

ISSN 0036-9144

SCOTTISH BIRDS



THE JOURNAL OF THE
SCOTTISH ORNITHOLOGISTS' CLUB

Vol 13 No. 6

Summer 1985

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THE JOURNAL OF THE SCOTTISH ORNITHOLOGISTS' CLUB



Volume 13 No. 6

Summer 1985

Edited by V. M. Thom, assisted by S. R. D. da Prato
and R. W. Furness

Editorial

WE offer our congratulations to The Scottish Wildlife Trust on the occasion of its 21st Anniversary, and hope that its work for conservation in Scotland will continue to expand and flourish. The recent death of Sir Charles Connell (see p. 185), who was the driving force behind the Trust for so many of its formative years, adds a touch of sadness to this otherwise happy occasion.

Inflation !

On p. 200 there is an important announcement, reminding members of the increase in subscription rates which comes into force shortly. Please read this carefully and **ACT NOW**, so that the need for subsequent reminders to individuals—with consequent administrative costs—is kept to a minimum.

For your subscription you will receive in future the two separate publications referred to in the last number of this Journal. Members will also be entitled to a pre-publication offer of "Birds in Scotland", now in the hands of the publisher (to the very considerable relief of the writer !). The official launch of the book, exactly 50 years since half a dozen keen birdwatchers got together and decided to form a club for Scottish ornithologists, will be the first major event in our Golden Jubilee programme. Watch this column for news of other plans, which will include Branch events, conferences and a variety of smaller innovations.

Remember—entries for the Photographic Competition must be in by the end of September.

The Current Status and Distribution of Terns in the Outer Hebrides

NIGEL E. BUXTON

The survey reported here shows that, although average colony size is small, many more terns than previously realised breed in the Western Isles.

Terns form an important component of the seabird fauna of the Outer Hebrides, especially on the main islands. Whilst the Arctic Tern has long been considered to be the most numerous tern in the Outer Hebrides, the relative distribution and numbers of Arctic Terns, Common Terns and Little Terns has been the subject of debate (Harvie Brown and Buckley 1888, Harvie Brown 1902-03, Lloyd *et al* 1975, Sharrock 1976, Bourne and Harris 1979, J. W. Campbell *in litt.*). The most complete previous survey was that carried out during "Operation Seafarer" (Cramp *et al* 1974), but casual observations ten years later suggested that numbers of all three species were far greater than estimated at that time. A census of the tern colonies in the Outer Hebrides was therefore made throughout June 1980.

Methods

Most known colonies, including offshore islands, were visited at least once during the census period. New colonies were traced by following the flight lines of feeding birds. Only a few colonies, mainly on small islands in Lewis and Harris, were accessible or discrete enough to be assessed by counting the nests; the sizes of the remainder had to be estimated from the number of flying birds (n). In colonies where nests were counted it appeared that flying birds corresponded to approximately two thirds of all nesting birds. A similar situation occurred in Orkney colonies (Bullock and Gomersall 1981). Consequently, in these colonies the numbers of pairs present were estimated as between $n/2$ and $3/2 \times n/2$. In the few colonies where it was not possible to differentiate between Arctic and Common Terns, the birds were referred to as "Commic" Terns.

Results

Arctic Tern About 2,000 pairs were estimated to be nesting at the colonies visited, with the majority in Lewis, North Uist and the Sound of Harris (Fig 1, Table 1). The total in the Sound

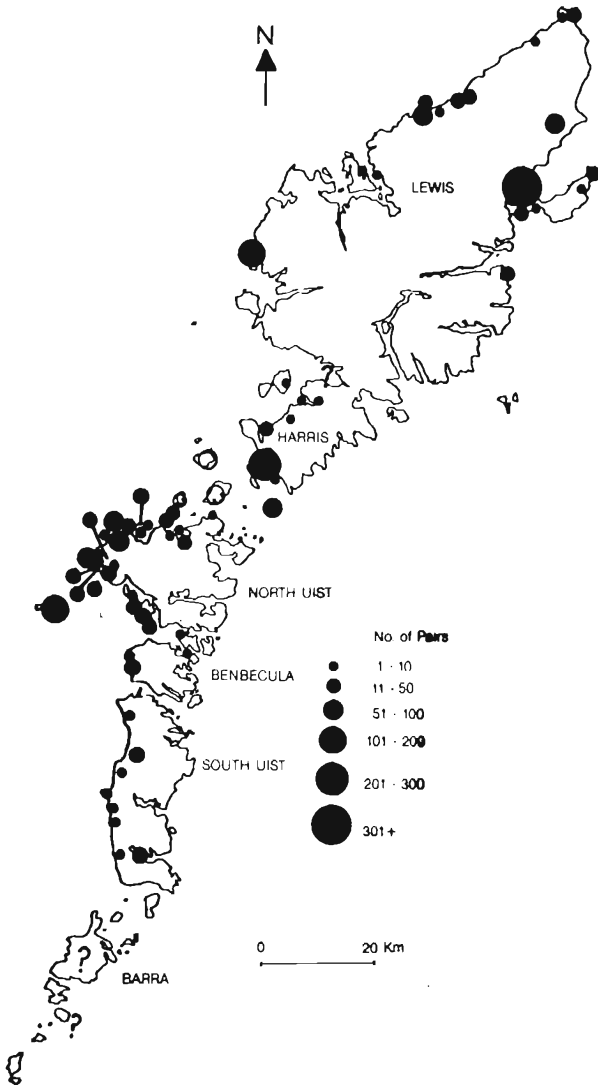


Fig. 1. Localities where Arctic Terns were known to breed in 1980. (Several colonies undoubtedly remain undiscovered). Open circles refer to known colonies which were not visited in 1980.

of Harris was almost certainly underestimated since Berneray, Boreray and Pabbay were not visited. These islands have all supported good-sized colonies in previous years; over 50 pairs on Berneray and 40 pairs on Boreray in 1979 (C. Spray, pers. comm.) and 75 on Pabbay in 1974 (Coxon *in litt.*). With others in Barra and its islands e.g. Sandray, the total for the Outer Hebrides is probably in excess of 2,300 pairs.

Except in Lewis and the Sound of Harris, colony size was small, generally less than 20 pairs and often only 1-4 pairs. In the Southern Isles the colonies were distributed mainly along the west coast, but in Lewis, where the west coast colonies were not as numerous as further south, substantial numbers occurred on the east coast. Even the largest colonies in Lewis were small in comparison to those of Orkney (Lloyd *et al* 1975, Sharrock 1976, Bullock and Gomersall 1981). The biggest colony, comprising almost 450 pairs, was at Melbost Sands in eastern Lewis, whilst the only other colony of over 200 pairs was on the island of Suem in the Sound of Harris.

Arctic Terns generally nested close to the sea (normally within 0.5 km), usually amongst the low dunes or on shingle beaches. A notable exception was the colony of almost 100 pairs nesting on islands in Loch Sgeireach Mor and adjacent moorland in north Lewis, about 4 km from the sea. This was a most atypical site, resembling those used by many Common Terns in Lewis. In west Lewis some birds also nested on the short maritime heath of cliff tops, whilst in the Uists small colonies bred well into the machair.

Common Tern This species was far more abundant than suggested by Operation Seafarer (Cramp *et al* 1974) with almost 600 pairs counted (Fig 2, Table 1). Most birds occurred in Lewis, with five colonies of at least 40 pairs. In South Uist this was the most abundant tern, although the colonies were not as large as further north, most being less than 15 pairs. Colonies in the Southern Isles tended to be either coastal or on islands in machair lochs close to the coast; few (3) were on islands in moorland lochs. In contrast, the last was the main habitat in Lewis, often at a considerable distance from the sea (2.0 - 5.0 km). Thus four of the eight colonies in Lewis (85% of the pairs) were nesting on stone or peat islands covered with either grass or thick tussocky heather.

Since most colonies were small, it was normally possible to determine whether a colony was a single species one or not. Of those identified to species, only 16 (15%) were observed to contain both Arctic and Common Terns, probably because of the preference of the latter for nesting by freshwater. Throughout most of the main centres of distribution in the

Table 1 Estimated numbers of terns breeding in Outer Hebrides in 1980

	Arctic Tern			Common Tern			"Commic" Tern"	Little Tern		
	No. of pairs	No. of colonies	Range in colony size	No. of pairs	No. of colonies	Range in colony size	No. of pairs	No. of pairs	No. of colonies	Range in colony size
Lewis	830-949	18	1-448	299-301+	8	1-96		9-17	2	5-15
Harris	50-67	5	2-45	15- 20	1	—		5-7	3	1-4
Sound of Harris	336	4	2-225	75	1	—		?		
North Uist	434-537	39	1- 76	20- 24	8	1-5	16-19	25-33	7	1-10
Monach Isles	94-126+	3*		2- 3+	1*		0	40-50	1*	
Benbecula	19-26	4	2-15	8	4	1-3	0	6+	2	1-5
South Uist	73-75	9	1-43	156-157	15	2-39	3+	6+	4*	
Barra					?		170+	12+	1	12
North Rona	3	3		0				0		
Shiant Isles	0			0				0		
Flannan Isles			no data							
St Kilda	0			0				0		
Total	1839-2119	85	1-448	575-588	38	1-96	189-192	103-131	20	—

*Incomplete data

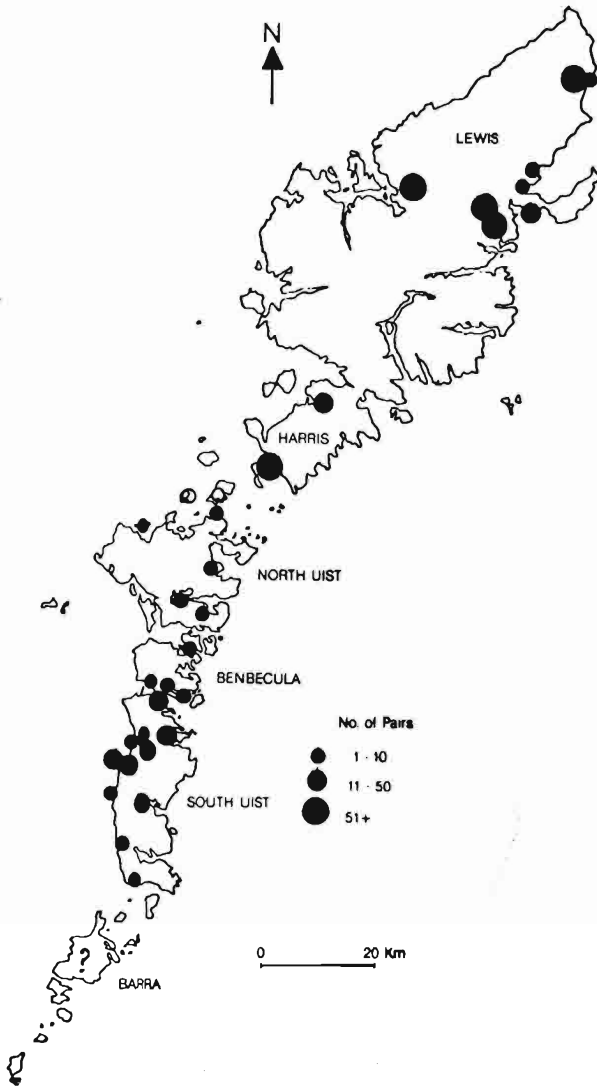


Fig. 2. Localities where Common Terns were known to breed in 1980. Open circles refer to known colonies not visited in 1980.

Outer Hebrides the ratio of Arctic to Common Terns was about 3:1, except in North Uist where Arctic Terns dominated (22:1) and South Uist where Common Terns dominated (0.5:1).

Little Tern Most colonies were small (less than 10 pairs) and scattered in suitable localities down the west coasts, although

pairs occurred on both sand and shingle in eastern Lewis and birds were seen flying off eastern South Uist. The population was estimated at approximately 100-130 pairs, but since Pabbay and Berneray almost certainly held uncounted pairs the total may be nearer 150 pairs. On the main islands the largest numbers occurred in North Uist, but the largest single colony of 40-50 pairs was on the Monach Isles National Nature Reserve. In many cases the Little Terns nested amongst Arctic Terns, either on sandy beaches or on grassy shingle, but several nests were on cultivated machair.

Discussion

The Outer Hebrides were estimated to support in excess of 2,800 pairs of terns, comprising at least 2,000 pairs of Arctic Terns, 600 pairs of Common Terns and about 130 pairs of Little Terns. The considerable difference between the totals of Operation Seafarer (1,200 pairs Arctic Terns, 76 pairs Common Terns, 66 pairs Little Terns) and this survey is probably related to both the rapid fluctuations in numbers undergone by tern colonies (Bullock and Gomersall 1981) and, more importantly, the greater coverage of this survey. Throughout Britain Arctic Terns tend to be northerly species and Common Terns the southern one (Sharrock 1976), but no clear trend was apparent in the Outer Hebrides. Arctic Terns were most numerous in Lewis and relatively most abundant in North Uist, but whilst Common Terns too were most numerous in Lewis, they were relatively most abundant in South Uist. Common Terns tended to have less of a westerly component in their distribution and nested further from the sea around fresh water. Inland nesting by Arctic Terns is generally infrequent in Britain, but further north where this the only species it will nest by freshwater lochs, up rivers and in luxuriant vegetation (Cramp *et al* 1974).

None of the terns are under overall threat at present in the Outer Hebrides; the pressures tend to be local. The largest Arctic Tern colony at Melbost may suffer from the present work on the extension to Stornoway Airport, although the main breeding area has been separated from the work site by a purpose-built fence. This colony has already suffered badly from holidaymakers and motorbike "scrambling" in the dunes over the past few years. Over the last 20-30 years it built up to its 1980 level of 450 pairs, but in 1981 it suffered such severe disturbance that an initial 75% of the colony was rapidly abandoned, to be followed eventually by the remainder. Inland colonies of Common Terns are disturbed by fishermen and, if water levels are low enough to allow access, by vandals.

One colony in 1980 lost about 50% of the eggs to vandals who piled them in a heap in the centre. Thus, in these accessible colonies chick production tends to be low.

Many of the tern colonies are in close proximity to gulleries. Often pairs of Common Gulls and Black-headed Gulls nest amongst the terns, but it is the larger gulls, which have apparently increased over the past few decades (Bourne and Harris 1974), that probably take a severe toll of eggs and chicks, especially in disturbed areas.

Experience in other places, such as the Isle of May off the east coast of Scotland (Eggeling 1974), has shown how easy it is for an increasing population of gulls to displace terns from their traditional nesting sites. Even though the present population estimates show tern numbers in the Outer Hebrides to be considerably higher than previously thought, it is important that the situation should not be viewed with complacency.

Acknowledgments

I would like to thank the following for their invaluable help during the survey: C. Brown, D. Counsell, W. A. J. Cunningham, K. Fairclough, L. M. Gardiner, J. Gordon, M. P. Harris, P. Hill, M. Hodges, E. MacRae, D. A. MacCushie, P. S. Read, J. H. Roberts, C. Spray.

Summary

Over 2,800 pairs of terns nested in the Outer Hebrides in 1980. This total included about 2,000 pairs of Arctic Terns, 600 pairs of Common Terns and over 100 pairs of Little Terns. Colonies tended to be small, few comprising more than 50 pairs. The Arctic Terns were mainly distributed on the west coasts although the largest colony was on the east coast of Lewis. Common Terns, in contrast, were more easterly and often nested away from the sea around freshwater although mixed coastal colonies did occur.

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Nigel E. Buxton, Nature Conservancy Council,
4 Sand Street, Stornoway, Isle of Lewis.

Scavenging of salmon carcasses by birds

R. HEWSON

An insight into the 'peck order' among riverside scavengers.

Many salmon die in autumn after spawning in the headwaters of Scottish rivers, and it has been estimated that several thousand salmon carcasses are washed up along the river Dee in north-east Scotland. This represents a large supply of carrion for scavengers. To what extent is salmon carrion used by scavenging birds?

Study area and methods

Between 13 Nov. 1979 and 27 Jan. 1980 37 visits were made to a 2.4 km stretch of the right bank of the Dee 4 km above Banchory. On each visit salmon newly washed up were measured and weighed. Details were recorded of the extent of scavenging, of birds flushed at or near the carcass, and of tracks, droppings, pellets or feathers nearby. Carcasses were re-weighed subsequently and further scavenging described. A record was also kept of scavenging birds along the river.

Results

Available carrion Seventeen dead salmon were found on or near the river bank and 15 of these, which were accessible, were more closely examined. Some carcasses had been scavenged when first found and had probably been fed upon upstream before being washed down. The three carcasses found on 4 Dec. (Table 1) arrived after a considerable spate. Most carcasses were soon removed by a rise in the level of the river. Apart from a carcass present for 32 days (No. 8), and covered by ice and snow for part of that time, dead salmon were available to scavengers for about five days.

The average salmon carcass weighed 4.7 kg before scavenging and was 82 cm long. Three partly scavenged carcasses weighed 1.3 kg, 2.4 kg, and 2.7 kg respectively when first found.

Feeding on carrion Scavenging birds first removed the upper or both eyes from a salmon carcass. Next they fed upon the most accessible part, the gills, and then exploited holes made at the gills and extended those backwards along the spine. Carcass No. 3 lost 0.4 kg to scavengers, probably Great Black-backed Gulls *Larus marinus* in two days, mostly

Table 1. Scavenging of salmon carcasses

Serial no.	Date found	Weight (kg)	Length (cm)	Days av. to scavengers (max.)	Scavengers at carcass	Details amount scavenged
1	13 Nov. 79	1.3*	70	13	GBBG, crow	moderate
2	16 „ 79	3.4	78	10		
3	26 „ 79	5.2	89	10	GBBG	none when found; 0.4 kg by 28 Nov.
4	4 Dec. 79	2.4*	74	3	GBBG	
5	4 „ 79	5.3	95	3	GBBG	slight
6	4 „ 79	—	—	3	GBBG	moderate
7	7 „ 79	2.7*	73	3		one eye, gills
8	21 „ 79	5.0	96	32		eyes, gills—later more
9	27 „ 79	—	c.70	10	crow	mammal scavenged, fully scav. by 7.1.80
10	27 „ 79	—	—	3	GBBG, crow	almost fully scav.
11	31 „ 79	5.0	c.90	7	GBBG	much
12	9 Jan. 80	—	80-90	3	GBBG, crow	much
13	12 „ 80	—	—	2	GBBG	fully scavenged
14	27 „ 80	4.0	74	3	GBBG	eye, behind eye, spine
15	27 „ 80		89	3		moderate—gills on one side, 10 cm cavity backwards from head

*part scavenged when found

from a cavity 8-10 cm deep behind the gills. There was no further scavenging before the carcass was removed by a spate on 6 Dec. Carcasses Nos. 3, 6, 7, 8, 14 and 15 were scavenged in this way; No. 5 lost only an eye. Carcass No. 2 was the only one intact when found, and it was washed away before it could be examined.

Carcass No. 9 had been dragged 5 m from the water's edge by a mammal scavenger, probably Fox, which had removed the head. It was found, much rotted, when a Crow *Corvus corone* was flushed nearby and subsequent scavenging by shallow pits in the carcass was probably the work of crows. Crow tracks were found in the snow at the carcass which, after 10 days, was substantially scavenged, with the gut and all flesh removed and only the spine and skin remaining.

Six other carcasses were heavily scavenged. No. 1 weighed 1.3 kg when found, No. 4 had a cavity 10 cm in diameter behind the gills and through this, when further extended, the gut was removed, probably by Great Black-backed Gulls. Nos. 10, 12 and 13 were almost fully scavenged when they arrived but were further scavenged by Great Black-backed Gulls and Crows before being carried downstream within three days.

The scavengers Great Black-backed Gulls were seen at nine carcasses, Crows only at three (Table 1). Elsewhere on the Dee a Grey Heron *Ardea cinerea* was twice seen at a salmon carcass. Black-backs were the most frequently seen scavenger along the river (57 times) with Crows seen nine and Herons ten times. Herons may however have been fishing rather than scavenging.

There was a clear pecking order at the carcasses with adult Black-backs, which fed singly, dominant over sub-adults and immatures. Crows, subordinate to gulls, sometimes waited 1-2 m from scavenging gulls. Carcase No. 9 was scavenged largely by Crows, perhaps because gulls did not care to forage among the surrounding trees; perhaps also because the carcass was well rotted and easy to break into.

A Heron was twice dominant over Great Black-backed Gulls at a salmon carcass. On another occasion a Heron appeared to be trying to rob a Black-back of a piece of salmon carrion 20-25 cm long on which it was feeding at the water's edge. The Heron, perched 15 m downstream, flew up and landed within 2 m. As it did so the gull flew with its carrion to a boulder 4 m away and began to feed. The Heron then flew onto the boulder and as it did so the gull slipped into the water and swam or floated 10 m downstream into shallow water. It was again followed by the Heron which perched on a boulder nearby. The gull again set off downstream with the carrion drifting in front of it but after 50-60 m disturbance caused both birds to leave. Great Black-backed Gulls often perched alongside or just below rapids; at other times they flew along the river at 20-25 m in what might have been a search for salmon carcasses.

Discussion

Scavenging of salmon carcasses resembled in some ways the scavenging of lamb carcasses by birds in west Scotland. The most easily available food was taken first; eye and gills of salmon, eye and tongue of lambs (Hewson 1981a). Two-thirds of lamb carcasses were not scavenged beyond this. Lamb carcasses were plentiful and the supply was constantly replen-

ished during the peak of lambing. Salmon carcasses filled much the same role on the river bank. In both cases scavengers appeared to find it profitable to visit several carcasses for easily obtained food rather than to make inroads into the more solid flesh.

Great Black-backed Gulls fed alone upon sheep as upon salmon, often with crows in attendance at 1-2 m. They flew regularly over lambing areas at 20-25 m as if searching for carcasses. Buzzards *Buteo buteo* were dominant at mammal carcasses (in the absence of Golden Eagles *Aquila chrysaetos*) (Hewson 1981b) but were not seen at salmon carcasses. However Jenkins (1984) saw a Buzzard scavenging a salmon carcase on the Dee, and Mitchell (1984) refers to Buzzards feeding on salmon and other fish carrion at Loch Lomond.

Crows featured less as scavengers of salmon than of lambs and sheep, although the density of Crows in the Banchoy area (Picozzi 1975) is similar to that in west Scotland (Hewson & Leitch 1982). The likeliest explanation lies in the wide range of food available to Crows in north-east compared with west Scotland. Also competition between Crows and gulls along the banks of a river occurs in a more restricted area than on the open hillside and Crows are therefore less likely to be able to feed undisturbed.

On the Tweed between October and December, Cuthbert (1973) saw salmon carcasses being scavenged by Herring Gulls *Larus argentatus*, Lesser Black-backed Gulls *L. fuscus*, Black-headed Gulls *L. ridibundus*, Crows, and Rooks *C. frugilegus*. Surprisingly Great Black-backed Gulls were not seen scavenging.

Acknowledgments

I am grateful to Dr David Jenkins for his comments on the manuscript.

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Raymond Hewson, Blossom Cottage,
Aboyne, Aberdeenshire

Ornithological studies at Dundee University

J. J. D. GREENWOOD

The establishment in Dundee of an integrated Department of Biological Sciences, bringing together zoologists, botanists, and microbiologists, has provided great opportunities to ecologists and others whose interests span the traditional divisions of biology. Unfortunately, these opportunities have been simultaneously diminished by the steady reduction in university funding and the tendency for molecular biology to soak up more and more of the funds available for biological research. However, since 1978 we have maintained a small ornithological research programme, which has recently expanded, and which we plan to expand even further.

The core of the bird research in Dundee is a study of Blue and Great Tits in a small deciduous wood in the Carse of Gowrie. With 120 nest-boxes in the wood providing the breeding sites for almost all the tits in the wood, we have been able to monitor changes in numbers, immigration and reproductive rates, and a variety of aspects of breeding biology. Because they are by far the commoner, we have concentrated on the Blue Tits, a species about which less is known than about the Great Tit. However, there is no doubt that even our Great Tits do not behave in the same way as those in the well-studied populations in Oxford and The Netherlands. This is perhaps one good reason for our study. It is also valuable in ensuring that the participants, who otherwise have a tendency to do most of their research in the laboratory and computer-room, keep in touch with reality. But the main reason for the study is to provide a known population which we can use for experimental studies in evolutionary ecology.

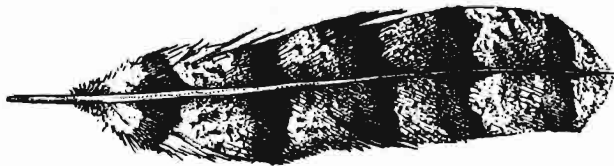
One study that we have just begun is into the inheritance of behavioural and morphological characteristics of Blue Tits. Theories in evolutionary ecology usually rest fundamentally on assumptions about the degree of heritability of various characters. However, there have been few measurements of heritability in wild populations and most of them may have been biased by the inclusion of non-genetic components in the estimates. We aim to remove some of the biases by exchanging chicks between nests: this will allow us to compare the degree of resemblance between offspring and their true parents with that between offspring and their foster parents,

the difference being a measure of the genetic relatedness of the offspring and their true parents. We also intend probing the genetic structure of the population more deeply by studying biochemical characteristics of the birds.

The other main area of bird research in Dundee is into feeding behaviour. It is generally true that the preference shown by birds and other animals for a particular type of food depends on how common that type is: if brown and green caterpillars are both available, the birds may take a disproportionate excess of the brown ones when they are commoner but a similarly disproportionate excess of the green ones when it is they that are the commoner. We have investigated this behaviour by exposing artificial pastry caterpillars on lawns to a variety of garden birds and have shown that both the absolute abundance of the prey and the relative frequencies of the two forms are important: if the prey are very abundant, for example, the effect of relative numbers is reversed—it is then the less common of the colours that tends to be preferred. By using artificial grass of various colours, we have been able to study the influence of background colour on preference, which is important in understanding the evolution of crypsis in prey populations. And by making some of the 'caterpillars' distasteful we have been able to carry out experiments relevant to the evolution of those insects that avoid predation by being distasteful and warningly-coloured. We plan to extend these experiments, using aviary birds to provide information on the detailed behaviour of the predators.

What of the future? If the funds are available—and that is a big 'if' for all scientists at present—we hope to carry out more experiments on the Blue Tit populations and more work on feeding behaviour, plus studies in applied ornithology, on the ecology of endangered species and on the effects of farming and forestry practices on bird populations.

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*Korymbus
tail f.*

Sir Charles Gibson Connell

J.P., F.R.S.E., W.S.

11 March 1899 - 16 February 1985

One of the many achievements that Charles Connell could have looked back on with quiet satisfaction was the fact that the first two pages of *Scottish Birds* (published in Autumn 1958) carried his foreword and his message of confidence in its future. Twenty-seven years later *Scottish Birds* is still very much alive, though we must sadly record his death and give thanks to the man who was so largely responsible for its birth.

As a young man Charles Connell was an active ornithologist and between 1924 and 1935 he published over a dozen notes in the *Scottish Naturalist* and other journals, of which the most memorable was the first breeding record for Black-necked Grebe in Scotland (at Cobbinshaw Reservoir in 1930). He was also one of the earliest observers to draw attention to the prevalence of grain in pellets cast by Herring Gulls in late summer, with the additional comment (which even now may merit further investigation) that the grain appeared to be quite undigested.

The First World War was still in progress when he left school, and the years 1917-19 were spent with the Royal Field Artillery, including active service in Salonika. After that it was natural and inevitable that he should join in partnership with his father, Sir Isaac Connell, who was the acknowledged expert in Scotland on agricultural law and with whom he collaborated in editing later editions of the standard textbook on this subject. Even an office in central Edinburgh can provide its distractions—especially one with windows looking out onto the east end of Queen Street Gardens—and in 1928 he published in the *Scottish Naturalist* a short note entitled "Bird Life in an Office Garden" which included records of Redstart, Cuckoo and Sandwich Tern. But for the next thirty years even Charles Connell's exceptional energies were absorbed totally by his Law practice and by his political activities. From 1938 to 1954 he was a joint Hon. Secretary of the Scottish Unionist Association, and from 1944 to 1945 he was its President. For these services he was knighted in 1952.

Now approaching his sixties, he found time to turn his undiminished energies back to his earlier interests. With the enormous post-war expansion of interest in all aspects of

natural history, the Scottish Ornithologists' Club had embarked on a rather anxious development programme, and it was the combination of George Waterston's enthusiasm and Charles Connell's business acumen that saw the Club through a difficult period, which included the establishment of the Scottish Centre for Ornithology at 21 Regent Terrace. There were many bold and far-reaching decisions to be taken. Charles took the full brunt of these during the years 1957-60, when he served as President of the Club, and those connected with him at the time will remember with admiration and gratitude how much the Club owes to his clear-sighted guidance.

But already this clear-sightedness was alerting Charles to broader and more pressing problems. In 1964 he was the moving spirit responsible for the formation of the Scottish Wildlife Trust, whose 21st anniversary year this is, and his remaining years were primarily devoted to the promotion of nature conservation in Scotland. We may hope that for many years to come this will remain as the finest possible monument to a man who was blessed with many talents and who never spared himself in putting these to the best use for the causes in which he believed.

If this makes Charles Connell sound a formidable man, it does not tell the whole story. He was fortunate, not merely in his talents but also, as so often is the case, in the retention of his full faculties until the very end of a long life. He was totally devoid of any conceit; he could make instant and easy contact with people of any age; his sense of humour, even in his eighties, was positively boyish and always ready to bubble over; to be with him was always stimulating and enormous fun. It is not only as a source of ever-reliable advice that he will be sorely missed.

DOUGAL G. ANDREW

Short Notes

Breeding by an Orkney Hen Harrier on the Scottish mainland

On 15th July 1984, JW found a Hen Harrier nest with two well-grown nestlings in a young conifer plantation at Ariundle near Strontian. The nest was attended by an aggressive hen with a tag in the right wing. NP was able to identify her from colour transparencies of the bird in flight because only one hen was marked with tags on which a particularly bright lime-green adhesive film, long since unavailable commercially,



PLATE 25. Sir Charles Connell, who was President of the SOC when the Scottish Centre for Ornithology was established in 1959 (see p. 185).
Scottish Wildlife Trust



PLATE 26. Arctic Tern: the most numerous tern in the Outer Hebrides. *W. S. Paton*

PLATE 27. Blue Tits: a major study species at Dundee University. *B. McKechnie*





PLATE 28. Peregrine at nest: a note on prey is on p. 191.

Dr E. C. Fellowes

PLATE 29. Carrion Crow nest on ground: see note on p. 188.

G. Rebecca





PLATE 30. A fine study of a male Merlin:
see note on p. 188.

Dr E. C. Fellowes

had been applied to a white plastic background. She was ringed by Eddie Balfour in Orkney as a nestling in 1974, caught and wing tagged by NP in Orkney in 1975 and found nesting there every year to the end of his study in 1981. The tag in the left wing had been lost by 1976. The hen reared young (3) only once, as a yearling in 1975 when she was paired with a yearling male 750 m from her natal territory. In the seven years 1975-81, the nest was never more than 3.5 km from the natal site. This fitted the general pattern of marked Orkney females breeding in Orkney, of first nesting within an average of 5.7 km ($n = 68$ hens) of the natal site. Subsequently, known hens which had nested one year did so the next within an average of 1.03 km ($n = 163$ hens) of the previous year's nest (Picozzi, 1984). JW's observation is interesting because it is the first recorded case of a bird known to have bred in Orkney which later left the islands and nested elsewhere (1300 km SW). It is of further interest because the hen was 10 years old in 1984, an age at which few hens reared young in Orkney (17% of 30 aged as 9 or more years old). We would be pleased to hear of any other sightings of wing tagged harriers on the mainland in the breeding season.

N. PICOZZI and J. WATSON

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A new breeding site for the Atlantic Gannet

The Atlantic Gannet is currently both increasing in numbers at established colonies (Nelson 1978, 1980) and founding new ones (Nelson 1978, Furness 1981). In the Western Isles gannetries are known on St Kilda (40,000+ pairs, Murray 1981), Sula Sgeir (9000 pairs in 1972, P. G. H. Evans *in litt.*) and the Flannan Isles. This latter colony was first noted in 1969 when 16 birds were present and breeding confirmed with 17 pairs (Dr P. G. Hopkins *in litt.*). In 1980 over 100 birds were estimated to be present (N. E. Buxton unpublished). In the main archipelago of the Western Isles Gannets continuously pass through the Sound of Harris during the breeding season, but only appear frequently inshore on the east coasts of the islands in late summer. Thus, although birds feed extensively in the Minch, there are no records of breeding there.

In 1982 a Gannet was noted sitting on a suitable nesting site on Eilean Mhuire, one of the Shiant Isles 8 km east of Lewis (R. V. Collier *in litt.*). Then in late April 1984 a Gannet was again seen on a ledge on the east coast of Eilean Mhuire (A. Miller Mundy pers. comm.). On the 9th May 1984 I visited the Shiant Islands and confirmed that a Gannet was occupying a ledge on a vertical cliff amongst a colony of Guillemots. There were no other Gannets in the vicinity, either on the land or at sea. By landing on the island and getting above the bird I was able to confirm, with the aid of binoculars, that it was sitting on a nest. Unfortunately it was not possible to see if the nest contained an egg, nor did it prove possible to return later in the season. This is the first confirmed record of Gannets nesting on the Shiant Isles.

N. E. BUXTON

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High density breeding and ground nesting of Carrion Crows

On 11 May 1982 J. A. Chapman and I found six occupied Carrion Crow nests on a 25ha heather-covered moss, with scattered birch scrub and Scots pines, near Newmachar, Aberdeenshire. The moss was surrounded partly by unimproved rough grazing and partly by cultivated fields. All the nests were in Scots pines and the contents ranged from eggs to half-grown young. Carrion Crows normally breed as solitary territory-holding pairs (eg Coombs 1978) and such close nesting appears to be rarely recorded, as the national average in 1972 was estimated to be 250 pairs per occupied 10km square (Sharrock 1976). Coombs (1978) considered the defended nesting territory within the home range to be 14-49ha per pair. At least six pairs in 25ha would therefore seem to be very unusual.

In early May 1984 I was informed by Mr R. Ingram, a local farmer, that he had found an unusual nest being built in a field of wheat c15cm high; the nest was subsequently completed and contained three eggs. I visited the site (near Newmachar) with Messrs R., A. & K. Ingram on 17 May, when two adult Carrion Crows were seen flying away from the area of the nest (confirming that neither bird was 'pricked'). The nest, that of a Carrion Crow, was situated c20m from a farm road and c80m from an unclassified road. It was sunk into the ground, had a few pieces of broom around the cup and a lining of sheep's wool, and contained two warm eggs. When next visited, on 4 June, it was empty. Ground nesting has been recorded occasionally in treeless areas (eg Bannerman 1953, Harrison 1975, Coombs 1978), the nest being in heather on islands or, rarely, in dunes. There has also been a recent case of ground nesting in a hayfield in Cheshire (Linn 1984).

There were unoccupied potential tree sites near the moss and the field. A possible explanation for this atypical nesting behaviour may be that local farmers regularly shoot crows and their nests. The moss was relatively undisturbed and a field of growing wheat would undoubtedly provide good cover.

GRAHAM W. REBECCA

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Merlin calling in autumn

On 16 October 1984, at 1500 GMT, my attention was drawn to a high-pitched, drawn-out, double-call "kee:kee" over the built-up area of Tynecastle, Edinburgh. I looked up to see a single Merlin of indeterminate sex flying at some height (30-40m), using winnowing wing-beats interspersed with glides. The bird repeated the double-call four or five

times as it gained height towards the north by flying in incomplete circles linked by gentle straight climbs. I saw no other birds in the vicinity to which the calling Merlin could have been reacting.

BWP describes as rare calls by this species outside the breeding season, and cites as the only example aerial displays and calling near a winter communal roost site. The Tynecastle bird was not at a roost site, nor is it likely that one was in the immediate neighbourhood; further, the bird was on its own so far as could be ascertained.

I thank Alan Heavisides for commenting on a draft of this note.

TOM DOUGALL

Disappearance of the Corn Bunting from South-east Sutherland

I refer to the interesting article by A. W. Brown et al (13: 107-111) regarding the status of the Corn Bunting in the Lothians. In my study of the species in the vicinity of Dornoch, SE Sutherland from 1957 to 1969 (1965) and (1970) the estimated population was about 30 pairs. The birds were restricted to a narrow coastal strip extending to about six miles and within that area they were confined to arable farmland mainly devoid of trees. Fifty one nests were found during that period.

The first indication of a decrease occurred in 1966 when only 15 singing males were located. There appeared to be little change until the early 1970s and single nests were found in 1970 and 1971. In 1972 the final crash came with startling suddenness when only a solitary male appeared. Single males were recorded again in 1973, 1974 and 1976 but from the last mentioned year I have no record of a Corn Bunting being recorded anywhere in east Sutherland.

The authors are mistaken in stating that the Corn Bunting has been relatively little studied by ornithologists. Numerous ornithologists have written about the species including particularly detailed studies by Walpole-Bond (1932), Ryves & Ryves (1934) and Robertson (1954), the last named stating, "... that its domestic life has been more deeply and skilfully probed than most."

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D. MACDONALD

Kittiwake movements in the Forth

On the 4th November 1984 I recorded a movement of Kittiwakes in the Forth similar to those reported in November 1973 and October 1974 (SB 8: 77-78 and 8: 324-325). The birds were observed at Inverkeithing Bay and were arriving in parties of c.100 to settle on the water for some five minutes before taking off again and rising to such a height that they were lost to sight over the railway bridge, making up river. The birds were silent on arriving but started calling on taking off again. Altogether

some 600-700 birds were seen in the space of an hour, after which no more birds arrived.

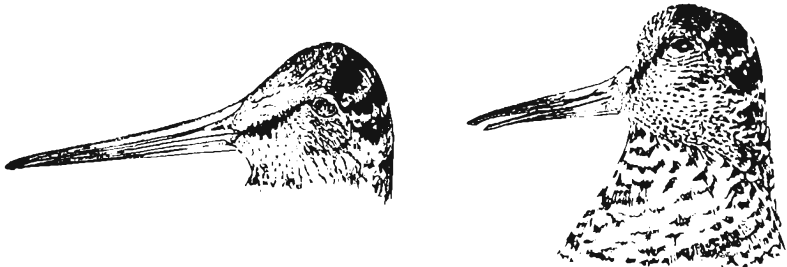
I was at the same spot on both the previous day and the following day but although a few Kittiwake were present no similar movement was taking place. The total number of birds appears to be substantially less than reported 10 years ago (estimated at 3000 to 4000), but it would be interesting to find out if other such movements have been seen, either this year or in other years. The weather on 4th November was dull with some drizzle and fairly low clouds—the Kittiwakes were rising to the height of the clouds so that they became invisible against them. During the observation at least 2 Little Gulls were associating with the Kittiwakes and an Arctic Skua was also in attendance.

A. D. INGLIS

Woodcock with abnormal bill

A Woodcock shot in South Uist in December 1984 was found to have an unusually short bill—48 mm long and some 22 mm shorter than the norm. *The Handbook of the Birds of Europe* states "Abnormally short bills recorded in several countries". This specimen, although normal in every other respect, may therefore be of interest to morphologists. William Neill of Askernish, South Uist, made the accompanying drawing of the bird alongside a normal Woodcock.

PETER CUNNINGHAM



Peregrine prey

On 16 July 1983, near a Peregrine nesting crag from which four young had flown between two and three weeks before, I saw the adult female bring in what turned out to be a live, recently-fledged Carrion Crow. When first seen by me, the crow was hanging limp and apparently lifeless from the Peregrine's talons. It was dumped on a knoll to which, a short time before, one of the young Peregrines had taken a pigeon received in a food pass from the adult female. First one and then a second young Peregrine landed on the knoll but seemed to pay the crow no attention, possibly because at that stage the Peregrines (adult and young) became aware of my presence. The crow then crawled out of sight into

the bracken but on my approach it flew off, apparently none the worse for wear.

On 26 May 1984 I checked a Peregrine eyrie which contained three chicks about 3-weeks old, an intact Red Grouse egg and a number of prey remains and feathers, none of which were grouse. Presumably a hen grouse on the point of laying had been brought to the eyrie and the egg came out when an adult Peregrine was cutting up the carcass. A less likely explanation is that one of the Peregrines had picked up a grouse egg from the ground.

PATRICK STIRLING-AIRD

Fieldwork Reports

Establishment of a cannon-netting operation in Orkney During 1984 the Orkney Ringing Group has been involved in assembling all the necessary equipment to set up a cannon-netting operation in Orkney. Initial difficulties were experienced in obtaining suitable netting and other items but these have been overcome and a mini-net (15m x 5m) is now ready for operation. The early part of 1985 will see the Group making a determined effort to catch a sample of the immensely important wader populations which winter in the islands (see 'The Shore-birds of Orkney' by the Tay and Orkney Ringing Groups), as well as a sample of wintering ducks and gulls.

E. R. MEEK

Status and breeding ecology of Merlin in Grampian This study was continued during 1984 mainly by ten SOC members. 24 pairs were located breeding, less than half of the 54 known or suspected breeding territories that were checked. At least 44 young reached the ringing stage, at approximately three weeks. The number of young and the number of pairs found breeding were the largest recorded in one season during the study. Known breeding failures were mainly caused by ground and avian predators; fox, Carrion Crow and Short-eared Owl were all suspected. The young in 4 broods were weighed and measured until they left the nest, as a continuation of previous work in attempting to establish reliable sexing of the young. Prey remains, pellets and unhatched eggs were collected for analysis. Interesting prey items found were ringed individuals of Domestic Pigeon and young Golden Plover, both rarely recorded previously, and two Small Tortoiseshell butterflies and a Brambling which had never been found in earlier years. The study will be continued during 1985, when it is hoped that every known and suspected breeding territory will be checked.

GRAHAM W. REBECCA

Survey of the shore-birds of the Orkney Islands In the winters of 1982/83 and 1983/84 the Tay and Orkney Ringing Groups carried out a survey of the shore-birds of the Orkney Islands. The birds on 650 km of the total Orkney shoreline of 800 km were counted, excluding cliff sections. The methods and results of the counts have been published in a report (Tay and Orkney Ringing Group, 1984) and an analysis of the factors

affecting the distribution of the waders within Orkney is under way. The counts have permitted a comparison with published results of the Birds of the Estuaries enquiry (Prater, 1981), and indicate the importance of the Orkney Islands, on a national and international scale, for a number of duck and wader species :

Species for which Orkney contains over 1% of W. European wintering population or over 1% of the British wintering populations.

Provisional figures in brackets

	1% W. European Wintering Pop.	1% British Wintering Pop.	Wintering Pop. on Orkney coast
Wigeon	4,000- 5,000	2,000	4,800
Oystercatcher	5,600- 7,500	2,300- 3,000	2,800
Ringed Plover	250- 400	120	1,600
Golden Plover	8,000-10,000	2,000	2,500
Turnstone	(500)	250	6,000
Purple Sandpiper	(500+)	180	5,600
Sanderling	150	100	860
Redshank	1,250- 2,000	1,000	8,900
Bar-t. Godwit	900-(5,000)	450	770
Curlew	2,000- 3,000	1,000	18,000

PRATER, A. J. 1981. *Estuary Birds of Britain and Ireland*. Poyser, Tay and Orkney Ringing Groups, 1984 ■ *The Shore-birds of the Orkney Islands*. Tay Ringing Ringing Group (copies at £2.50, available from M. Y. A. Martin, Flat 9, Upper Springland, Isla Road, Perth, Tayside).

M. W. A. MARTIN

Seabird ringing in the Firth of Forth 1984 During the 1984 breeding season visits were made by members of the Edinburgh Ringing Group to the Forth islands of Craigleith and Inchkeith to ring seabirds. Three visits in June, two to Craigleith and one to Inchkeith, resulted in 283 Puffins (83 adults, 200 nestlings), 151 Kittiwakes (29, 123), 227 Shags (63, 164), 30 Razorbills (15, 15) and 2 Guillemot chicks being ringed. In August, 122 Fulmars (120 nestlings) were ringed on Inchkeith. In total 816 seabirds were ringed and 48 birds that had been ringed during the previous 10 years were retrapped as breeding adults. Throughout the year we have continued to receive reports of birds ringed in earlier years. Of particular interest this year were six Shags ringed as nestlings in 1983 on Craigleith and found dead or dying in late January at inland sites : four were in the English Midlands, one in Cambridgeshire and one in Hertfordshire at Tring! We plan to continue to ring seabirds in the Forth, and, based on a pilot survey this year, we plan to begin to census certain species, in particular the Puffin.

IAN R. POXTON

(on behalf of Edinburgh Ringing Group)

Study of Merlins in the Lammermuirs, Pentlands and Moorfoots This was the first year of a co-ordinated study of breeding Merlins in the Lammermuirs, Pentlands and Moorfoots. The first year of such a study is always particularly difficult with few participants and potentially a very large area of ground to cover. Fortunately the RSPB survey of the previous year provided some very useful site and contacts information. Much time was spent talking to Keepers and Landowners particularly

in the Lammermuirs where the most complete coverage was achieved. The generally excellent weather made the task easier than it might have been and was certainly the cause of early egg laying at most sites. It is hoped to continue to monitor the breeding population of these upland areas in succeeding years.

Lammermuirs A total of 22 known, possible and 'new' sites were checked, most on several occasions. In addition several other likely ones were surveyed but no sign found. Some signs of early occupation were found at 15 sites of which 13 were known or strongly suspected to have young and 2 failed at the egg stage. 3 nests not found fledged 11 or 12 between them.

Pentlands A total of 8 known, possible or 'new' sites were checked, most on several occasions. In addition several other areas were surveyed but no sign found. Some signs of occupation were found at 6 sites but only 2 definitely reached the egg stage and only one of them reared 3 young.

Moorfoots 11 known sites were visited at least once. 2 nests were found and fledged respectively 2 and 3 young, 2 others almost certainly fledged an unknown number of young. Another site occupied mid April but not revisited, no signs of occupation were found at the other 6 sites. Several known sites within this area were not checked during the season.

A. HEAVISIDES

Raptor breeding performance in Morayshire 1984 was the ninth continuous year of this long-term study, which involves checking all known raptor nesting territories (presently over 140) in west Morayshire each spring for occupation, and completing nest record cards, ringing broods of young, collecting unhatched and deserted eggs for chemical analysis, and recording prey remains at those where breeding is attempted. The three species monitored are :

Buzzard New nests built at 21 territories, but one pair was poisoned with alpha chloralose and at another the nest tree was felled. However, 19 clutches were laid (av. clutch 3.11), and though one was later deserted, 18 broods totalling 54 young (av. brood 3.00) successfully fledged. This included a remarkable total of 6 broods each of 4 young.

Sparrowhawk 26 nests were built but failure to lay eggs (6) or desertion of incomplete clutch (2) resulted in only 18 full clutches being laid and incubated (av. completed clutch 4.69). Two nests failed during incubation; the remaining 16 were all successful and fledged 55 young (av. brood 3.44).

Merlin All sites are severely threatened by rapidly encroaching forestry operations. Eight territories checked but one found destroyed by over-winter ploughing and tree planting, and another unoccupied. Breeding occurred at 5 of the 6 occupied sites (av. clutch 4.75). All 5 were successful, rearing 18 young (av. brood 3.60).

Unhatched eggs collected under licence for the NCC included 1 Buzzard, 12 Sparrowhawks' and 3 Merlins'.

B. ETHERIDGE

Breeding Barn Owls in the Cree Valley During the 1984 breeding season, a survey was carried out to locate the numbers of Barn Owls breeding in an area surrounding the River Cree in South West Scotland. A total of 103 buildings (farms/ruins) were searched, and 20 breeding pairs were located : clutch size was obtained from 13 sites (mean clutch size

being 4.92), two nests being deserted at the egg stage. A total of 59 young were reared from 18 sites with two actual nest sites being inaccessible. 49 young and 2 adults were ringed and most were weighed and measured. Human predation and disturbance were luckily at a very low level; some sites could be helped by the erection of a nest-box and it is hoped to do this by the onset of the next breeding season. Notes of habitat, and the condition of the buildings were also taken at all sites. It is my intention to carry on this study during 1985 and possibly to extend the study area slightly. My thanks must go to A. Tiffen for help with transport, and Geoff Shaw for help at certain sites, and to Dr Iain Taylor for advice concerning Barn Owls in general.

A. DOWELL

Status of Yellow Wagtails in Clyde Monitoring of the Ayrshire breeding population continued, revealing a dramatic decrease since 1984. Within the main study area, an intensive census produced only 6 pairs where there were 15 in 1983 (in an area of 4 km²). The whole Ayrshire census area held 12 pairs compared to 27 in 1983. Yellow Wagtails are said to have declined throughout Britain in 1984, presumably an effect of the continuing Sahelian drought which also seriously reduced the Sand Martin population. At the time of writing CBC figures are not yet available, but this population change may be most marked here in Scotland, at the limit of the species' range. Of 10 full-grown birds and 126 nestlings colour-ringed in 1982-83, only 4 were located in 1984, perhaps indicating a very high rate of mortality amongst young birds. The known breeding areas of Lanarkshire were not accurately surveyed this year; the impression gained during pulli-ringing visits was of a decrease but less severe than in Ayrshire. Extensive areas of river valley in central and south Lanarkshire were surveyed for the first time, and an additional 12 pairs were discovered, all in the Libberton area. Breeding performance was not accurately recorded in 1984. In Ayrshire, low roost counts implied a rather poor season, and a maximum roost count of 41 in Lanarkshire implied only average breeding success, despite the very clement summer. Climate in the winter range is obviously a very significant factor limiting population, and one may speculate that previous droughts may have been the cause of large decreases reported earlier this century. The present study is continuing, and it is hoped to survey new areas of Lanarkshire in 1985.

IAIN GIBSON

Long term seabird studies on Canna Three visits were made to the island in 1984 during May, July and August, in order to cover the breeding season of most of the seabird species for our monitoring and ringing programme. Manx Shearwater numbers appeared stable (based on our observation burrows) though only 0.59 chicks fledged per egg laid. This was due to poor fledging success possibly related to food shortage. Fulmar numbers remained stable at 498 sites, though still well below the former peak count of 669 in 1977. Shags increased by 17% to a peak count of 1753 nests. Breeding success was also good with 2.02 chicks fledging per pair from our 52 study nests. Gulls remained fairly stable with 17 pairs Common Gull, 39 pairs Lesser Black-backed Gull, 72 pairs Great Black-backed Gull and 1089 pairs Herring Gull. The latter had a good breeding season with 81% of nests in study areas producing large chicks. Kittiwakes decreased by over 7% to 914 nests (peak 1982=991 nests). Of the auks, Black Guillemot remained stable with 105 birds counted, but Razorbills and Guillemots showed decreases of 17.6% and 9% in our sample areas. (For Guillemots this decrease followed nine

years of continued increase of between 10 and 16% per annum on average).

During our ringing programme 4461 birds were handled including 2627 Guillemots, 688 Shags, 452 Herring Gulls, 252 Razorbills and 135 Manx Shearwaters. In addition 225 Guillemots and 200 Herring Gulls were colour ringed. Many interesting recoveries were received as a result of the ringing programme. The oiling incident off Tiree in October 1983 resulted in 11 of our Guillemots being recovered (including 5 adults). This is the largest number of recoveries we have had from any one single incident. Sightings of colour ringed birds continued to come in and included one 2 year-old Guillemot and one 3 year-old visiting a breeding colony on Canna, and a 4 year-old bird was found breeding. Five 4 year-old and two 5 year-old Herring Gulls were located in breeding colonies on the island.

Food samples were again collected from adult Guillemots entering breeding colonies and showed a wide variety of fish being brought in. Data from 91 fish collected between 1981 and 1984 showed that Sprats formed 46% of the diet, Sandeels 33% and others (Herring, Pout, Saithe, Whiting and Blue Whiting) 21%.

Finally our Corncrake survey continued. The island's population has dropped from 15 pairs in 1980, 13 1981, 10 1982, 5 1983 to only 2 pairs in 1984. Although a decrease in the amount of actively worked croftland may be partly responsible for this decline, the island would still appear to be capable of holding up to 10 pairs, suggesting that other outside factors may well be responsible.

R. L. SWANN

Breeding Greenland White-fronted Geese In 1979 a four month expedition called Eqalungmiut Nunaat was mounted by the Greenland White-fronted Goose Study from Aberystwyth. This expedition undertook preliminary studies of the feeding ecology, behaviour, numbers and distribution of geese in this area, as well as catching and ringing 96 geese during their flightless period in mid-summer. To date, 63 of these birds have been either seen or shot subsequently, a recovery rate which has given much valuable information on winter site fidelity.

Another four month expedition to the same area was mounted during May-August 1984 with financial support from a large number of conservation and ornithological bodies, including the SOC. With a total of 16 participants, we aimed to carry out a series of integrated botanical, ecological and ornithological projects working from our previous knowledge of the geese in this area. The aims included a thorough census during moult, catching and ringing a further sample of geese, and an investigation of the reasons for the continued poor breeding success of this race of geese. It has been estimated that, on average, only c810 pairs breed successfully each year from a population of c15,000.

1984 was one of the latest springs on record and in late April both Geese and expedition faced deep snow and temperatures down to -20°C . This contrasted strongly with the mild conditions in the same area in 1979. These wintry conditions persisted until 4 June when a warm föhn wind blowing down from the ice-cap brought the thaw and heralded summer. The first geese were seen on 10 May, but feeding flocks were not seen until almost ten days later. A build-up to 180 geese was watched at one, early thawing, lowland site and this flock included a pair of geese marked in Wexford, Ireland the previous February. One of this pair was subsequently shot later in the summer further north, indicating that this flock had included more northerly breeding birds 'staging' until conditions improved. The first nest was found on 6 June and a continuous

study of the incubation behaviour of a pair of breeding geese was started. The nest was watched continuously from a distant hide for a total of 719 hours until the goslings were led away from the nest on 7 July. Already, we have found interesting comparisons with a similar study undertaken in 1979. Arctic Foxes were responsible for the predation of five of the seven nests found; two were caught and radio-tracked to study their movements and activity in relation to goose behaviour. Fox numbers in this area seem to have markedly increased over the last five years, perhaps as a result of the recent decline in Caribou providing abundant carrion.

In July, 88 geese (58 adults, 30 young) were captured whilst flightless and marked with white Darvic rings on their left leg. Several thorough censuses of the 750 km² area led to an estimate of 220-250 birds present. A large number of other birds were ringed by the expedition with significant additions to the national totals of Lapland Buntings, Redpolls, Wheatears and Snow Buntings.

Much botanical work was undertaken throughout the summer, concentrating particularly on food plants important to the geese. An extensive herbarium was collected as an aid to faecal analysis and many vegetation samples taken for nutrient analysis. With nearly 3½ man-years of field work undertaken, a vast amount of information on the ecology of Eqałunmiut Nunaat has been gathered and this is now being analysed by expedition members and others. A full report of this work will be published in due course.

D. A. STROUD

Loch of the Lowes Hide The new hide was completed in late April 1984 and formally opened by His Grace the Duke of Atholl. Despite the fact that the Ospreys failed to nest, some 26,000 visitors made use of the new hide during the summer season. The Scottish Wildlife Trust is most grateful to the SOC for its contribution of £300 towards the overall cost of £12,117.

V. M. THOM

Reviews

The Birdwatcher's Yearbook and Diary 1985 ed. John E. Pemberton; Buckingham Press 1984; 320 pp; £6.95

This latest edition contains the usual assortment of topical articles, reviews and addresses for reserves, observatories, bird recorders and ornithological organisations. It even incorporates foreign information and such valuable extras as tide tables. For the first time it includes a list of Wildfowl Trust count organisers, but also a rather wasteful series of blank pages intended as a diary. It is a pity that the list of previous year's bird journal articles has been omitted. Information can change quickly however, and regularly purchasing this volume is a real time saver. It is also still reasonably priced and remains a good read—Nick Riddiford's article may tempt me to return to Fair Isle soon!

PETER T. BELL

The Oxford Book of British Bird Names by W. B. Lockwood; Oxford University Press; 174 pp; £7.95.

This book, written by a retired professor of philology, is made up in dictionary form, and is much more than a simple listing of provincial bird names. In a few places slightly more cross-references would have been helpful. For example the half-column under *Bittern* makes no

reference to almost a column written under *Bumble*, or to a further half-column under *Mire Drumble*, two more of the many names for this mysterious bird. But this is a minor quibble, and it is a quite fascinating book to browse through.

W. G. HARPER

Bird Island: Pictures from a Shoal of Sand by Lars Jonsson. Translated by David Christie; Croom Helm; 1984; £16.95

Lars Jonsson's work first came to notice here with the publication of four "Penguin Field Guides", now sadly out of print, and "Birds of the Mediterranean" published by Croom Helm. These guides set a new standard in both the accuracy and perceptiveness of their illustrations, drawn from first-hand observation. Now, in "Bird Island" we can see the breadth and vision of this fine artist. His paintings record the brief summer life of a spit of sand in the Baltic—a resting place for migrants, where Avocets and Ringed Plovers raised young and where plants held on to life between wind and waves.

It is a beautiful book, printed with a spaciousness in keeping with the pictures and text. It is infused with subtleties of relationship—between birds and this elemental island; between colour and light; between moments of calm and migratory journeys; and the almost mystical link between nature and the artist himself. Lars Jonsson asks us to see with imagination beyond the base of scientific data. He writes: "let your eye wander over the sand and play over its gentle transitions, from the dry sunlit ivory-white to the brownish-mauve newly wave-washed sand. Different strings of senses are touched; different tones resound and form harmonies". Yes indeed! For the paintings to convey this with such economy and beauty is a touch of genius.

JOHN BUSBY

Robins by Chris Mead, illustrations by Kevin Baker; Whittet Books, 1984; 128 pp; many b & w drawings; £4.95

This is a readable, and unashamedly popular account of one of our best known songbirds. Robins have been the subject of several detailed studies, the results of which are presented here, along with a selection of Robin folklore, including such bizarre events as the nest found in a hanged criminal's skull in 1820. Those who know the author will not be surprised to see extensive use of BTO data, spiced with some more personal experiences, such as the danger to bearded ringers from louse-flies! This is a nice little book, which will be particularly welcomed by those keen to learn more about our common birds without ploughing through the original literature.

STANLEY DA PRATO

The Herons Handbook by James Hancock & James Kushlan, illustrated by Robert Gillmor & Peter Hayman; Croom Helm, 1984; 288 pp; 64 col. pl.; 21 line drawings; 60 maps; £16.95.

The Birds of the Wetlands by James Hancock; Croom Helm, 1984; 152 pp; 116 col photos; 1 map; £13.95.

The Herons Handbook details all 60 known species of Ardeidae. Short reviews of taxonomy, display, feeding and identification are included but most of the book comprises individual species accounts, each with a coloured illustration and distribution map. The book is based on *The Herons of the World* (1978) but the text is updated, revised and substantially improved. The reviews are brief and succinct and the individual accounts are a fair compromise considering so much is published about some species and so little about others. The bibliography, though

comprehensive and up to date, fails because the titles of articles are omitted and one has to deduce the subject by the context of its quotation. The species plates are from the 'Herons of the World', reduced and trimmed. As a handbook I think this book serves its purpose well and is very good value, though useful to few people in Scotland.

The 'Birds of the Wetlands', which describes nine major wetlands of the world including Everglades and Baratpur, is also of limited appeal for Scottish readers. The text is largely travelogue; its merit lies in its sympathies but unfortunately the conservation problems that are the author's concern are mentioned rather than expounded. Moreover the areas themselves are poorly described, there are no maps of individual wetlands and few landscape or habitat photographs. My impression was one of a good picture book, very poorly produced and poor value for money.

MICK MARQUISS

The Atlas of Australian birds by Blakers, M., Davies, S. J. J. F. & Reilly, P. N.; 1984; 738 pp; 767 maps; £45.00.

In recent years many atlases have been produced; this one covers most of a continent and maps all records (between 1977 and 1981) in 1 degree blocks. Each species has a page devoted to it, with a pleasant vignette, text about its distribution and abundance, and with a map showing the squares in which it was seen (open circles) and those in which it was proved breeding (filled circles). Unfortunately the open circles do not distinguish between winter visitors and birds present in summer but not proved breeding, though this is normally referred to in the texts, the latter are, however, a little short to give a clear picture of the distribution of the species. For 38 species separate maps show the distribution before 1901, between 1901 and 1950, and between 1951 and 1977. I wonder how many note books there are gathering dust on shelves, which could be used in such a way to give more quantitative information about changes in bird distribution in Britain? This book is a major achievement in ornithology and I would recommend it to anyone who is interested in bird distribution, Australian birds or fine books.

NIGEL A. CLARK

Coastal waders and wildfowl in winter Edited by Evans, P. R., Goss-Custard, J. D., & Hale, W. G.; Cambridge University Press, 1984; 331 pp; 110 diags; £27.50.

The title is misleading as only two of the 19 papers are about wildfowl and they do not fit easily with the rest of the book, which is a mixture of reviews and papers on individual studies. The three sections deal with: the influence of food resources and of social behaviour on the use of feeding areas and the significance of specific areas in the Palearctic-African flyway populations.

Most of the results reported have already been published in scientific journals and this together with the price (8.3 pence per page!) means that the book is likely to have a very limited market.

If you are interested in waders it is well worth reading—especially if you can borrow a copy from a rich friend.

NIGEL A. CLARK

ITEMS OF SCOTTISH INTEREST Articles and reports on birds in Scotland, mainly on status and distribution. Some biological studies are excluded, as are references from the widely available journals **British Birds**, **Bird Study** and **Ringing and Migration**. Most of these items are available in the Waterston Library for reference. The librarian would

be glad to receive reprints or copies of papers on any aspect of ornithology.

Large passage of Skuas off Scotland and Ireland in May 1982 and 1983. D. L. Davenport 1984. *Irish Birds* 2 : 515-520.

Natural history of Coonsay and Oronsay (In 1984). (15 pp). John and Pamela Clarke.

Birds and birdwatching on the Uists. Major D. J. R. Counsell RA 1984. *Adjutant* 13 : 58-63. Journal of the Army Bird-watching Society.

Royal Air Force Ornithological Society visits to the Isle of May in 1983. K. Earnshaw (ed) 1985. *RAFOS Journal* 15 : 45-67.

Ecology. C. H. Gimingham, D. H. N. Spence & A. Watson 1983. *Proc. Roy. Soc. Edinburgh* 84B, 85-118. In "Two Hundred Years of the biological Sciences in Scotland". We regret that this paper was not listed earlier.

Demographic causes and predictive models of population fluctuations in Red Grouse. A. Watson, R. Moss & R. Parr 1984. *J. Anim. Ecol.* 53 : 639-662.

Effects of food enrichment on numbers and spacing behaviour of Red Grouse. A. Watson, R. Moss & R. Parr 1984. *J. Anim. Ecol.* 53 : 663-678.

Population studies and conservation of Ospreys in Scotland. R. H. Dennis 1983. In *Biology and Management of Bald Eagles and Ospreys*. David M. Bird (ed) 1983 : 207-214.

Recruitment of young Rooks *Corvus frugilegus* into breeding populations. I. J. Patterson & E. S. Grace 1984. *J. Anim. Ecol.* 53 : 559-572. A study in Scotland

Censusing Robins in winter : a test using colour ringed birds. S. R. D. da Prato & E. S. da Prato 1984. *Ornis Scand.* 15 : 248-252. Based on studies at Cousland, East Lothian, Scotland.

Forth Islands bird counts in 1984. R. W. J. Smith 1985. *Edin. Nat. Hist. Soc. J.* 1984, 31-32.

Canna Bird Report no. 11 (for 1983 and 1984). (18 pp). R. L. Swann & A. D. K. Ramsay 1985. Includes seabird studies, ringing recoveries, and Corn-crake studies

Grampian Ringing Group Report no. 4 (covering 1981-83). (116 pp). J. Hardey (ed). 1984. Includes articles on wintering Starlings, the prey of Osprey, the population of breeding Whitethroats, Tawny Owl study, recoveries of Aberdeenshire Guillemots, etc.

Central and south-west Perthshire Peregrines in 1984. P. Stirling-Aird 1985. (3 pp).

Argyll Bird Report no. 1 (including records for 1980-83). (111 pp). C. A. Galbraith (ed) 1985. We welcome this first ever Argyll Bird Report, which includes a 75 pp systematic list, a 27 pp ringing report, and 6 pp about current projects. It is available from Colin Galbraith, 4 Achagoll, Minard, Inveraray, Argyll for £2 plus £1 postage.

Factors affecting duckling survival of Eiders in northeast Scotland. V. M. Mendenhall & H. Milne 1985. *Ibis* 127 : 148-158.

Recent changes in the food of young Puffins on the Isle of May in relation to fish stocks. J. R. G. Hislop & M. P. Harris 1985. *Ibis* 127 : 234-239.

The post-fledging survival of young Puffins in relation to hatching date and growth. M. P. Harris & P. Rothery 1985. *Ibis* 127 : 243-250.

Notices & Requests for Information

Sightings of White-tailed Eagles The number of White-tailed Eagles released from the Isle of Rhum in the Inner Hebrides has now reached 72, with a final ten to be freed in 1985. Each bird is individually marked with a BTO ring and colour rings (although some of these may now have been lost). The last thirty to be liberated were fitted with large patagial wing tags of coloured plastic, and numbered 0-9. Some of the

eagles have now dispersed from Rhum, a few as far as Shetland. Both NCC and RSPB carefully monitor the birds after release but we realise that many birdwatchers may not feel it worth reporting sightings of these birds. Casual records are extremely useful in building up a detailed picture of the White-tailed Eagles' dispersal and survival. We would be pleased to receive any records—place, date, number and approximate age of the birds, what they were doing and any colour marks identified. Please send details to: **John A. Love, NCC, 9 Culduthel Road, Inverness; Roy H. Dennis, RSPB, Landberg, North Kessock, Ross-shire; or Roger A. Broad, RSPB, 6 Birch Road, Killearn, Glasgow.**

John Harrison Memorial Fund This fund was set up to help young people to visit Fair Isle by giving financial assistance towards the cost of travel to the island and accommodation at the Fair Isle Bird Observatory. Applications for a grant are considered by the fund's committee in December, and must be submitted by 31 October. If you will be aged between 15 and 21 during April to October 1986, and are interested in visiting Fair Isle, write for an application form to the **Hon. Secretary, John Harrison Memorial Fund, 21 Regent Terrace, Edinburgh EH7 5BT.**

The Oriental Bird Club has been formed in response to an increased interest in the birds of the region. The Club aims to encourage interest in the birds of the Oriental region and their conservation, to liaise with and promote the work of existing regional societies, and to collate and publish material on Oriental birds. Membership costs £6.00 and members will receive annually two bulletins and a journal, *The Forktail*. Further details and membership application forms are available from **The Secretary, The Oriental Bird Club, c/o The Lodge, Sandy, Beds. SG19 2DL.**

Meeting on angling and wildlife A joint Scottish Freshwater Group and British Ecological Society (Freshwater Ecology Group) meeting, concerned with the impact of freshwater angling on wildlife, will be held at the University of Stirling on the 31st October 1985. Papers will be presented by invited speakers. The number attending the meeting will be limited to 250; places will be allocated on a first come, first served basis. Details are available from Dr Angela K. Turner, Dept. of Zoology, Glasgow University, Glasgow G12 8QQ.

The Scottish Ornithologists' Club

SUBSCRIPTIONS

Increases in subscription rates were approved at the 48th AGM of the Club on 3 November 1984. The new rates, which apply to new members from 1 July 1985 and to existing members from 1 October 1985, are as follows:

Adult	£10.00
Junior	£4.00
Family	£14.50
Life	single £200.00; family £300.00
Pensioner	single £6.00; family £8.50

A new subscription renewal form is enclosed with this issue of the journal. Club members will greatly help Pat Webster, our membership secretary, by completing and returning the form now.

Banker's Order It is also a great help if subscriptions are paid by bank standing order. Club members who already pay by Banker's Order are asked to complete the form with the new subscription rate and return it as soon as possible.

Covenant The Club is recognised as a charity by the Inland Revenue. Members who pay income tax can greatly increase the value of their subscriptions to the Club by covenanting. On the new adult membership subscription of £10.00, the Club can reclaim £4.29 from the Inland Revenue! Please, if you do not do so already, make your subscription worth more by covenanting. Club members who already covenant their subscriptions do not need to sign a new form.

Important request All those members who pay by Banker's Order will find a letter enclosed with this issue of the journal. Do please read the letter and complete the banker's order form as requested and return it in the reply paid envelope as soon as possible. This will be a tremendous help to Pat Webster in tackling the considerable administrative work involved with the subscription increase.

BRANCH MEETINGS

The dates for the first meetings of Branches next winter are as follows :

- September 16—Aberdeen, Borders, Glasgow
- 17—Edinburgh, Inverness, Stranraer
- 18—Dumfries, St Andrews, Thurso
- 19—Dundee, Stirling
- 25—Ayr
- 26—New Galloway

The Dundee and St Andrews Branches have new venues—Dundee members will be meeting in the Chaplaincy Centre, University of Dundee and St Andrews members will be meeting in Rusack's Hotel, St Andrews.

ANNUAL CONFERENCE & AGM

The 38th annual conference and 49th AGM of the Club will be held during the weekend 1-3 November 1985 in the Marine Hotel, North Berwick, East Lothian. The conference theme is "Scottish Forestry & Birds" with its implications for conservation. The conference programme, booking form and AGM agenda will be sent to members with *Scottish Birds* 13(7) early in September.

THE SOC BIRD BOOKSHOP

The new Spring Supplement with details of new titles, special reductions, sale books and news of forthcoming books is available free from the Bookshop. Remember, all books are sent post free to Club members, however large or small the order and however far away you live.

BOOKSHOP STAFF

Peter Bell left in March to take up a post with the National Trust as an assistant warden on the Farne Islands. Isabelle Abu-lilish moved to Bristol in April when her husband got a new job. We were very sorry to see them go, but we wish them all the very best in their new homes. David Hunter, whose family home is in Perth, joined the Bookshop staff in April as bookshop assistant.

LOCAL RECORDER

We apologise to Ian Andrews for omitting Midlothian from his area of responsibility in the last issue of *Scottish Birds* 13(5). The correct entry should read :

West Lothian, Midlothian, Forth Islands (except the Isle of May) Ian Andrews, 36 Luton Place, Edinburgh EH8 9PG.

Recent Reports

These notes include unchecked reports and are not intended as a permanent record, nor will they be indexed. Please send reports to Pete Ellis, Houss, East Burra, Shetland, via local recorders at the end of March, June, September and December. The period January to March is covered here.

The winter was relatively mild, particularly in the northern isles, in sharp contrast to England and continental Europe. This resulted in influxes of a number of species, especially wildfowl.

The Whalsay **White-billed Diver** was still in residence, but 2 **Great Crested Grebes** in Shetland were more unusual. A single **Red-necked Grebe** was on the Ythan, whilst 3 were off the Ayrshire coast. The **Black-browed Albatross** returned to Unst on 10th March and a **Sooty Shearwater** was found dead in Orkney in January. A **Bittern** in Shetland in January was later found dead; another was at Loch Spynie. Fifteen **Bewick's Swans** were at Tynninghame where there were also 4 **Bean Geese**, with 2 at Loch of Strathbeg, 3 on the Ythan and one on Whalsay. An influx of European **White-fronted Geese** brought 8 to Shetland, at least 120 to Aberdeenshire and 24 to Tynninghame. A **Snow Goose** was at Tain and 2 were in Aberdeenshire and East Lothian. **Brent Geese** were seen from Shetland to Fife, most were pale-bellied with totals of 19 in Aberdeenshire and 16 on the Eden Estuary. A **Green-winged Teal** was in Orkney where the female **Red-crested Pochard** was still present. Drake **Ring-necked Ducks** were in Shetland, at Loch Insh and in Ayrshire. The usual **King Elder** was at Golspie and 3 **Surf Scoters** were in Spey Bay, with another at Gosford. A drake hybrid **Goldeneye x Smew** was at Inverness with a drake **Smew**; there was quite an influx of this species with 4 in Shetland, 3 in Orkney, 12 at the Loch of Strathbeg, plus 10 others in Aberdeenshire and 4 in East Lothian. **Goosanders** were also in good numbers, Shetland had 15, Orkney 7 and 197 were on the Loch of Skene. Two **Buzzards** wintered in Shetland along with 2 **Rough-legged Buzzards**, with two more in Orkney. The first **Osprey** was back in the Highlands on 31st March. 10 **Jack Snipe** were at Fraserburgh in January. Single **Mediterranean Gulls** appeared at Aberdeen, Prestwick, Irvine and Musselburgh. Three **Little Gulls** were off Girdle Ness in January. **Ring-billed Gulls** turned up in Shetland, Orkney and Musselburgh, with 2 in Ayrshire. **Iceland Gulls** were very scarce, with only 3 in Shetland, 2 in Orkney and 4 in Aberdeen, whilst Shetland had 13 **Glaucous Gulls**, Orkney only had 2 and Fraserburgh a maximum of 4. The **Thurso Ross's Gull** remained until early February when another visited Ayr. Single **Sandwich Terns** again wintered on the Forth. A dead **Brünnich's Guillemot** was found in Shetland, in a plastic bag full of ordinary ones. The bag had been sent up from Orkney for the birds to be measured. One up to us, I think! Twenty three **Little Auks** were seen in Yell Sound in mid January. Ten **Long-eared Owls** wintered in Shetland.

A **Woodlark** was on Fair Isle and a **Water Pipit** at Barns Ness in March. Aberdeenshire had a total of 77 **Waxwings**, but 7 in Dingwall mostly ended up on the wrong side of a **Sparrowhawk**. **Black Redstarts** were in Holyrood Park and at West Barns, with 2 at Troon and another at Turnberry. The first **Wheatear** was at Achnasheen on 12th March, whilst the **Desert Wheatear** stayed at John O' Groats until 17th January before briefly visiting Orkney. An Arctic **Redpoll** was in the Lammermuirs and a Northern **Bullfinch** in Shetland in January, whilst 6 **Lapland Buntings** wintered at Musselburgh.

PETE ELLIS

12th October 1984



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