvaged in 1937 for the Low Light.

Thanks to the lighthouse keepers, the Bain Trap was almost completely rebuilt in the summer. The Committee is most grateful to the Principal Keeper and his staff for all the other help given to the Observatory during the season.

## The Rock Dove in Scotland in 1965

RAYMOND HEWSON

### Introduction

It seems clear from various authors that the Rock Dove *Columba livia* is less widespread in Britain than formerly (see e.g. Ritchie 1920; Witherby *et al.* 1940). This paper is an attempt to define the distribution of Rock Doves in Scotland in such a way that future comparisons can be made and changes detected. It is based on replies to questionnaires sent out from 1963 onwards and on other information.

Derek Goodwin (*in litt.*) has pointed out that even good ornithologists may not be competent to distinguish between a 'blue' feral pigeon (*i.e.* one with plumage resembling that of a Rock Dove) and a Rock Dove. He provided the following criteria for distinguishing Rock Doves from feral pigeons: his categories are listed here to assist ornithologists who may wish to make a more detailed study:

1. All pigeons in the area are blue-grey with two black wing bars (some birds with traces of a third) and with white lower back and white underwing. All appear to be the same size and shape and if flying as a flock maintain the same speed. At close quarters the slender bill and small cere can be seen. Females show less irridescence on the neck than males; unmoulted juvenile females show none. Males show uniform irridescence, clearly visible at close quarters. Orbital skin is blue-grey and narrow, not contrasting with surrounding feathers.
2. As above but a few (proportion to be stated) of chequered (black-spotted wing coverts) or velvet (blackish wing coverts) pigeons among them.
3. Birds of varying colours but blues and chequers predominating and the majority of fairly uniform Rock Dove size and shape.
4. Birds of varying colours and with considerable diversity of size and shape, many having proportionately thicker bills, larger ceres and more extensive orbital skin than Rock Doves.

The presence of a few obviously lost racing pigeons during the racing season (May to September) should not be taken into account in determining the above categories. It should be noted in case of future significance.

It could be assumed that pigeons in category 1 are probably pure or nearly pure Rock Doves; in category 2 they are probably largely, possibly all, pure Rock Doves. Category 3 represents a mixed population probably derived largely from dove-cote pigeons and/or Rock Doves; while category 4 is a feral population probably derived partly from racing pigeons and other domestic breeds.

It was clear that a large-scale enquiry employing such critical standards was unlikely to succeed, but Mr Goodwin agreed that where 80% or more of the pigeons living wild in any coastal area were blue with two black wing bars and pure white lower back contrasting with blue-grey rump and white underwing, then the population could be regarded as largely or entirely Rock Doves. A simple questionnaire was compiled asking for details of location, the number of pigeons with white rump and two distinct black wing bars and the number of other pigeons. Where the proportion of apparent Rock Doves was three-quarters or more the birds were taken to be mainly Rock Doves; where the proportion was less they have been regarded as feral pigeons or as mixed flocks which could not safely be allocated to one form or the other. The 'blue' type of feral pigeon, which resembles the Rock Dove, is common in urban flocks.

### Results

Forty questionnaires were returned for mainland coastal areas and 21 for islands; other information, often detailed, was included in letters and lists. No information was received for Dumfries, Kirkcudbright and Wigtown in the west, or from Easter Ross, Kincardine and Berwick in the east. A representative selection of islands was covered and recent information on islands not shown in table 2 can probably be obtained from lists of birds seen there by visiting parties. Where such lists have been readily available I have included them and have indicated the source.

The data from mainland returns have been summarised for each county in table 1. If a coastal pigeon flock can be considered to be Rock Doves when three-quarters of its members show Rock Dove colouration, the Rock Dove was restricted on the mainland to the east coast from Easter Ross or east Sutherland northwards, the north coast of Caithness and Sutherland and the west coast from Bute or Argyll northwards. No recent information was available from Easter Ross and the evidence that Rock Doves occur

there was obtained from the Rev. J. Lees's study of breeding in 1944-45 (Lees 1946). There was however a mixed (assumed to be feral) flock at the Mound in east Sutherland. A questionnaire referring to the Angus coastline between Lunan Bay and Arbroath mentioned isolated groups of Rock Doves (whose status would need to be examined in the light of Goodwin's classification) along a coastline principally inhabited by feral pigeons. Along part of the same coast a second observer found a higher proportion of feral pigeons near Arbroath than further north.

The distribution of Rock Doves in the islands was more straightforward. While 'lost' racing pigeons and other domestic pigeons occurred, the coastal population consisted almost entirely of Rock Doves, from Islay in the south to Shetland in the north. Petersen and Williamson (1949) found an average of 50-60 pairs of Rock Doves on the Faeroese island of Nolsoy, at the northwestern limit of its range, and this colony contained birds showing a chequered wing pattern as well as those of the more usual plumage type.

There was evidence of Rock Dove migration from Fair Isle, with a breeding population of about 10 pairs (March to November), obvious southward passage in autumn, and few or no Rock Doves in winter (P. E. Davis *in litt.*); and also from Rhum, with over 200 Rock Doves in November 1959 and 100 in October 1960, compared with a breeding population of about 15 pairs (P. Wormell *in litt.*).

### Discussion

The Rock Dove is widely distributed along the coasts of Europe from the Faeroes to Spain and Portugal. It occurs also along the north coast of the Mediterranean and in North Africa, and along the coasts of Asia Minor, the Black Sea, Sea of Azov, Caspian and Aral Seas. Other forms of the species occur in the Canaries, West Africa, the Sahara, Libyan desert, Nile valley, Red Sea, east Mediterranean, Palestine, Turkestan and Baluchistan to India and Ceylon (Witherby *et al.* 1940). A sibling species, the Blue Hill Pigeon *C. rupestris*, replaces the Rock Dove in the higher and colder parts of central and east Asia (Goodwin 1959).

The Rock Dove's maritime habitat may mitigate the effects of severe weather on a not particularly hardy species, although Peterson and Williamson (1949) found that many Rock Doves died in the Faroes in the hard winters of 1945 and 1946/47. In its feral state the species endures severe winters—*e.g.* in Moscow, Iceland and Finland (Goodwin *in litt.*)

The Rock Dove seems to be at least partially dependent on cultivation for its food. Goodwin (*in litt.*) suggested that

the 'heathy brows' referred to as part of the Rock Dove's foraging range in the *Handbook* might be sources not of food but of nesting material. The same work suggested a greater dependence on seeds and Mollusca, in the partial absence of cultivation, than was the case with the Woodpigeon *C. palumbus* or Stock Dove *C. oenas*. Petersen and Williamson (1949) found in the Rock Dove's diet in the Faeroes barley and potatoes, seeds of *Plantago*, *Brassica* and *Rumex* in summer, and seeds of *Rumex* from December to March. Fallow ground was preferred to grassland because of weeds, especially sorrel *Rumex acetosa*.

Dependence upon cultivation would explain the presence of about 70 Rock Doves upon the small highly cultivated island of North Ronaldsay (with few nesting cliffs) compared with 20-40 on each of the rather larger cliff-girt islands of Rhum, Fair Isle and Foula or about 4 pairs on the island of Handa. It would also explain, as suggested by Williamson and Boyd (1960), the absence of Rock Doves from St Kilda since its evacuation.

Murton and Westwood (1966) have shown that the Rock Dove has the same food requirements as the Stock Dove and consider that inter-specific competition could be expected in areas of overlap. But in northern and northeastern Scotland at least, the Stock Dove, after rapid expansion (Harvie-Brown and Buckley 1895), is no longer a common bird, and it has certainly decreased in numbers in Banff and Moray during recent years. In Ireland the Rock Dove appears still to be widely distributed (Kennedy, Ruttledge & Scroope 1954), while the Stock Dove may still be increasing its range. It is possible that different agricultural practices are responsible for this state of affairs in Ireland and that recent changes in agricultural methods in general are unfavourable to both Rock Dove and Stock Dove in England and Scotland. In Banff, and probably also in Easter Ross, Sutherland and Caithness (and perhaps elsewhere throughout the area apparently now occupied by Rock Doves) the agricultural land along the coast is normally treeless and exposed. It is not a suitable habitat for Stock Doves, although they continued to nest in sand dunes along the Moray coast until the 1930s (R. Richter pers. comm.), and competition for food between Rock Dove and Stock Dove is unlikely to occur, particularly as the Stock Dove has never seriously encroached upon the main strongholds of the Rock Dove indicated by the present enquiry.

Competition for food between Rock Doves and feral pigeons must however have occurred throughout several centuries, and the original dove-cote pigeon may have been so similar to the Rock Dove that interbreeding occurred. Dove-



cote pigeons, numerous from the 15th to the 18th centuries, were expected to forage for themselves throughout most of the year and were fed only at those seasons when they found it difficult to sustain themselves (Smith 1931). Prior to the agricultural improvements which began in the 18th century corn was harvested much later in Scotland, and arable land was abandoned to revert to coarse grazing, producing in the process a great quantity of weed seeds (Handley 1953). The food available for pigeons would therefore be somewhat different from that of modern times. As the distribution of dovecotes was mainly coastal (Ritchie 1920, and personal observation) these feral pigeons, far outnumbering Stock Doves and Woodpigeons, would have been feeding on the same ground as Rock Doves. The much quoted estimate of 36,000 pairs of dovecote pigeons in Fife in the 18th century (Thomson 1800) assumed an average of 100 pairs of pigeons per dovecote. About 120 dovecotes remaining in Fife were listed by the County Planning Officer a few years ago as buildings of historic or architectural interest. Many of these have been examined by George Dick of Dunfermline. Where the original number of nestboxes could be estimated the average was about 660, and if the surviving dovecotes are typical of the 360 mentioned by Thomson the total nestbox capacity must have exceeded 200,000. It is not known what proportion of the nestboxes in a dovecote might be occupied—Smith (1931) cites an 18th century authority that two nestboxes should be provided for each pair of pigeons—but it seems likely that the domestic pigeon population must have been enormous and competition with Rock Doves potentially severe over a period of several centuries. Similarly 12 dovecotes in Moray remaining about 1930 contained an average of 670 nestboxes (Douglas 1931) and 17 in Banff, out of 25 examined between 1960 and 1965, had, on average, about 400 nestboxes (Hewson, unpublished).

Against such competition it seems remarkable perhaps that any Rock Doves remain. But Goodwin (1958) has pointed out two possibly significant factors:

1. Domestic pigeons (or Rock Doves raised in captivity) showed a sexual preference for birds similarly coloured to their own parents, i.e. Rock Doves would be unlikely to mate with domestic pigeons of a different colour.
2. In parts of Egypt Rock Doves and dovecote pigeons (here presumably of equal size) rarely or never interbred with the usually much larger pied, white, or red domestic pigeons.

Rock Doves appear to have survived best in those areas, sometimes rather sparsely cultivated, where dovecotes were least common. While large free-standing dovecotes fell into

disuse from the 18th century onwards, substantial dovecotes were incorporated in some of the larger farm steadings at a later date, probably during the first half of the 19th century. How long these survived, and how many pigeons they held, is uncertain, and the decrease in the Rock Dove's range may have occurred after the final decline of the large dovecote.

The decline of the Rock Dove in Norway has been described by Collett (1921) and I am grateful to Dr I. D. Pennie for drawing my attention to this reference. Between 1830, when Rock Doves were numerous on islands near Stavanger and on the adjoining mainland, and about 1860, many were killed because of damage to cornfields. This destruction, coupled with severe winters and predation by Goshawks *Accipiter gentilis* and Eagle Owls *Bubo bubo*, led to a severe decline in numbers and restriction of range. The last Rock Dove was shot near Stavanger in 1873, although a few birds persisted on some of the islands after this date. On the other hand a pair of feral pigeons imported into the island of Uvingsay in 1885 had descendants numbering over 50 by 1900.

Persecution of Rock Doves may have played a part in Scotland also. Persecution of dovecote pigeons was proscribed by stringent laws from the 15th century onwards, when presumably they were held to be distinguishable from Rock Doves.

Murton and Westwood (1966) in considering inter-specific competition, suggest that the dovecote pigeon must always have been tied to a feeding area within reasonable range of the loft, whereas the Stock Dove could inhabit a wider range of country, using either trees or rock holes for nesting. The distribution of dovecotes in Banff and Moray (and probably also in Fife) was, however, such that their occupants could have fed throughout most of the cultivated coastal area, and contemporary sources indicate that there would be very few trees for Stock Doves to nest in.

The area now occupied by Rock Doves in Scotland has the following characteristics:

1. It has not been successfully colonised by Stock Doves.
2. The feral pigeon population has never been large. There were very few large dovecotes in Easter Ross, east Sutherland and Caithness; few or none in N.W. Sutherland or Wester Ross.
3. The rocky coastline provides abundant nest sites in caves to which the Rock Doves may also resort during the day and to roost.
4. Arable land tends to be restricted to a narrow, compar-

atively treeless, coastal strip. This restricted habitat might favour the Rock Dove against competition from Stock Dove and Woodpigeon.

It would be of interest to know more of the Rock Dove's feeding habits and its relationship, in feeding flocks, with other pigeons; information might be obtained by regular observations in a selected area rather than by shooting. The extent to which Rock Doves breed throughout the year is, in many nesting caves, a problem for the more agile ornithologist. Downhill (1965) for example found three nests with eggs on Island Roan, Sutherland, in September with a population of 9 or 10 birds, while P. E. Davis (*in litt.*) found the breeding season on Fair Isle short, with perhaps only two broods.

### Acknowledgments

I am grateful to Derek Goodwin for much help and advice and to Dr I. D. Pennie for information and for reading a draft of this paper. George Dick made a detailed examination of many of the Fife dovecotes. The following completed questionnaires or supplied information: A. F. Airey, N. K. Atkinson, R. O. Blyth, British Girls' Exploring Society, R. N. Campbell, Dr M. E. Castle, R. Corbet, E. Cowieson, G. L. A. Patrick, P. E. Davis, Dr G. M. Dunnet, W. M. M. Eddie, J. Edelsten, J. J. D. Greenwood, E. N. Hunter, V. P. W. Lowe, D. Macdonald, M. J. C. Maclean, R. W. Marriott, Dr D. H. Mills, A. Neal, D. J. Norden, D. Oliver, G. A. Richards, Dr R. Richter, Dr M. Rusk, D. M. Stark, C. Tait, C. H. Walker, K. Walker, R. D. Wilson, P. Wormell, A. A. Wright, B. Zonfrillo.

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Table 1. Rock Doves and feral pigeons on the Scottish mainland

County	No. of returns	Pigeons examined	Apparent Rock Doves	%	Comments
Dumfries	0				
Kirkcudbright	0				
Wigtown	0				
Ayr	2	143	69	48	
Renfrew	1				no suitable coast
Bute	1	3	3	100	
Argyll	3	c.28	c.28	100	
	1	30+	—	—	Perhaps a few feral
<b>W. Inverness</b>	0				
<b>W. Ross</b>	6	121-131	112-122	93	
<b>N. &amp; W. Sutherland</b>	14	313	313	100	also some ferals
<b>Caithness</b>	1	200+	—	83	about 80% coast covered
<b>E. Sutherland</b>	1	5	5	100	at Ord of
	1	several		100	Caithness
	1	15	12	80	Mound-
	1	21	6	29	Aberscross Bonar Br.- Mound
<b>E. Ross</b>	0				see Lees (1946)
<b>E. Inverness</b>	1				no coastal cliffs
<b>Nairn</b>	0				no coastal cliffs
Moray	1	55	25	46	
Banff	1	78	8	10	
Aberdeen	1	35-45	10-15	22-43	
Kincardine	0				
Angus	2	c.1220	c.502	41	
Fife	1	112	14	13	
East Lothian	1	12	0	0	

Counties shown in heavy type are those to which the Rock Dove is probably now restricted.

Table 2. Rock Doves and feral pigeons on Scottish islands

Island	No. of returns	Pigeons examined	Apparent Rock Doves	%	Comments
Islay	1	88	88	100	
Jura	1	34	34	100	
Colonsay	1	15	15	100	

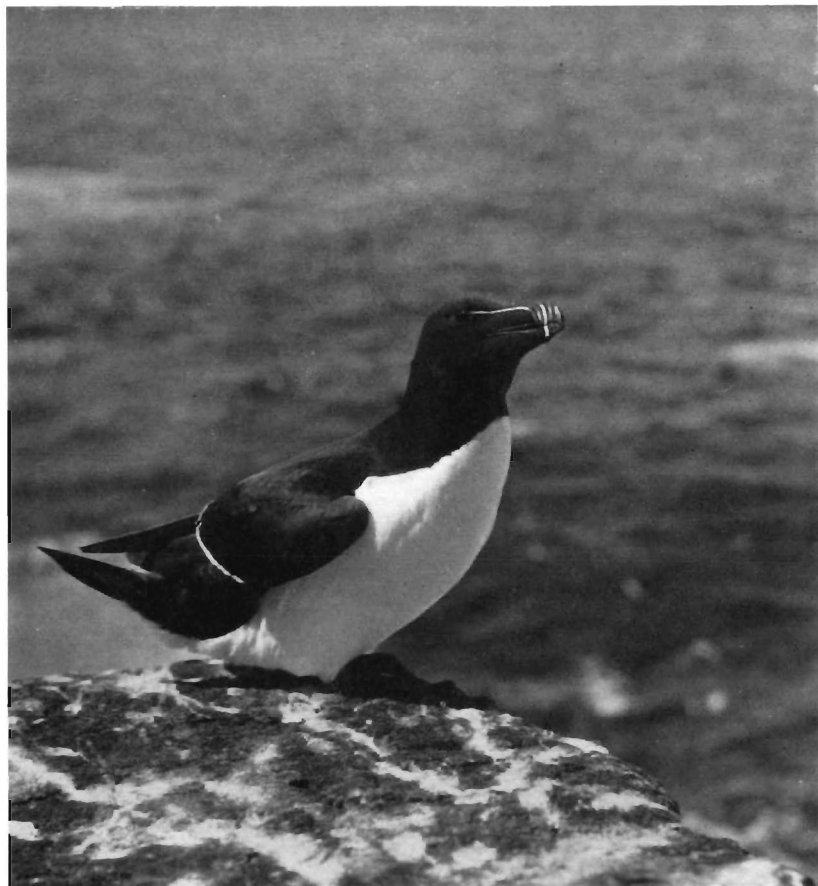


PLATE 40. Razorbill, Handa, June 1965. With the main paper in this issue dealing with seabirds (see p. 340) we take the chance to publish portraits of four Scottish species.

*Photograph by William S. Paton*



PLATE 41. Great Skua, Hermaness, 1966.

*Photograph by William S. Paton*



PLATE 42. Dark-phase Arctic Skua, Hermaness, 1966.

*Photograph by William S. Paton*



PLATE 43. Cormorant at nest.

*Photograph by William S. Paton*



Tiree	1	22	22	100	
Rhum	1	20-30	all	100	a few 'strays' at farm
Skye	2	31	31	100	
Longa, Gairloch	1	c.100	c.100	100	small island near mainland
Pabbay & Berneray	-	20	20	100	Diamond <i>et al</i> 1965
Barra	2	87-127	all	100	
Vatersay	1	2	2	100	
Benbecula & S. Uist	1	5 flocks of 5-40	all	100	
Harris	1	68	68	100	
Handa	1	8	6	75	
Eynhallow	1	89	83	93	
N. Ronaldsay	4	71	71	100	mean of 4 counts, range 68-74
Fair Isle	1	c.30	c.30	100	Obvious passages in Nov
Mousa	1	10	10	100	
Foula	-		20-40		Jackson 1966

## Short Notes

### Gyr Falcons in Orkney and Shetland

On the forenoon of 13th May 1966 I had a Gyr Falcon under observation for 15 minutes as it cruised about over Burrien Hill between Firth and Harray. It was an obvious falcon, with a fairly similar flight silhouette to the Peregrine but with broader-based and more blunt-tipped wings and a relatively longer and slightly squarer-ended tail. Gliding against the breeze it was very Peregrine-like but its wing action was noticeably slower. The light was quite good though there was no sun at the time. The bird was fairly uniform darkish grey above and paler below. When it turned sideways I saw that there were no clear-cut head and face markings or moustaches. I had the opportunity of comparing it with a female Hen Harrier and would say that the falcon's wingspan was at least as great if not greater. I might add that I am very familiar with the Peregrine and had been watching the species fairly extensively.

The Gyr Falcon has occurred in Orkney from time to time. Several records are given in *The Birds of Scotland*, and the late G. T. Arthur lists one in April 1947 and another in August 1949.

E. BALFOUR.

On 2nd, 3rd and 4th August 1966 we identified a Gyr Falcon

at Halligarth in the Baltasound district of Unst when Stephen Saxby flushed it from trees which it had been frequenting since late May. It perched on a stone dyke and on a pole but could not be approached. An Oystercatcher and Common Gulls were seen to mob it.

**Description** A very large greyish-brown falcon (slightly smaller than Great Skua) with the whole body mottled brown on buff; wings and tail greyish-brown; no tail bar seen; plumage, especially wings, much abraded; no distinctive marks or moustachial stripe, but dark area round eye; tail long and less tapered than Peregrine's, looking very broad when fanned as bird landed; wings long with broad bases and slightly blunted tips; head seemed small when neck stretched.

The flight was direct and fairly fast but the shallow wing-beat was slower than a Peregrine's. The blunter wings and longer but less tapered tail gave it a different silhouette. When gliding for four or five seconds it held its wings very flat. Fuller descriptions have been submitted to the Rarities Committee. FJW has watched Lanner and Saker Falcons abroad and we are both familiar with Peregrines.

The most recent of a number of Gyr Falcons recorded in Shetland was at Kergord on 9th September 1965 (*Scot. Birds* 4: 87) but the long stay of the 1966 bird is interesting.

MAGNUS SINCLAIR, F. J. WALKER.

### Spotted Crakes in West Sutherland

In late June 1966 W. A. Sinclair of Inverness was told about some unusual birds which, since early June, had been haunting a marsh in northwest Sutherland. Each evening from dusk onwards they called loudly and continuously and one observer who had heard them suggested that they were Spotted Crakes. WAS went to the marsh on 25th June and obtained a sound recording of the birds' calls which confirmed the identification.

The following day D. M. Bremner, A. Munro, WAS and DM visited the locality and found that there were three crakes present in the marsh. Each bird appeared to hold a strip of territory and it was noticeable that the individual holding the middle portion had a distinctly louder note than those of the other two birds. During the daylight hours of early evening, occasional calls only, mostly single, were heard, but from 2100 hrs GMT calling became almost incessant. In order to entice the birds to come nearer WAS played back the sound recording from the edge of the marsh while the others patrolled the shallower parts around the outer edge. Several times a bird approached to within about six or seven yards of a searcher but, owing to the treacherous nature of the surface, the thickness of the vegetation and, perhaps most of all, to the elusiveness of the birds them-

selves, all efforts to flush or even to catch a glimpse of one were unsuccessful.

The crakes remained in full voice until the end of the third week of July when calling became less frequent, and finally it stopped early in August. The prolonged period of territorial calling suggests that they were three unmated males. The best accounts of the unusual nature of the Spotted Crake's call have been given by P. F. Holmes (*Brit. Birds* 42: 364) who describes it as "like the lashing of a whip, but without the crack at the end," and by Dr Kurt Bauer (*Brit. Birds* 53: 523) as "a quite toneless sound, strongly recalling ... a short and sharp stroke of a lash cutting through the air." Holmes also refers to the bird watched by him as taking no notice of the flashing of a torch; similarly, when car headlights were shone across the Sutherland marsh the crakes were quite undisturbed and continued calling. These papers are ably summarised by Dr Bannerman in his essay on the Spotted Crake in Volume 12 of *The Birds of the British Isles*.

D. MACDONALD.

(R.W.J. and Mrs E. M. Smith independently discovered these birds and reported up to four calling one evening, but it is clearly very difficult to arrive at an exact figure where more than one or two birds are calling. There is no previous record for the Northwest Highlands.

Other 1966 records are of one calling on 29th April, but not later, at the same Dunbartonshire marsh as last year (*Scot. Birds* 3: 416) (T. D. H. Merrie); single birds heard in East Inverness-shire at marshy places two miles apart on Speyside on 6th July (R. Lévôque), and again at one of them two days later (Hon. D. N. Weir); one dead at Weisdale, Shetland, on 11th April (*Scot. Birds* 4: 243); and one calling during June or July (full details not yet received) on Foula (E. E. Jackson).

The status of this species in Scotland is obscure. Many of the reports obviously refer to migrants, and it may be that these spring birds come here more or less by chance, but reports of birds calling at particular marshes in Scotland for weeks and even months in recent years suggest that they could well breed. Breeding is difficult to prove, but the bird's call is most characteristic and easily remembered so that visits to suitable marshes on calm evenings in spring and early summer would readily show whether Spotted Crakes were there or not.—ED.)

#### White-winged Black Tern in Orkney

At 4 p.m. on 11th June 1966, a sunny day with light easterly winds, A. Swanney telephoned to say that he and his

sister had identified a White-winged Black Tern on Ancum Loch close to their farm on North Ronaldsay. Within five minutes of getting there I found the bird. Its behaviour was very similar to that of a Black Tern we saw in 1965. The most obvious plumage differences were the white tail, the distinctly white leading edge of the wing as it flew towards us, and the three shades of the upper wing, very noticeable as it flew past. Compared with Arctic Terns, which mobbed it as it flew towards their nesting area, it was decidedly smaller—about the same size as a Little Tern but appearing daintier, with a more fluid flight. The following description is compiled from notes taken at the time:

Head, nape, mantle, throat, underparts and under wing-coverts black; rump, tail and under tail-coverts white; primaries and secondaries grey with outer tips of primaries appearing slightly darker; greater wing-coverts off-white to light grey; lesser wing-coverts white, very noticeable as bird rested on a post; tail slightly forked; legs and feet red.

We could not find the bird next day, but I saw it again on the 13th, perched on a fence post in the water. It flew off across the loch and was not seen again. I understand that the only previous record of a White-winged Black Tern in Scotland is of one in the Outer Hebrides on 23rd May 1964 (*Scot. Birds* 3: 258).

KENNETH G. WALKER.

#### Some breeding notes on the Collared Dove

As few observations regarding the breeding of the Collared Dove in the British Isles have been published, the following note, which refers to the nesting of a pair at Dornoch in Southeast Sutherland, may be of interest.

The nest was placed at a height of about 15 feet, and one foot out from the trunk of a dead cypress, which stood amongst a small clump of trees bordering the local curling pond. It was found on 2nd September 1966 but the incubating bird was not flushed until the following day, when the nest contained two eggs. At 1730 hrs GMT on 16th September it held one egg and a newly hatched nestling; the second chick hatched out between 0930 and 1800 hrs on the 17th, giving incubation periods of at least 13+ and 14+ days respectively. As the normal incubation period is stated to be about 14 days it appears probable that the second egg may have been laid on 2nd September, but unfortunately the nest contents were not known on that date.

With the exception of a period of six days from 19th to 24th October, the nest site was visited at least once daily from 15th September to 5th November. The growth of the

nestlings followed the normal stages of development. After the 6th day they were not observed to be brooded during the daytime and by the 17th day they were fully feathered. At 0830 hrs GMT on 6th October the young were still in the nest but by 1230 hrs they had left and were perched on a branch about two feet away. The fledging period was thus 19+ and 18+ days respectively. On 8th October however both fledglings were back again sitting in the nest, where they remained for two days. A return to the nest site has been recorded by Marchant (*Ibis* 105: 527) who, referring to the breeding of the Collared Dove in Iraq, states that "after 15 days or so the young tend to move out of the nest onto neighbouring branches or may even leave the nest-site altogether one day and return the next." Ferguson-Lees (*Brit. Birds* 57: 174) gives the fledging period as between 14 and 21 days. Two reasons could account for this wide variation—disturbance of the nestlings when they are nearing the fledging stage and/or the fledglings habit of returning to the nest—either of which could have occurred in the present case. To avoid the risk of premature fledging through disturbance by climbing up to the nest the fledglings were observed from the ground from the 16th day onwards, and had the site not been visited daily the fledging period might have been recorded erroneously as 21 or even 22 days.

Up to 1st November there was no indication that the fledglings had ever left the area of the nest site, and even when observed at close range they hardly showed any sign of wariness. Throughout this period they appeared to be entirely dependent upon the parent birds and during the first week after fledging were invariably accompanied by at least one adult, but later they were frequently left unattended. By 29th October one juvenile had acquired the black half-collar. On 1st November however a sudden change of behaviour became evident; when approached they quickly flitted from branch to branch in a somewhat restless manner and next day they were flying around freely. Thereafter the two juveniles were seen only occasionally in the vicinity of the nest site, but they and the adults continued to roost there. From 20th November only one of the juveniles turned up at the roost, and during a spell of severe weather in early December the roost was abandoned.

D. MACDONALD.

### Roller in Orkney

Returning from watching a White-winged Black Tern on 11th June 1966 on North Ronaldsay I saw a bird making short shrike-like flights from a pillar of stones on top of a dyke. I stopped the car and viewed it through my binoculars and

identified it as a Roller, evidently the first Scottish record since 1959, when one was seen in Shetland in July (*Scot. Birds* 1: 190). The weather was bright and sunny with a light easterly wind. I watched the bird for ten minutes and obtained the following description:

Head, nape, throat and underparts greenish-blue; mantle and scapulars russet-brown; rump deep blue; centre tail feathers brown, contrasting with greenish-blue of others and of upper tail-coverts; apparently a faint black tip to the tail, more evident on outer feathers; primaries almost black at the tips to pale blue at the base; secondaries pale blue at the tips to brown at the base; greater wing-coverts pale greenish; lesser wing-coverts deep blue, almost purple.

When the bird was at rest the greenish-blue, russet and black were very noticeable, but when it took to the wing it seemed to explode into various colours. It looked nearly twice as bulky as a male Blackbird with food in its mouth which made two attacks, driving it off with the second. It had a rapid wing-beat and flew straight out to sea in the general direction of Fair Isle.

KENNETH G. WALKER.

#### American Robin in Kirkcudbrightshire

About 5 p.m. on 12th May 1966 at Woodhall Loch, near New Galloway station, my wife and I had the pleasure of watching an American Robin for 20 minutes. Its movements were thrushlike as it fed on open ground beside reeds and some trees at the north end of the loch. I was able to get excellent views with a telescope and with binoculars from about 30 ft. The bird moved about quite slowly and would stand upright and motionless for several seconds at a time, but it also walked and hopped across the fairly tufty grass of the meadow. Once it was chivvied by a Blackbird and the two birds seemed much the same size. When I approached too closely it flew off at a low height and was lost to view.

It was a striking bird, reddish orange below from throat to white under tail-coverts. The upperparts, including the tail, were grey-brown, but in some lights the head seemed to be a little darker. The light broken eye-ring and throat feathers were less well defined than in the *Field Guide* illustration. The thrush-length bill was straw coloured. Unfortunately I did not note the leg colour, and I failed to see any pale area on the lower belly or white tips to the outer tail feathers. Nonetheless both my wife and I are quite certain the bird was an American Robin.

We considered whether it might have been an escape but there was nothing to suggest this. The wind was fresh south-westerly and had been in roughly that quarter for several

days. We searched for the bird again on the 14th with A. Donald Watson but could not find it.

E. HALES.

(The only American Robin recorded previously in Scotland was one at Grimsetter in Orkney on 27th May 1961 (*Scot. Birds* 2: 343).—ED.)

#### Nesting of a leucistic Song Thrush in Sutherland

On 10th March 1966 there appeared in the vicinity of my garden at Dornoch a bird in creamy white plumage without a single dark feather, later identified as a male Song Thrush. It appeared identical with a bird which haunted the same locality for a few days in August 1965, and which was recorded erroneously as a leucistic Blackbird (*Scot. Birds* 3: 431). During April this bird had numerous skirmishes with an established pair of Song Thrushes but was ultimately driven away by them. By mid May, however, it had secured a normal-plumaged mate, which on 1st June hatched out a brood of five nestlings from a nest built in a holly bush in my garden. Within the first few days three of the young disappeared and during the following days the female appeared to be brooding the remaining two nestlings for abnormally long periods. However, they survived until the evening of 10th June, by which time they were just beginning to feather. Unfortunately, they were then taken by a predator, most probably a cat. The feathers which were visible at that stage appeared to be quite normal. The only song heard from this abnormal male was of a very fragmentary nature and only heard twice at widely separated intervals, the last occasion being on the morning following the disappearance of the two nestlings. On that same day the bird disappeared and it was not seen in the area again until late September.

D. MACDONALD.

#### Red-throated Pipits in Shetland in spring

On 1st June 1966 while watching Rock and Meadow Pipits along the cliff edge of Inner Brough, Strandburgh Ness, Fetlar, I observed a pipit with a brick red throat and upper breast. I watched it for short periods between 1500 and 1520 hrs GMT as it appeared and disappeared on the undulating surface at the top of these low cliffs feeding on short grassy areas. The light was excellent.

**Description** Upperparts, including rump and tail-coverts, buffish brown, broadly streaked black-brown; sides of head and lores pinkish; upper breast palish uniform brick red, with narrow black-brown streaks on breast broadening as colour of upper breast merged into

pinkish buff of lower breast; flanks pinkish buff, heavily streaked black-brown; belly and under tail-coverts uniform buffish; tail feathers black-brown, central ones browner and outer ones white; bill brown; legs and feet dirty flesh.

The only call identified as coming from this bird was a frequent *chup*, repeated as it fed and with great frequency when it was disturbed by other pipits. Although I have no previous experience of this species the bird could only have been a Red-throated Pipit. I was not able to visit the area again.

KEITH L. FOX.

(Another Red-throated Pipit in Shetland was on the Out Skerries on 11th and 12th May 1966. Details of this bird will appear in an account which the observer, R. J. Tulloch, is preparing of several visits he made to these islands in 1966. Spring records, usually in May, are rarer than autumn ones.—Ed.)

### Lesser Grey Shrike in Shetland

While birdwatching on Whalsay on 17th October 1965 I found and identified an adult Lesser Grey Shrike. I was able to watch it many times as it stayed in the same area until the 24th. During all this time I never saw it perch higher than fences and dykes, although there were telephone and electricity cables overhead. It often sat on fences and fence posts turning and tilting its head as it watched for insects, which it darted after, returning to the fence, but seldom to the same perch, to eat them. Several times I saw it hover Kestrel fashion for about 15 seconds before diving into the long grass after insects. Its stance was noticeably more upright than a Great Grey Shrike and its flight was more direct and low.

On 22nd October I took E. J. Wiseman to confirm its identity. While we were viewing it from behind a dyke, to our great astonishment a Great Grey Shrike came and perched only 30 yards from it. We were able to compare the two on the spot, surely a very rare chance. I dread to think how I would have felt if it had been the Great Grey Shrike which was there when we arrived. The following is a description I made of the Lesser Grey Shrike during its stay:

Crown, nape, back and scapulars grey, with rump slightly paler; broad black stripe through eye, continuing across forehead and lower part of crown (so clearly defined that I took the bird for a male); underparts white, with a definite pinkish flush on sides of breast; wings black with broad white bases to primaries showing as white patch on closed wing; tail black with white outer pair of feathers; bill black and hooked; legs dark; eye dark.

JOHN H. SIMPSON.



### Rose-coloured Starling in Shetland

It was reported to me that a "pink starling, marked like a Hooded Crow" had been seen at Gonfirth, Voe, on 24th June 1966. On 5th July John Walterson, caretaker of Lerwick Museum, saw a bird similar to the museum's specimen of a Rose-coloured Starling on a roadside fence at Voe with a small flock of Starlings.

The next evening I went to Voe hoping to find the Starlings' roosting place—four gardens in the village have suitable sycamore trees. I found no Starlings, but I found the Rose-coloured Starling right away, roosting alone in a dead fir tree.

My attention had been drawn by the breast colour, showing very pale at 30 yards. The bird sat quite still, only turning its head slowly from side to side as I watched. It was raining lightly and the wet black crest drooped to a fine point behind the neck. The breast was pink, paler and less brilliant below the black bib. The legs were pink like a Greenfinch's and bore no rings. The bill looked yellow, not pink as stated in most books except the new edition of the *Field Guide*. As I moved closer the bird became nervous and hopped to a higher branch, where it sat back-on and showed the pink mantle and black wings. Now it flicked its tail frequently—very unstarlinglike—then flew off giving an impression of even more pink.

It was seen again next day, 7th July, near where Mr Walterson had seen it, and again it was with a small flock of Starlings.

DENNIS COUTTS.

## Current Notes

Compiled by P. J. B. SLATER

(Key to initials of observers : D. R. Anderson, D. G. Andrew, W. Austin, R. S. Baillie, D. J. Bain, Miss P. G. T. Baxter, Dr J. Berry, Miss F. M. Black, H. Boase (IBs), H. Boyd (HBd), T. Boyd, W. Brotherston, D. G. Bruce, R. Byres, A. Campbell, C. Campbell, R. N. Campbell, Mrs V. E. Carrick, J. F. M. Carson, M. Cayne, P. Clark, Miss E. T. Connacher, Miss H. Coppock, D. Coutts, G. M. Crighton, W. A. J. Cunningham, R. H. Dennis, D. Dewar, R. C. Dickson, Miss J. M. Donnan, H. E. M. Dott, Mrs I. D. Doyle, Dr G. M. Dunnet, Dr W. J. Eggeling, N. Elkins, Sir R. Erskine-Hill Bt, M. J. Everett, R. Farmer, J. Ferguson, H. Fisher, Miss G. A. Fleming, H. A. Ford, R. W. Forrester, K. L. Fox, I. Gibson, Rev. I. Gibson, Miss E. Grace, Mrs J. A. R. Grant, Mrs H. S. C. Halliday, K. C. R. Halliday, C. G. Headlam, J. A. D. Hope, D. C. Hulme, E. N. Hunter, E. T. Idle, Rev. G. T. Jamieson, R. A. Jeffery, P. Johnson, G. D. Joy, D. J. Law, A. F. Leitch, I. H. J. Lyster, D. Macdonald (DMcD), M. A.

Macdonald, J. W. McEwan, K. S. Macgregor, R. D. Macgregor, Dr H. N. MacLachlan, I. M. MacLean, J. M. Macleod, A. MacRae (AMcR), A. Mainwood (AMd), S. Manson, W. Matheson (WMr), G. Maxwell, W. S. Medicott, Prof. M. F. M. Meiklejohn, Mrs D. Melrose (DMs), J. Mitchell, N. C. Morgan, W. Moss (WMs), W. Ogilvie, D. W. Oliver, J. S. Oliver, N. Picozzi, R. K. Pollock A. D. K. Ramsay, C. P. Rawcliffe, G. A. Richards, W. K. Richmond, G. Rodger, I. B. Roy, Dr M. Rusk, Mrs H. M. Russell, R. Shaw, M. Sinclair, A. J. Smith, Mrs E. M. Smith, R. W. J. Smith, Dr T. C. Smout, T. Spence, D. M. Stark, C. Tait, I. Taylor, Miss V. M. Thom, D. A. Tindal, R. B. Tozer, R. J. Tulloch, C. Walker, F. Walker, K. Walker, D. I. M. Wallace, G. Waterston, Dr A. Watson, A. D. Watson, M. Watson, I. S. Watt, J. Watt, Hon. D. N. Weir, G. T. White.

**Unless otherwise stated all dates refer to 1966.)**

### *Distribution*

Observations made before 1st August 1966 are not included in this section except where they are relevant to more recent topics.

A **Great Crested Grebe**, apparently the first recorded in the Outer Hebrides, was diving offshore at Broad Bay, Lewis, on 30th October (IMM). **Slavonian Grebes** seen inland have been two at Linlithgow Loch, West Lothian, on 31st October (JFMC, MC, IT), and one at Portmore Loch on 9th and 16th October, the first record for Peeblesshire (DGA, EMS, RWJS). One was seen at the mouth of the River Luce in Luce Bay, Wigtownshire, on 5th November (RCD), and one in Loch Ryan in the same county on 8th December was accompanied by four **Black-necked Grebes** (GAR). A **Little Grebe** was seen on the Peffer Burn at Aberlady, East Lothian, on 18th December (RSB).

A late **Sooty Shearwater** was flying north against a strong wind off Fife Ness on 6th November (PGTB). A few 'Blue' **Fulmars** are seen in Shetland every year, but the sighting of at least five between Fair Isle and Sumburgh on 11th October was certainly exceptional (RJT).

The **Gadwall** at Kilconquhar Loch, Fife, showed a peak of 23 birds on 13th November (DWO), and in the middle of that month an estimate of the **Wigeon** present along the south shore of the Dornoch Firth and in the Cromarty Firth, but excluding the Black Isle, suggested a figure in the region of 22,000 (CGH). Three **Pintail** were on the River Don at Bridge of Don, Aberdeenshire, on 19th November (ADKR), and there was a pair at Stormont Loch, Perthshire, on 13th (VMT). A high count of **Shoveler** for the area was of 22 at Hoselaw Loch, Yetholm, Roxburghshire, on 27th November (RSB).

**Scaup** winter in very large numbers off Seafield, Midlothian, and odd birds are seen inland in the Forth area not infrequently. But single drakes at Duddingston and St Margaret's

Lochs, Edinburgh, on 25th September are interesting in view of the fact that only 12 had arrived at Seafield on the same date. Another male had arrived at Portmore Loch by 11th September and was last seen there on 2nd October (DGA). Other records on fresh water are of a drake on a loch near Dalrymple, Ayrshire, on 17th October (GAR); seven birds at Kilconquhar Loch on 18th December (DWO); and single females at Loch More, Caithness, on 6th November (per DMS), and Fala, Midlothian, from 20th to 26th December (WB).

The numbers of **Pochard** on the lochs in the Queen's Park, Edinburgh, increased steadily from October until 26th December, when 6000 were present (DGA). The count then remained high and on 2nd January 1967 there was this number on Duddingston Loch alone though they left in hundreds on the next day as ice closed in (DRA).

Inland **Long-tailed Duck** have been seen as follows: a female at Loch of Lowes, Perthshire, on 29th December (HBs); a female at Meikle Loch, Newburgh, Aberdeenshire, on 16th November (NE); an immature female at Rosebery and Gladhouse reservoirs, Midlothian, on 20th and 27th November respectively (DGA, EMS, RWJS); an immature male at Carlinwark Loch, Kirkcudbrightshire, on 28th December (GAR); and a pair at Lindores Loch, Fife, on 13th and 14th November (JW). A particularly large count for Ayrshire was of 41 at Barassie on 13th December (GAR).

In places where **Goosanders** have become less frequent in recent years, three females were seen at Morton Lochs, Fife, on 27th November (CT), and a drake was at Duddingston on 17th December and on 1st and 2nd January 1967 (DRA, DGA, AFL). The **Smew** records include several drakes:

- Bridge of Don—redhead on 19 Nov (ADKR).
- Stormont Loch—redhead on 13 Nov (VMT).
- Gullane Point, E. Lothian—redhead on 15 Oct (CT).
- Gartocharn, Dunbarton—redhead on 20 Dec (RS).
- Castle Semple Loch, Renfrew—♂ on 27 Nov (RWF, RF, RDM, RBT);  
♂ and 2 redheads on 11 Dec (IG, RAJ, GTW).
- Ayr—♂ on sea on 13 Dec after severe frost (GAR).
- Martnaham, Ayr—♂ on 5 Dec (GAR).
- Carlinwark Loch—redhead on 13 Nov (GAF).
- Loch Ken, Kirkcudbright—redhead on 28 Dec (GAR).

September records of **Grey Lag Geese** are all of small numbers and most probably therefore refer to our local breeding stock. Though late in the month this may be true of 11 seen circling near the Lake of Menteith, Perthshire, on 22nd September (RKP), and six flying over Duddingston on 24th (DRA).

Eight Greenland **White-fronted Geese** were at Fair Isle on 25th October (RHD). Eight Whitefronts were seen at Brub-

ster, Caithness, on 23th October and 30 of the Greenland race were there on 29th (per DMS). Also in Caithness, 115 Greenland birds were at Loch Winless on 12th November and 140 on 29th (JARG), while 100 were noted at Loch Soarach on 26th (per DMS). Abnormally early, a Greenland bird was at Loch Leven, Kinross-shire, on 5th October (CC). An immature was near Dunning, Perthshire, on 22nd November (VMT). On 25th November 71 arrived at the Moor of Genoch, Wigtonshire, and the number there had increased to 84 by 4th December (RCD). Near Gartocharn, Dunbartonshire, 14 Greenland birds on 31st December was the peak number (RS).

Three at Montrose Basin, Angus, on 9th September (GMC), and a skein over Cupar, Fife, on 12th (DWO), are the first reports of **Pink-footed Geese** for the winter. On 16th 13 flew west at Balmerino, Fife (HBs), and in Midlothian, 40 flew south at Loanhead (RWJS) and 20 at Roslin (ADKR). Thereafter there are rather few reports spread out over the rest of the month, suggesting steady passage without any noteworthy peaks.

From time to time strange-looking hybrids or colour forms arise amongst geese and cause some confusion. This year there has been a spate of such reports, including one of a white domestic goose seen at Aberlady on various dates between 19th November and 24th December (MAM, RBT). One of a local flock, it had escaped on the way to the butcher. Another oddity was a goose shot near Crieff, Perthshire, on 12th December, which was thought to be a hybrid between a Chinese and a Grey Lag Goose as it had characteristics in many ways intermediate between these two species (JB). A leucistic Pink-footed Goose was at Loch Leven on 5th October (CC), and an almost pure white individual was seen at Fala Hill, Midlothian, on 11th (per WB), and subsequently at Aberlady on various dates between 15th and 30th October (DJ, KSM, NCM).

Not all white geese seen have been lacking in black wing-tips however. An unringed **Snow Goose** was at Loch Leven between 24th October and 6th November and again on 14th December (HBd, CC). One was at Aberlady on 26th November and 11th and 16th December (DJ, WKR). The dates suggest that all these reports might refer to the same individual. A blue-phase **Lesser Snow Goose** was at Loch Leven on 28th November (CC), and in the area of Morton Lochs, Fife, on 3rd, 19th and 27th December (JB, WJE), where what might well have been the same bird was seen last winter (4: 242).

A Pale-bellied **Brent Goose** was seen at Loch Leven on 27th September, 5th October and 9th December (CC), and one was at Dupplin, Perthshire, on 13th November (TCS). Two

at the mouth of the River Don, Aberdeenshire, on 23rd October were accompanied by three of the Dark-bellied race (ADKR), and another Dark-bellied bird was at Caerlaverock on 11th December (RBT).

There are widely scattered reports of **Barnacle Geese** away from their normal wintering grounds:

- Sumburgh—5 in flight on 26 Sept (RE-H).
- Foula, Shetland—10 on 27 Oct (AMd).
- Loch Winless, Caithness—1 on 12 Nov (JARG).
- Meikle Loch, Aberdeen—4 with roosting Pinkfeet on 20 Nov (HEMD).
- Montrose Basin, Angus—1 on 3 Oct (GMC).
- Dupplin—1 on 19 Nov (TCS).
- Abernethy, Perthshire—1 on 15 Oct (JW).
- Endrick mouth, Stirling/Dunbarton—12 on the shore on 27 Sept (RKP); 4 on 2nd and 8 Oct (IG, DJL, GTW).
- Eden Estuary, Fife—1 on 2 Oct (CT).
- Fife Ness—1 on 9 Oct (JW).
- Aberlady—a ringed bird on 9 Oct (DWO); 5 on 26 Dec (MAM); 1 on 27 Dec (DJ).
- Tynninghame, E. Lothian—19 flying up estuary on 9 Oct (MFMM, CT).
- Almond Estuary, Mid/West Lothian—3 on 2 Oct (TCS).
- Gladhouse—1 on 23 Oct (EMS, RWJS).

A particularly early **Whooper Swan** was an adult at Fair Isle on 18th August, and five were there on 21st September (RHD). Also in Shetland, two were on Loch Hillwell on 21st and three on Loch Spiggie on 22nd September (per DC), while the first in Lewis were three at Tolstachaolais on 24th (WAJC). The earliest further south were at about the same time with one on Loch Morlich, Inverness-shire, on 24th (ADKR); two at Invergordon, Easter Ross, on 23rd (AMcR); and another at Black Loch, near New Cumnock, Ayrshire, also on 23rd (GAR). Several large concentrations have been reported:

- Loch Hielen, Caithness—110 on 16 Oct (per DMS).
- Loch Calder, Caithness—peak of 100 on 28 Oct (per DMS).
- Invergordon—500 from mid Nov (CGH).
- Spey valley, Inverness—over 100 between Kingussie and Nethy Bridge at end Dec (DNW).
- Near Kinross—175 on stubble on 24 Oct (HBs).
- Barr Loch, Renfrew—maximum of 184 on 27 Nov (RBT).
- Kaimsflat, near Ednam, Roxburgh—over 120 in stubble field on 5 Dec (WSM).

The early arrivals in Shetland showed a low proportion of immatures with as few as three young for every 50 adults (RJT), and this also seems to have been the case at Barr Loch, where of 160 on 22nd November only 11 were immature (MJE). A herd of 72 near the mouth of the River Earn, Perthshire, on 3rd December was accompanied by an adult **Bewick's Swan** (VMT), and an adult Bewick's was at

Kilconquhar Loch on 26th (DWO).

During a snow shower on 8th December a pair of **Golden Eagles** was seen at the coast at Port Glasgow, Renfrewshire: they were in flight and appeared to have come across the Clyde (RF).

Several **Rough-legged Buzzards** have been seen in Glenesk on the Angus/Kincardine border. There were three there on 20th October, 2 on 26th, one on 29th October and one on 30th November (GMC, WKR). One was nearby, three miles north-east of Brechin, Angus, on 12th November (GMC). Elsewhere, single birds have been at Cullivoe, Yell, Shetland, on 23rd December (RJT); at Fair Isle on 18th-22nd and 21st-22nd October (RHD); at Aberlady on 19th October (WMS, MW); and near Evanton, Easter Ross, between 13th December and 6th January 1967 (CGH). An **Osprey** was seen at Loch Macleod, Lewis, on 8th October (WMn); and a later bird, though in a more usual area, was one near the south end of Loch Ness, Inverness-shire, on 23rd October (GM per DNW).

**Coot** are not often recorded on the sea except in hard weather but six were on Loch Ryan on 24th September. On 15th October numbers had increased to 61, and there were 60 on 12th November and 45 on 17th December (RCD).

A flock of 1700 **Oystercatchers** at the Almond Estuary on 17th December is the highest number recorded there and indicates a complete recovery from the heavy losses suffered in the winter of 1962-63 (TCS). **Grey Plovers** are scarce in Caithness, where there was one at Reiss on 25th and 27th October and one at Sandside on 16th December (per DMS, JARG).

Large concentrations of **Golden Plover** have been of 700 at Milton, Caithness, on 8th October (per DMS), and about 1000 near Penicuik, Midlothian, in mid October (RWJS).

Single **Black-tailed Godwits** were seen in October at Skinflats, Stirlingshire, on 9th (JFMC, MC, IT); Tynninghame on 8th (AFL, MAM); and at Barassie from 3rd right on to 14th December (GAR). Ten were at the Eden Estuary on 2nd October (DWO). Wintering **Green Sandpipers** have been one at Aberlady on 26th November (CT), and one at Tynninghame on 27th and again on 4th December (TB, IBR, RWJS, CT).

A **Spotted Redshank** was heard at Tynninghame on 15th October (DIMW); one was at Aberlady on 13th November (NE); and one was seen two miles south of Ayr on various dates from 19th November to 22nd December (GAR, RBT). One was on the beach at Thurso, Caithness, on 27th and 28th August, and three were in the same place on 1st October (SM). On 2nd October three were noted at the Eden Estuary (DWO).

Very far north for the time of year, a **Greenshank** was recorded near Evanton, Easter Ross, on 20th December (CGH). The peak in **Knot** numbers at the Almond Estuary was a month earlier than usual on 6th November when about 4000 were in the area (TCS). At Tynninghame the estimate of about 1000 present on 11th December was exceptional (RWJS).

Single **Little Stints** in October were at Eden Estuary on 2nd (DWO); Skinflats on the same day (JFMC, MC, IT); and Aberlady on 16th (IG, GTW). A visitor from across the Atlantic was a **Pectoral Sandpiper** at Virkie, Shetland, which was first seen in flight at dusk on 21st September. The next day better views were obtained of it and its Ruff-like characteristics, but with speckled breast delineated sharply from light underparts, were clearly seen (GDJ).

An August **Curlew Sandpiper** not mentioned previously (4: 318) was at Barassie on 21st (RWF). Singles were at Eden Estuary on 2nd October (DWO); Tynninghame on 2nd and 16th (TB, IBR, RWJS); and Montrose Basin on 3rd (GMC). One was seen on 2nd October at Skinflats and there were two there on 8th and 16th (JFMC, MC, IT).

**Great Skuas** staying rather late in the north were lone birds seen at Foula on 1st, 2nd and 8th November (AMd). Also in Shetland, a **Pomarine Skua** was seen between Fair Isle and Sumburgh on 11th October (RJT). At the Ythan Estuary, Aberdeenshire, a **Long-tailed Skua** was seen in flight on 23rd August (FMB, ETC).

Winter records of **Lesser Black-backed Gulls** in Edinburgh are of one at Lochend Loch on 20th November (DGA), and three at Duddingston on 28th December (MAM). One of the Scandinavian race was at Gullane Bay, East Lothian, on 22nd October (MAM). An immature **Glaucous Gull** was at Wick on 27th October (per DMS), and there was another at Nigg Bay, Kincardineshire, on 16th October (ADKR). Single **Iceland Gulls** in Aberdeen were seen at Seaton Park on 19th November and over King's College on 2nd December (ADKR). A bird of this species was at Scrabster, Caithness, on 21st November and 24th December (per DMS), and singles on Fair Isle on 9th and 21st November and 8th December (RHD).

In Angus 180 **Little Gulls** were counted at Carnoustie on 7th October (GMC), and there were 53 nearby at Buddon on 10th (HBs). In Fife single adults were seen at Kilconquhar on 17th October (PGTB), and near Elie on 20th November (DWO). A first-winter **Kittiwake** was inland at Gladhouse on 20th November (RWJS).

The only report of a **Little Auk** outside Shetland is of one found alive in Tentsmuir Forest, Fife, on 13th December (ISW per VMT).

**Guillemots** do not normally return to their breeding cliffs until well into the new year especially in the north. On Handa, Sutherland, they returned some three weeks earlier than they had been known to do previously on 24th December 1965 and even sooner this year when they were back on the cliffs in their thousands on 14th December (per GW). Further south, Guillemots were seen in large numbers on the White Heugh and stacks at St Abb's Head, Berwickshire, on 22nd December, the shortest day of the year (GW). In 1965-66 Guillemots at Fair Isle were recorded ashore on 15th November, regularly from 12th January, and continuously from 2nd April (*Fair Isle Bird Obs. Bull.* 5: 203).

A **Turtle Dove** on the Isle of May, Fife, on 6th October (HAF), and another at Ballaggan, Stirlingshire, on 7th (JM), were no doubt continental migrants. There were two on Fair Isle on 12th October and one on 19th-22nd (RHD). A **Nightjar**, discovered at the Moor of Genoch on 21st September, had a broken wing and unfortunately died subsequently (per RCD). A **Kingfisher** was found at Skibo Estuary, Dornoch Firth, Sutherland, on 12th November and was still in the area on 26th (DMcD). A **Hoopoe** at Badenkep farm, Buchlyvie, Stirlingshire, on 24th October (JWM per JM), and one which flew up from beside the road near Luss, Dunbartonshire, on 5th November (JDD) could well both have been the same bird.

There was a **Woodlark** on Fair Isle on 24th October (RHD). Three **Shore Larks** were seen at two different places in October: at Spike Island, Tynninghame, on 16th (RWJS), and among sand dunes one mile south of Newburgh, Aberdeenshire, on 30th (GMD).

November **Swallows** have been reported from the following places:

- Newburgh—1 on 3rd and several on 4th (GMD).
- Brechin, Angus—1 on 29th (GMC).
- Lundin Links, Fife—2 immatures on 4th (PGTB).
- Aberlady—5 on 7th (PC, GTJ).
- Longniddry, E. Lothian—1 on 5th (HAF, MFMM).
- Stranraer, Wigtown—2 on 27th (HF).
- Sandhead, Wigtown—1 on 3rd (RCD).

A late **House Martin** nest containing two young was found in Dunbar, East Lothian, on 8th October (PJ, AFL). The latest report of this species is of one at Dumfries on 28th October (JMD, DMs).

A **Hooded Crow** seen near Sorn, Ayrshire, on 20th October was rather to the south of the normal range of this species (GAR). The first **Magpie** to be recorded in North Sutherland was originally seen a few miles south of Bowside on the River Strathy on 16th June and remained in the area until



mid September (AC, RNC).

A few **Great Tits** appeared in Shetland in late October and early November and some were still present at the end of December (RJT). One of the Continental race was trapped on Fair Isle on 10th October (RHD). Several observers have commented on the good numbers of **Long-tailed Tits** to be seen about in the south but the reports from the north are more striking. In Caithness the first for many years were seen in October when there were 20 beside the Wick River on 8th, 15 in Wick on 15th and 15 at Castletown on 24th, with smaller numbers in several areas thereafter (per DMS). In Orkney two appeared on North Ronaldsay on 20th October (KW), and in Stornoway Woods, Lewis, the first were two on 5th November and they were seen regularly thereafter until the end of the year, the highest count being of eight (IMM, JMM, WMn). Also in an unusual area, well north of its normal range, a **Treecreeper** was seen in Scalloway, Shetland, between 21st and 23rd October (RHD, RJT).

The first **Fieldfares** in Shetland were very early with one on Fair Isle on 30th and 31st July, and in August, five on 4th, 14 by 6th and 20 on 7th (RHD). Four were in Unst by 5th August (MS, FW); three on Foula from 13th to 19th (AMd); two on Fetlar on 29th (WO); and one on Out Skerries on 31st (RJT). Surprisingly the only August record from elsewhere is of three in Glen Clova, Angus, on 14th (GR per GW), nor indeed are there reports of more than a few birds in September though there were 90 at Fair Isle on 28th and 250 on 29th (RHD). In the Moorfoots, Midlothian, several hundred were seen on 2nd October (WB). A large influx occurred on 5th and 6th October, when numbers reported in the south of the country were very great, though in Caithness there appeared fewer than usual (DMS). On 5th there were many hundreds in Glen Affric, Inverness-shire (DCH), and about 1500 were counted going south at Crosshill, Ayrshire (RBT), while a similar number were seen passing over Ayr (GAR). On 6th a big movement began at Fair Isle (RHD), there was a noticeable increase in Caithness (DMS), and hundreds were passing Fife Ness (DWO). There was a big fall in Shetland on 7th (RJT), with a Fair Isle peak of 800 on 7th-8th (RHD), and on 9th 1500 were counted going south during the day at Yetholm (RSB). The arrivals seem to have carried on right through the middle of the month. On 13th there was a concentration of about 680 near Barr, Ayrshire (GAR), and a further large influx was noted in Shetland on 16th (RJT) with 750 at Fair Isle on 19th (RHD). At the end of the month a further movement took place in the east. On 29th and 30th parties were going west at Dirlerton, East Lothian, at a rate of about 500 per hour (MFMM),

and further down the coast hundreds were passing north-west at Tynninghame on 30th (RWJS). On 31st they were passing WNW over the Meadows, Edinburgh, at a rate of 300 per hour (TCS). Most of these reports refer to passage, but the impression gained by most observers is that the numbers wintering are well above average this year.

Two **Song Thrushes** at Gladhouse on 27th November showed the white underparts and grey backs of the Continental race as well as being at a higher level than that at which British birds normally winter (DGA). Big movements were noted at Fair Isle from 6th to 22nd October, with peaks of 800 on 7th-8th and 300 on 19th-20th (RHD).

The first **Redwing** was seen in Unst on 2nd September (MS); two were on Fair Isle on 13th (RHD); and six were seen at Bridge of Orchy, Argyllshire, on 22nd (ADKR). The first big flocks arrived in Shetland on 29th (RJT), when 500 were on Fair Isle (RHD). On 1st October there were 600 on Out Skerries (RJT), over 600 on Fair Isle (RHD), and 200 at Fife Ness (DWO); and on 2nd Fair Isle numbers had doubled to 1200 (RHD), the first was seen in Lewis (WMn), parties were migrating in the Moorfoots (WB), and 80 had reached Yetholm (RSB). Fair Isle had a peak of 2500 on 6th, 2000 on 7th-8th and 1000 on 10th (RHD). At Crosshill, Ayrshire, on 5th October some 500 were seen going south (RBT), and the same number were seen during the 9th at Yetholm (RSB). On 14th 400 were seen coming in off the sea at St Abb's Head (DIMW). In Shetland Redwings outnumbered Fieldfares on passage up to 16th October and thereafter the situation was reversed (RJT). Of over 2000 thrushes at Fife Ness on 6th October the majority were Redwings and, as was the case with the early Shetland arrivals, a good proportion were **Song Thrushes** (DWO). Good numbers of **Ring Ouzels** were seen in Shetland with the early thrush movements and again around 16th October (RJT), and there are also several reports for this period from further south. The scarcity of **Blackbirds** in their usual October numbers was noticeable both in Shetland and in Caithness (RHD, DMS, RJT).

A **Redstart** at Castlebay, Barra, on 16th October (MR), and a female **Black Redstart** at Fife Ness on 6th (DWO), were both well off their migratory routes.

Large numbers of **Robins** arrived on the east coast in the first half of October: after spectacular arrivals in Shetland, many were reported to be wintering (RJT). The main movements on Fair Isle were from 6th to 23rd October with a peak of 250 on 13th (RHD). At Fife Ness there were 12 on 1st October, 20 on 2nd, 40 on 6th and 100 on 13th (DWO). On 9th October there was one every few yards along the cliffs at Dunbar, making a total of about 50, most of them

singing (MFMM). Rather further east, at St Abb's Head, the maximum count was of 55 on 15th (DIMW).

Several **Blackcaps** were seen in October along with other migrants, the most off course being two females at Castlebay, Barra, on 16th (MR), and the biggest count 25 on 7th at Fair Isle, where the latest was seen on 8th November (RHD). The first birds which could be said to be wintering were a female at Colintraive, Argyllshire, on 21st November (MMR), and a male in the Castle grounds at Stornoway on 27th (IMM). A hen was in a garden at Roslin, Midlothian, from 25th December until at least 30th (ADKR). Three **Barred Warblers** were recorded in October: one in Lerwick, Shetland, from 3rd till 5th (DC), one on Fair Isle on 1st (RHD), and one at St Abb's Head on 17th (DIMW). A **Chiffchaff** was in Castle Woods, Stornoway, on 20th November (IMM, WMn, MFMM), and the last at Fair Isle the same day (RHD).

A large influx of **Goldcrests** took place on the east coast in late September and October. Some were reported from Tarbat Ness lighthouse, Easter Ross, each night from 24th to 28th September (per CGH), and a fairly large fall was noted in the second week of October at Scurdie Ness lighthouse, Angus (per GMC). Many arrived in Shetland during the first half of October (RJT), with 200 on 10th and 300 on 13th on Fair Isle (RHD), and counts at Fife Ness totalled 15 on 1st, 10 on 6th and 50 on 13th (DWO). Minimum figures at St Abb's Head were 75 on 14th, 130 on 15th, 60 on 17th and 50 on 19th (DIMW). An influx was also recorded at Wick on 15th and 16th (per DMS); at Dalmeny woods, West Lothian, on 16th (TCS); and at Barns Ness, East Lothian, on 15th, when ten were present (DIMW).

In Shetland three **Red-breasted Flycatchers** were seen in the first week of October: one in Yell, one in Lerwick and one in Unst (per RJT). One was at Fair Isle on 13th (RHD) and another at Fife Ness on 10th (PGTB).

A **Grey Wagtail** frequented Castle Woods, Stornoway, between 5th November and 16th December (JMM, IMM, WMn). Also in an unusual place, one was perched on the fountain in Princes Street Gardens, Edinburgh, on 13th September (DGA).

**Great Grey Shrike** records are very numerous, even considering that it is a conspicuous species and not all sightings may refer to different birds. They have been reported from the following counties:

Shetland—about 24 reported 6-22 Oct: up to 6, Unst, 15th-22nd (MS, FW); up to 5, Fetlar, 7th-16th (WO); at least 3-4, Whalsay, 8th-12th (J. Simpson); 2, Sumburgh, 6th (DC); 1, Yell, 6th (A. Gear) and 16th (RJT); 1, Collafirth, 7th and 16th (A. Nicolson); 1-2, Foula, 7th-11th (AMd).

Caithness—1 at Bilbster on 11 Oct (JARG); 1 at Loch Dhu on 8th; 1 at Wick on 15th; 1 at Tister on 29th (per DMS).

Sutherland—1 in outskirts of Dornoch on 3 Nov (DMcD).

Ross—1 between Inverpollly and Badagyle on 22 Oct (RNC); 1 near Garve on 10 Nov (ENH); 1 between Evanton and Dingwall on 2 Nov (CGH).

Inverness—1 catching insects between Eabost and Dunvegan, Skye, on 10 Oct (HSCH, KCRH); 1 at Boat of Garten in early Oct; 1 at Laggan Bridge throughout Nov; 1 at Dunachton, Kincaig, at end Nov and early Dec; 1 at Dulnain Bridge in late Dec (DNW); 1 at Torlundy, Fort William, on 25 Dec (RHD).

Perth—1 catching insects at Loch Rushy, near Callander, on 15 Oct (VEC); 1 at Killin on 30 Oct (VMT); 1 beside Loch Lubnaig on 11 Nov (EG); 1 seen to pursue Blue Tit at Aberfoyle on 26 Nov (PC, GTJ).

Aberdeen—1 in Old Aberdeen on 1 Dec (ADKR); 1 at Strachan, Banchory, on 16 Dec (AW).

Angus—1 at Airlie, Kirriemuir, on 22 Oct and 17 Nov (DAT); 1 at Montrose Basin on 17 Oct; 1 in Glensesk on 20 Oct and 2 on 23rd (GMC).

Fife—1 on Isle of May on 6th and 7 Oct (HAF); immature at Fife Ness on 8 Oct and adults on 14 Oct and 5 Nov (DWO).

Dunbarton—1 at Ardlui on 30 Oct (VMT); 1 at Endrick Mouth (on Stirlingshire border) on 23rd and 29 Oct (ETI, IM), 13 Nov (WKR), and, after disappearing for most of December, on 31 Dec (ETI, JM).

Midlothian—1 at Fountainhall, Stow, from 28 Oct to at least 20 Nov (HNM, AJS); 1 found dead beside parked cars in George Street, Edinburgh (though not necessarily having succumbed there), on 19 Nov (JG per WA); 1 at Rosslynlea reservoir on 20 Nov (EMS, RWJS); 1 in Dens Cleuch on 26 Nov (MAM), and 1 nearby at Threipmuir on 4 Dec (DJB, JADH); 1 seen to catch Brambling on Braid Hills on 4 Dec (HC).

Peebles—1 at Portmore Loch on 1 Jan 1967 (DD).

Berwick—1 at St Abb's Head on 15 Oct (DIMW).

Ayr—1 seen to kill Robin and skewer it on thorn bush at Dalrymple on 27 Nov (per GAR).

Kirkcudbright—1 near Dundrennan on 25 Oct (RB per JMD); 1 at Dalry on 22 Nov (GAF); 1 at Woodhall Loch on 4 Dec (WA, GAR, ADW).

Dumfries—1 at Drumlanrig Castle on 10 Nov (IF).

A migrant immature or female **Red-backed Shrike** was at Tynninghame on 16th October (TB, IBR, EMS, RWJS).

Towards the end of the year a new **Starling** roost was found at Broubster in Caithness. It was estimated that 50,000 birds were packed into an area of about 600 square yards in a small coniferous plantation (per DMS).

A **Hawfinch** was seen at Winchburgh, West Lothian, on 20th November (per IHJL). Also local and therefore worth recording, **Goldfinches** seen have been: four at the River Creed, Stornoway, on 27th November (IMM); six at Strachan, Aberdeenshire, on 9th December (NP); and 30 feeding on thistles in a garden in Aviemore, Inverness-shire, in late November and early December (DNW).

A few records of **Siskins** show some to have arrived with

the other migrants in the first half of October. Parties of 12 and upwards were to be seen in Shetland at that time (RJT), and Fair Isle had peaks of 58 on 7th and 45 on 13th (RHD), while at Fife Ness the maximum count was seven on 2nd (DWO). Also on 2nd, one was seen in Dalmeny Woods (TCS), and two were at Drummore Harbour, Wigtownshire (RCD). 25 were seen at St Abb's Head on 14th (DIMW), and ten were at Stormont Loch on 16th (VMT).

The number of **Twite** in the southwest during the autumn was much greater than usual. In Wigtownshire, 33 were seen at Piltanton Estuary on 12th November and 45 were in a turnip field beside Wigtown Merse on 18th December (RCD). In Ayrshire parties were larger with over 150 near Colmonell on 22nd November, and flocks of over 80 at Dunure on 29th November and at Bogside on 1st December, as well as many parties of up to 20 along the coast (GAR).

The first record of **Bullfinches** in Lewis is of a pair in Castle Woods, Stornoway, on 21st November (MFMM). Two males were seen in Shetland on 19th October (DC), and Fair Isle had at least one male (22nd-24th October) and one female (5th-9th November) of the Northern race (RHD). The only reports of **Crossbills** are of one at Fair Isle on 13th and 15th October (RHD), one at Fife Ness on 13th October (DWO), and four at Ford, Midlothian, from about 31st October until at least 16th December (CW).

As with winter thrushes, observers of **Bramblings** often report "large numbers" or "a good year" so that the more numerous the species becomes the fewer concrete figures there are to support the impression. Where numbers have been estimated this year they proved to be very large. The first in Shetland was an early female at Fair Isle from 7th to 9th August and odd birds were there from 27th August to 5th September. On 28th September there were 90 and on 29th at least 200 (RHD), when there were also 150 at Out Skerries (RJT). The big fall took place the following week, however, for on 7th October 400-500 were on Yell and over 1500 on Fair Isle, and flocks of 300-400 were seen in the islands during the rest of the month (RHD, RJT). The earliest further south was at Fife Ness on 2nd October and 150 were there on 6th (DWO). On 5th, 40 were seen going south at Crosshill, Ayrshire (RBT). Of the many flocks seen subsequently throughout the country the largest were: 400-500 near Heriot, Midlothian, on 5th November (WB); at least 300 at Yetholm Loch between 6th November and 26th December (RSB); at least 1000 near Hawick, Roxburghshire, on 16th November (WSM); about 500 and over 1000 in fields at Middleton Moor, Midlothian, on 20th November (WB); over 300 at Watten Mains, Caithness, on 24th November (JARG); 500-600 near Stane,

Shotts, Lanarkshire, on 11th December (RF, RWF); and at least 1000 at Dunbog, Fife, also on 11th December (TS per JW).

Good views were had of an immature **Ortolan Bunting** at Fife Ness on 14th October, and it was also heard to call on a few occasions (DWO). After the strong arrival at Fair Isle in September (4: 321), there are several reports of **Lapland Buntings** from elsewhere, including a few in Shetland during October (RJT). About 20 were seen near Tain, Easter Ross, on 17th December (CGH), and one was heard at Barns Ness on 15th October (DIMW). At Aberlady there were nine on 8th October (EMS, RWJS), five on 16th (IG, GTW), a male on 19th (MAM), three on 13th November (NE), and one on 19th (DGB).

Apart from a male which spent the summer on Foula (per RJT), the first **Snow Bunting** was one at Fair Isle on 11th September, and numbers on the island rose progressively thereafter, though maxima of 100-120 were less than usual (RHD). On Fetlar, Shetland, there were at least 50 by 16th (WO, RJT), and four were at Aberlady by 25th (JSO).

In Caithness two **Tree Sparrows** were at Gersta on 11th November and one was at Castletown on 4th December (per DMS). A large flock in a more normal area was of 200 on stubble between Silverknowes and Cramond, Midlothian, on 4th December (TCS).

*Earlier observations—before 1st August 1966*

A **Little Auk**, still in winter plumage, was seen flying out of Mid Yell Voe, Shetland, on the late date of 21st May. Also staying longer than usual into the summer was a **Redwing** flying up the Burn of Northdale on Fetlar, Shetland, on 28th May (KLF).

*General observations—behaviour*

Additional information has come to light on the habit of **Common Gulls** of nesting in trees (see 4: 324). In 1952 a nest was discovered 22 feet up in an oak tree beside Loch Tummel, its presence there perhaps being connected with the fact that the level of the loch had recently been raised and had swamped the sites previously used (RNC). A more recent record is of two nests found in the crowns of small Scots Pines at heights of eight and ten feet respectively near Evan-ton on 10th May 1966. Each contained three eggs which were being incubated. Local information suggested that this was a normal habit and that these nests tended to be more successful than those in the same colony on the ground which were subject to heavy predation (CGH).

A **Wren's** nest at an unusual height was found at Currie, Midlothian, on 29th June some 25 feet off the ground in a

Scots Pine. By 29th July there were young in the nest, and it contained no remains on 24th November, suggesting that the young had fledged (CPR).

On 23rd April a **Blackbird** was heard singing in a completely dark shed at Leith docks. A nest, which contained young on 12th August, was constructed at a height of 25-30 feet above the ground in another shed nearby (CPR).

#### Correction

Loch Shandra, where a Scaup was seen on 20th August (4: 315) is not in Perthshire but in Angus near Kirkton of Glenisla.

## Reviews

**Ireland's Birds: their Distribution and Migrations.** By Robert F. Rutledge. London, Witherby, 1966. Pp. xv + 207; map and 11 plates (16 photographs, one double-page). 21½ x 14 cm. 30/-.

It was as recently as 1954 that Irish ornithology was brought up to date by the publication of *The Birds of Ireland*, of which Major Rutledge was one of the three authors. This was the first general survey of Irish birds for over 50 years, and now after only 12 years the picture is again brought up to date (to the end of 1965) by the present work. It is a tribute to the amount of ornithological activity in Ireland that enough material has accumulated over this short period to justify a new publication. Much new information on migration has resulted from the opening of observatories on the islands of Copeland, Tory and Cape Clear—especially the last-named, which has revealed movements of seabirds on a scale quite unsuspected previously—and a great deal more is now known about the status and distribution of the breeding birds. These developments are all fully summarised in *Ireland's Birds*, which is illustrated with well selected habitat photographs and contains some excellent introductory sections on general and local topography and on migration.

This is a book which will be indispensable for any ornithologist visiting Ireland, but its value goes further than this and it will be of particular interest to Scottish ornithologists. The bird faunas of the two countries have much in common, and Ireland is an important wintering ground for many of the Scottish breeding birds, and also for many of the migrants which have passed through Scotland on their way from northern Europe. Many of the changes in status that have taken place in Ireland during the present century are closely paralleled in Scotland. Thus big increases have been recorded in almost all the breeding and wintering duck, and one feels some sympathy with the wildfowl counters at Lough Neagh who have to cope with such numbers as 4,000 Goldeneye, 14,000 Pochard and 25,000 Tufted Duck. The numbers of wintering Grey Lag Geese have decreased greatly over the past 25 years, due to the fact that virtually the whole of the Icelandic population is now remaining to winter in Scotland, and one could wish that Ireland would be equally generous in exporting in our direction some of the Pale-breasted Brent Geese that have shown such a gratifying increase in the past ten years. Our export to Ireland—the pair of Golden Eagles which first bred in Antrim in 1953 and which attracted some notoriety by continuing to bring Scottish blue hares to their eyrie—has unfortunately led to no permanent colonisation, and the last record of breeding was in 1960. Hen Harriers are continuing their recovery, but with the commoner birds

of prey it is the all-too-familiar story of a general decline. Wood Sandpiper, Spotted Redshank, Ruff, Little Gull and Black Tern are species which have all proved only recently to be regular on migration. As in Scotland, Great Black-backed, Lesser Black-backed and Herring Gulls have increased greatly, and the Collared Dove was well established and breeding in 15 counties by the end of 1964. Other breeding species which are increasing are Carrion Crow, Jay, Chough, Grasshopper Warbler, Chiffchaff, Pied Wagtail, Bullfinch and Tree Sparrow, while on the debit side Arctic Tern, Barn Owl, Ring Ouzel and Corn Bunting all show material decreases. Nightjar and Kingfisher, two species which have declined drastically in Scotland over the past 20 years, appear to be holding their own in Ireland although there is some recent evidence of local decrease on the part of the Kingfisher.

One may perhaps regret that the author did not devote more space to showing how these and other changes in status and distribution fit into the wider pattern of current changes throughout western Europe as a whole, and one may query his decision to include no section on foreign distribution. These criticisms, however, need not deter us from giving a warm welcome to this latest and most valuable addition to the ornithological literature of our islands.

DOUGAL G. ANDREW.

**Birds of the Atlantic Islands. Vol. 3. A History of the Birds of the Azores.** By David A. and W. Mary Bannerman. Illustrated by D. M. Reid-Henry, G. E. Lodge, C. F. Tunnicliffe and others. Edinburgh and London, Oliver & Boyd, 1966. Pp. xix + 262; 20 plates (7 in colour) of 6 paintings and 23 photographs (2 in colour), 54 line drawings and 8 maps. 26½ x 18½ cm. 84/-.

Detailed reviews of the two earlier volumes in this series were published in *Scottish Birds* 3: 45; 4: 259. One marvels at the prodigious output of fine bird books from Dr Bannerman and at the energy of his field excursions at the age of 80. This latest volume is very much in the best Bannerman tradition. In place of the dry abbreviated checklist that one must often accept for an area that has been ornithologically rather neglected, here is a spacious treatment that allows the author to give of his best.

It is the third volume in a series originally planned to fill two but now to be completed in four with an account of the birds of the Cape Verde Islands. Individual volumes for the different groups of islands are clearly an advantage and have enabled the author to work on his canvas expansively and to include extra background which might have been squeezed out. The layout is attractive and uncramped and in addition to the detailed accounts of the individual species there are chapters on local ornithological work and personalities as well as contributed articles on the various islands and many maps. Wisely Dr Bannerman continues to call on his friends to write on their particular subjects, and the result is a better book.

The new coloured plates by D. M. Reid-Henry are as acceptable as ever, but one cannot feel the same enthusiasm for the inclusion of plates by George Lodge that have already appeared in *The Birds of the British Isles*. Doubtless this makes it economically possible to illustrate the work in colour, and probably it will be perfectly satisfactory for readers in the Azores, but many people who buy the book may feel slightly aggrieved, especially as there seems to be no indication that these are not new illustrations. Without the same reservations one notes also that many of the attractive vignettes which add a lightness to the text pages have already appeared in one or both the previous volumes in the series.



Birdwatchers visiting the Azores must obviously have this book, but they will still be few in number. Most of us will buy it for other reasons, some for reference and interest and others because it is a real pleasure to own and to handle. Let us not forget that this is a Scottish book—written, printed and published in Scotland. We should be grateful that Edinburgh is still producing work of this quality. It cannot be said too often that Oliver & Boyd have done a magnificent job on this as on all the earlier Bannerman volumes they have published since the war.

ANDREW T. MACMILLAN.

**Population Studies of Birds.** By David Lack. Oxford, Clarendon Press (Oxford University Press), 1966. Pp. v + 341; one plate, 31 line drawings, 31 text figures and 50 tables. 23½ x 15½ cm. 63/-.

Many ornithologists and ecologists will have been eagerly awaiting the publication of Dr Lack's latest book. It is a sequel to his earlier work on *The Natural Regulation of Animal Numbers*, published in 1954, and is a critical assessment of the ideas there put forward, in the light of the long-term studies of bird populations carried out since it was written. The book is therefore concerned with such problems as breeding seasons, clutch size, age of maturity, density-dependent mortality, and territory, in relation to the current and widely conflicting views of various workers on how animal numbers are determined in nature. Studies on 24 species are reviewed, including familiar birds such as tits, owls, Wood-pigeon and Blackbird. The work of Scottish ornithologists figures prominently, particularly their studies of Red Grouse and Ptarmigan.

The value of this book lies not only in its being a standard reference on bird population studies, but also in its review, in an appendix, of the theoretical controversies concerning animal populations. In this, Lack summarises the main points of his earlier book, chapter by chapter, and then discusses density-dependent regulation, the attack on density-dependence and, lastly, animal dispersion.

He suggests that in evaluating these population studies the reader should keep in mind three divergent theories of population dynamics. The first is based on the assumption that animal populations are normally in a state of balance and that, though they fluctuate, they do so in a more or less stable and restricted manner. This situation can be brought about only through density-dependent factors which tend to depress the population at high densities and to increase it at low densities. The chief factors influencing numbers which might vary in a density-dependent way are the reproductive rate, the mortality due to food shortage, predation or disease, and self-regulating behaviour such as territorial fighting.

On the second theory density-dependent control is held to be quite unimportant in nature, and most animal populations are considered to fluctuate irregularly in numbers from year to year through factors, notably those linked with climate, which act independently of density.

On the third view, developed comprehensively by Wynne-Edwards, the concept of density-dependent regulation is accepted, and food shortage is considered to be the ultimate factor limiting numbers; but animals normally regulate their own density far below the potential upper limit set by food, because through group-selection they have evolved both dispersive behaviour and restraints on reproduction.

Lack maintains the first theory, combined with the view, developed especially for birds, that the reproductive rate (in particular, the number of eggs in the clutch) has been evolved through natural selection to correspond with the number which, on average, gives rise to the great-

est number of surviving offspring. Since clutch size varies little with population density, the main regulation of numbers must be brought about by density-dependent variations in mortality; and in wild birds the commonest density-dependent mortality factor is food shortage. Lack points out, however, that the effects of food shortage may be greatly modified by movements, local as well as long-distance.

This is a scientific book more likely to appeal to the research worker and student, to whom it will become a standard work, than to the amateur, who may find it a little heavy. However, I recommend it to the amateur, with the advice that if he reads it carefully future reflections on nature will prove more rewarding.

D. H. MILLS.

**The Shell Bird Book.** By James Fisher. London, Ebury Press and Michael Joseph, 1966. Pp. 344; 20 colour plates, numerous text figures and illustrations; endpaper maps, 19½ x 12½ cm. 25/-.

This is not an easy book to review. Following, as it does, a run of Shell nature publications of wide 'popular' appeal one not unnaturally expects to find *The Shell Bird Book* somewhat similar in outlook. It comes as rather a surprise, therefore, to find that the emphasis is very much on the historical aspects of ornithology.

In his preface James Fisher says that he felt it was time to write an essay on fossil birds and also to analyse the birds of mediaeval times. He has done both these things and also reviewed birds in literature and ornithologists through the ages in the historical section which occupies one third of the book (chapters 1, 2, 8, 9 and 10). There is an impressive amount of information crammed into this section—so much, in fact, that at times readability tends to be sacrificed for the sake of detail. This assembling of historical facts is obviously invaluable for reference purposes but one wonders if a 'popular' book is really the most suitable place for such detailed essays as these.

Migration, protection, bird-gardening, song and "the peculiarity of British birds"—subjects likely to be of great interest to many readers—receive by comparison only sketchy treatment in a further 100 pages. The final third of the book comprises a detailed guide to birdwatching areas, societies and publications and a complete list of British birds, with brief indications of present status and a note of the earliest known records. The small colour plates by Eric Ennion are unusual and attractive but the portraits of bearded birdwatchers, which outnumber the bird studies in black-and-white, do little to enliven the text.

The reviewer was left with an impression of lack of balance in this book. Most of the author's interest and attention seem centred on the historical aspects of his subject and his treatment of more recent topics is less comprehensive than usual for a James Fisher book.

VALERIE M. THOM.

**Shell Nature Lovers' Atlas of England, Scotland & Wales.** By James Fisher. London, Ebury Press and Michael Joseph, 1966. Pp. 16 + 32 un. + 32 pp. coloured maps. 21½ x 14 cm. 7/6.

At last! A guide, with maps, to places in Britain (about 700 of them) of interest to naturalists of all sorts, and not an atlas of great weight and cost but a low-priced pocket-sized compendium containing a maximum of information in a minimum of space. The 32 sectional maps of Britain, mostly 12 miles to 1 inch, drawn by John R. Flower, are over-printed with the National Grid, main roads and towns and 15 different symbols (the larger areas defined by grey tint) representing the different types of areas under some form of protection, from National Parks,

Forest Parks and Nature Reserves to smaller local reserves and sanctuaries or areas of specific interest to the botanist and birdwatcher; also selected archaeological and geological sites, and many zoos, aquaria and botanic gardens. The maps are interleaved with the text notes describing the essential features of each site. The whole is prefaced by an index and four pages of addresses of organisations responsible for or connected with the areas in the atlas.

No small task for one man to compile such an atlas, but who better to undertake it than James Fisher, whose interests cover every branch of natural history, and who, to quote the small print on the inside cover, "has pursued his hobby and profession in every county of England, Scotland and Wales, has seen every island in the United Kingdom and landed on most." Nor has he placed dry paragraphs from official publications in the limited space for the description of each site. As one would expect, the notes have an individual touch and a number of Fisherisms; and it is right and proper that the author should wax lyrical about the Yorkshire Dales "...loved alike by hard-headed farmers, adventurous pot-holers, tender artists and dedicated naturalists." There is, understandably, a slight bias towards ornithology, but it is up to the botanists of Orkney, and others, to notify any omissions to Mr Fisher, who welcomes suggestions or corrections for future editions.

Taking a closer, critical look at the maps and the text: the best points are that (1) the concise details about each site are always on the page opposite the relevant map, and (2) the decimal reference system allows for insertion of later additions, and is easy to use in all directions between map, text and index. Inevitably there are several small misprints, but also a couple of premature Nature Reserves; and some confusion (but one hopes no ill feeling) may arise from the inclusion of proposed conservation areas or reserves, using the same symbols as for established sites. Inevitably too, some omissions: where are White Coomb and the Grey Mare's Tail? The system of grid lines on the maps and grid references should suffice for anyone with one-inch maps, but the lack of road numbering necessitates constant reference to other maps. The grey tint sometimes obscures underlying detail, and is confusing in representing several different types of area, especially on map 18 where two small grey Nature Reserve blobs overlie a large grey blob comprising mixed National Park, Area of Outstanding Natural Beauty and suggested northward extension. Some users may have small quibbles over the classification of some sites. But these are all minor points which detract little from the main achievement, the production of this Atlas, for which there has long been a need, a need voiced by members of the public during both National Nature Weeks, and proved by present sales. Let us hope it has a long life, undergoing periodic moult into revised editions.

NANCY J. GORDON.

### Requests for Information

**Carrion and Hooded Crows.** David J. Heath, c/o Zoology Department, West Mains Road, Edinburgh 9, is making a study of relationships between these birds and of the reasons why the hybrid zone remains relatively narrow. He would particularly like to know of localities of interbreeding pairs and of any changes in the range of these two crows.

**Scar Rocks.** At the suggestion of the Rev. John M. McWilliam, the ornithological information on the Scar or Scare

Rocks, Luce Bay, Wigtownshire, is being brought up to date by John G. Young, The Nature Conservancy, Tadorna, Highlands Road, Caerlaverock, Dumfriesshire. He would be most grateful for any contributions, especially counts or estimates of the development of the Gannet colony and of other sea-bird numbers. Full acknowledgment will be given.

## The Scottish Ornithologists' Club

### SUMMER EXCURSIONS

#### Important Notes

1. Members may attend excursions of any Branch in addition to those arranged by the Branch they attend regularly.
2. Where transport is by private cars please inform the organisers if you can bring a car and how many spare seats are available. All petrol expenses will be shared.
3. Please inform the organiser in good time if you are prevented from attending an excursion where special hire of boats or buses is involved. Failure to turn up may mean you are asked to pay for the place to avoid additional expense for the rest of the party.
4. Please bring meals as indicated (in brackets) below.

#### ABERDEEN

For all excursions, please notify Miss F. Greig, 9 Ashgrove Road, Aberdeen (Tel. 40241, Ext. Old Aberdeen 342, 9 a.m. - 5 p.m.), one week in advance.

**Sunday 14th May.** BLACKHALL FOREST (subject to permission). Meet Blackhall main gate 10.30 a.m. (lunch and tea).

**Sunday 11th June.** DINNET LOCHS (lunch and tea).

**Sunday 10th September.** YTHAN ESTUARY AND LOCHS. Meet Culterty 10.30 a.m. (lunch).

**Sunday 29th October.** LOCH STRATHBEG. Leader: J. Edelsten (lunch).

#### AYR

**Saturday 22nd April.** CULZEAN CASTLE, MAYBOLE (by kind permission of the National Trust for Scotland). Leader: A. G. Stewart. Meet Wellington Square, Ayr, 2 p.m. or car park, Culzean Castle, 2.30 p.m. (tea).

**Saturdays 13th and 20th May.** HORSE ISLAND, ARDROSSAN (joint excursion with Scottish Wildlife Trust). Leaders: G. Fraser and T. Kay. Meet Wellington Square, Ayr, 1 p.m. or Ardrrossan Pier 2 p.m. (tea). Boat fare 5s. There will be a maximum of 11 passengers per excursion and members must contact A. G. Stewart, Branshuie, St Andrews Ave., Prestwick (Tel. 77113), at least seven days before the excursion.

**Saturday 3rd June** DRUMLANRIG CASTLE, THORNHILL, DUMFRIES (by kind permission of the Duke of Buccleuch). Leader: J. F. Young. Meet Wellington Square, Ayr, 1 p.m. or entrance to Queens Drive (near main road), Drumlanrig Castle, 2.30 p.m. (tea).

**Saturday 10th June** AILSA CRAIG, NEAR GIRVAN (joint excursion with Scottish Wildlife Trust). Leader: J. T. F. Swarbrick. Meet Wellington Square, Ayr, 9.30 a.m. or Girvan Harbour 10.30 a.m. (lunch and tea). Boat fare 12s 6d. There will be a maximum of 20 passengers and members should contact A. G. Stewart (address above) before 31st May.

**Sunday 10th September.** ABERLADY BAY NATURE RESERVE, EAST LOTHIAN. Leader: G. A. Richards. Meet Wellington Square, Ayr, 9 a.m. or Timber Bridge, Aberlady, 11.30 a.m. (lunch and tea).

**Sunday 17th September.** FAIRLIE FLATS. Leader: Miss J. Howie. Meet Wellington Square, Ayr, 10.30 a.m. or on road immediately in front of Hunterston Nuclear Power Station 11.30 a.m. (lunch).

#### DUMFRIES

**Sunday 7th May.** WILLIAMWATH BRIDGE AND LOCHMABEN LOCHS. Leader: W. Austin. Meet Ewart Library, Dumfries, 1.30 p.m.

**Sunday 4th June.** CASTLE POINT AND ROUGH ISLAND. Leader: J. K. R. Melrose. Meet Ewart Library, Dumfries, 1.30 p.m. (bring Wellingtons or boots).

**Sunday 2nd July.** LUCE BAY AND ISLE OF WHITHORN. Leader: Donald Watson. Meet Ewart Library 10 a.m. (lunch and tea).

**Sunday 20th August.** CAERLAVEROCK NATURE RESERVE (by kind permission of the Nature Conservancy). Leader: E. L. Roberts (Warden). Meet Ewart Library 1.30 p.m. (bring Wellingtons or boots).

#### DUNDEE

All excursions by private car, leaving the City Square, Dundee, at 9 a.m.

**Sunday 2nd April.** FORFAR/RESCOBIE LOCHS.

**Sunday 30th April.** FIFE NESS AND KILCONQUHAR LOCH.

**Sunday 28th May.** GLENESK.

**Sunday 25th June.** ISLE OF MAY. Numbers limited to 12. Details will be sent to applicants.

**Sunday 16th July.** LOCH BEN-A-CHALLY.

**Sunday 20th August.** MORTON LOCHS AND SHELLEY POINT.

**Sunday 17th September.** SCURDYNESS AND MONTROSE BASIN.

#### EDINBURGH

**Saturday 8th April.** ABERLADY BAY NATURE RESERVE (spring migrants). Leader: C. K. Mylne. Meet Timber Bridge 2.30 p.m. (tea).

**Saturday 13th May.** WESTWATER RESERVOIR, WEST LINTON (subject to permission). Afternoon excursion. Applications by 6th May to W. Brotherton, 22 Rutland Square, Edinburgh 1, who will supply details of time and meeting place (tea).

**Sunday 28th May.** THE HIRSEL, COLDSTREAM (by kind permission of Sir Alec Douglas Home). Excursion by private cars. Applications by 20th May to J. A. Stewart, 109 Greenbank Crescent, Edinburgh 10 (Tel. MOR 4210), stating number of seats required or available. Cars leave Edinburgh from square behind National Gallery 10.30 a.m. for Hirsell at 12 noon (lunch and tea).

**Saturday 17th June.** ISLE OF MAY (numbers limited to 12). Private cars. Applications by 10th June to Alastair Macdonald, Hadley Court, Haddington (Tel. 3204), stating number of seats required or available. Party meets and sails from West Pier, Anstruther, 11 a.m. prompt. Cost of boat about 12s 6d (lunch and tea).

**Saturday 15th July.** BASS ROCK (by kind permission of Sir Hew Hamilton Dalrymple). Numbers limited. Applications by 8th July to Miss O. T. Thompson, 3a Falcon Road West, Edinburgh 10 (Tel. 031-447 1637). Boat leaves North Berwick Harbour 2.30 p.m. returning about 7 p.m. Tickets, about 10s 6d, will be purchased on the boat (tea). If weather is unsuitable for landing an alternative excursion from North Berwick will be arranged.

**Saturday 23rd September.** ABERLADY BAY NATURE RESERVE (autumn migrants). Leader: K. S. Macgregor. Arrangements as for 8th April.

### GLASGOW

**Saturday 24th June.** BASS ROCK (by kind permission of Sir Hew Hamilton Dalrymple). Leader: G. L. A. Patrick. Applications by 10th June to Mrs J. B. Hutchison, 27 Northbank Road, Kirkintilloch, by Glasgow (Tel. Kirkintilloch 1464). Boat leaves North Berwick Harbour 1.30 p.m., returning about 7 p.m. Tickets (approx. 12s 6d) must be purchased at Harbour Office before embarking (lunch and tea). If weather is unsuitable for landing an alternative excursion from North Berwick will be arranged.

Owing to growing lack of support over the past few years no excursions have been arranged for 1967 to either Little Cumbrae or Horse Island.

### INVERNESS

Excursions Secretary: David Gardiner, 15 Grigor Drive, Inverness. Picnic flasks for all excursions except 14th June.

**Saturday 6th May.** FALLS OF DIVACH, LEWISTON, DRUMNADROCHIT. Leader: David Gardiner. Meet Ness Bank Church, Island Bank Road, Inverness, 2 p.m.

**Sunday 14th May.** CULACHY, FORT AUGUSTUS. Lea McNally, well known Gamekeeper/Naturalist, will be leader over Culachy Estate. Meet Station Square, Inverness, 10 a.m. (this excursion will be confirmed by local circular).

**Friday 19th to Monday 22nd May.** THURSO. Joint weekend with Thurso Group, whose Secretary, David Stark, will arrange day excursions to Caithness sea cliffs. Hotel accommodation and times of departure from Inverness to be arranged.

**Sunday 4th June.** LOCH AFFRIC (by kind permission of the Forestry Commission and Mr Iain Wotherspoon, Glen Affric Lodge). Leader: James MacGeoch. Meet Station Square, Inverness, 10 a.m.

**Saturday 10th June.** BLACK ISLE FORESTS (by kind permission of Mr H. A. Maxwell, Branch Chairman, who will also be leader). Meet Ness Bank Church 2 p.m. or North Kessock 2.30 p.m.

**Wednesday 14th June.** STRATHNAIRN LOCHS. Leader: David Gardiner. Meet Ness Bank Church 7 p.m.

**Sunday 25th June.** BEINN EIGHE NATURE RESERVE (by kind permission of the Nature Conservancy). Leader: Reserve Warden Dick Balharry. Meet Station Square, Inverness, 9 a.m.

### ST ANDREWS

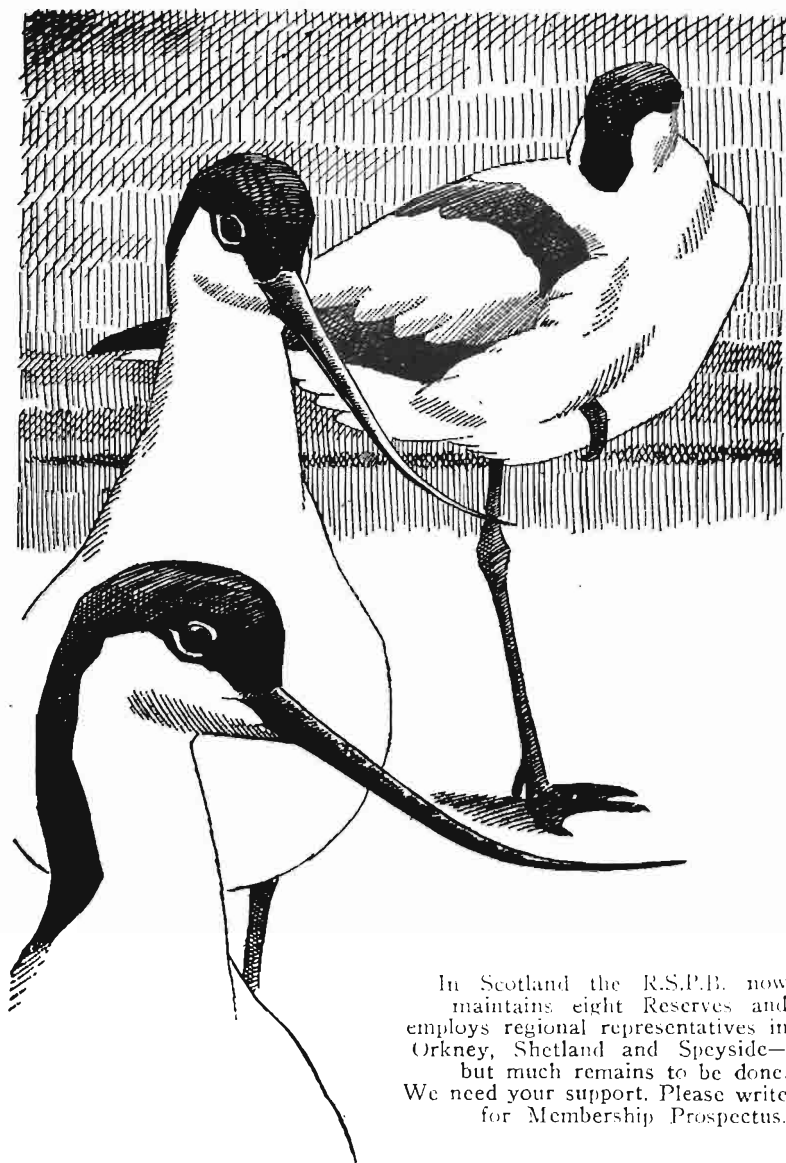
Applications, not later than one week before each excursion, to Miss M. M. Spiers, 4 Kinburn Place, St Andrews (tel 523).

**Saturday 20th May.** KILCONQUHAR LOCH (by kind permission of Elic Estates). Meet North Lodge 2.30 p.m. (tea).

**Sunday 4th June.** AN ANGUS GLEN (provisionally Glen Doll). Cars leave St Andrews Bus Station 9 a.m. (lunch and tea).

**Sunday 11th June.** ST SERF'S ISLAND (subject to permission from Kinross Estates). Boats leave the Sluices, Scotlandswell, 11 a.m. (lunch and tea).

**Saturday 17th June.** TENTSMUIR. Cars leave St Andrews Bus Station 2 p.m. (tea).



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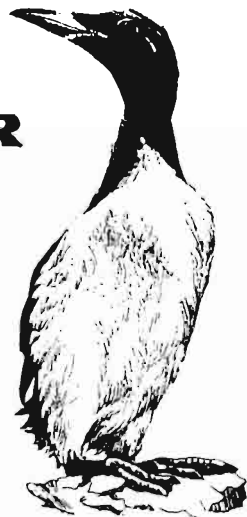
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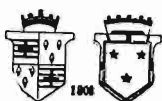
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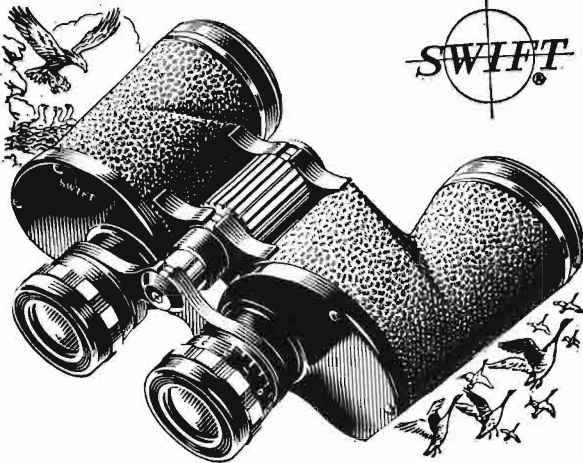


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