

ISSN 0036-9144

SCOTTISH BIRDS



THE JOURNAL OF THE
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Vol. 10 No. 8

WINTER 1979

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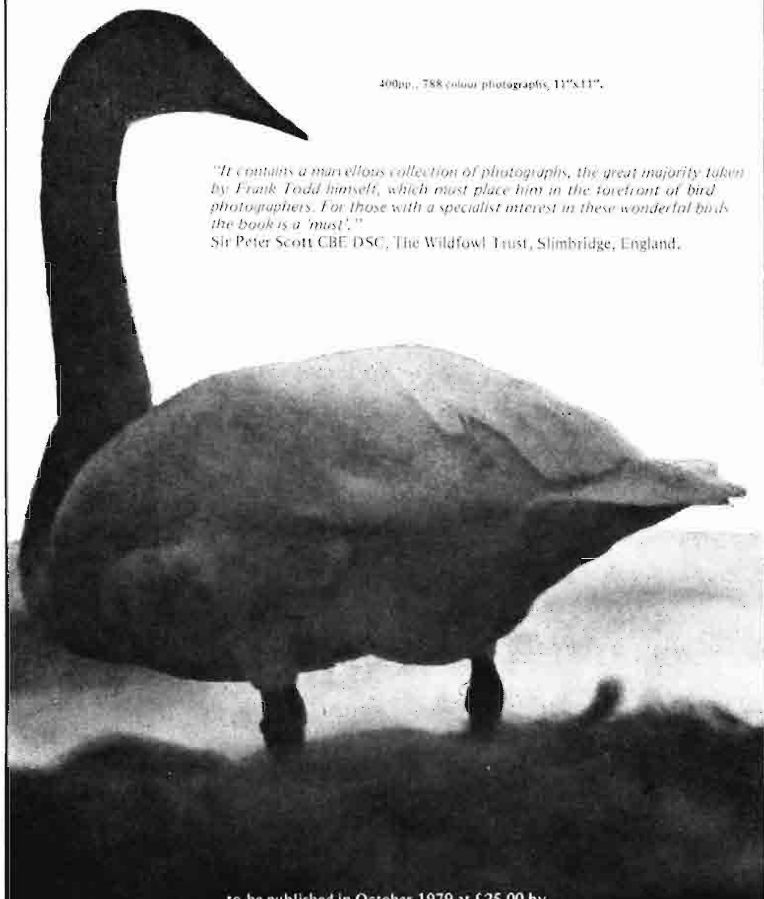
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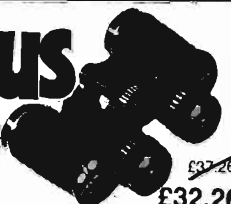
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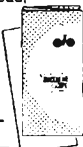
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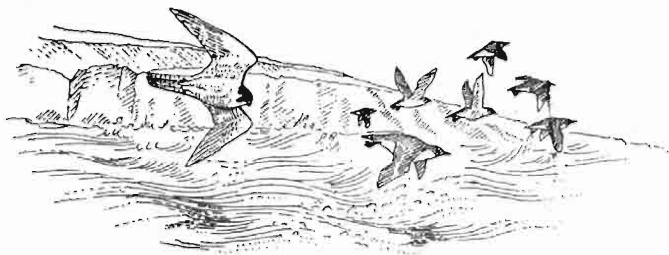
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Volume 10 No. 8

Winter 1979

Edited by D. J. Bates

The effects of Great Skua predation on the breeding biology of the Kittiwake on Foula, Shetland

BRIDGET FURNESS

The Bonxie has a reputation as a pirate and predator to the extent of being a nuisance. In world terms it is a rare bird, yet there are calls for it to be countered as a pest. What effect does it have on neighbouring seabirds ?

Venables and Venables (1955) stated that the Great Skua, or Bonxie, on Foula preyed extensively on Kittiwake adults, chicks and eggs. They believed that this predation would lead to the extinction of the Foula Kittiwake population. A few specialist individual Bonxies have also been seen predating Kittiwakes on Noss (Perry 1948), Hermaness (Lockie 1952, Andersson 1976) and in the Faroes (Bayes, Dawson and Potts 1964).

In 1976 I selected a colony of Kittiwakes on Foula for a study of their breeding biology in relation to the possible effects of predation. Foula has the largest colony of Great Skuas in Britain.

Population history

Kittiwakes on Foula are difficult to count. Many of the breeding stations, (as defined by Coulson 1963), are not visible from the land, while high cliffs and rough seas make counts from the sea difficult. But in recent years three counts have been made that are at least comparable since they were made from the land and from the sea, and by people with an intimate knowledge of the island. Jackson (1966) counted the number of occupied nests in 1961 and gave a range of 5,000-8,000. Holbourne (pers. comm.) found 5,460 occupied nests in 1968. I counted again in 1976 and found 5,570 occupied nests. These figures would suggest that there has been no dramatic change in the numbers of Kittiwakes on the island, and at least since 1968 numbers have been stable.

Breeding biology

The breeding station selected for study could be viewed from above so that it was possible to look down into the nests without disturbing the birds. Clutch size, hatching dates and subsequent nest history were recorded for 127 nests between 4th May and 6th August 1976. No attempt was made to record laying dates directly. Since hatching dates were recorded, I assumed an incubation period of 27 days (Coulson and White 1958) and the laying date of the first egg was calculated from this. Daily observations, totalling more than 200 hours, were made throughout incubation and chick rearing, allowing causes of egg loss, failure to hatch and chick loss to be recorded. Fledging dates and periods were calculated using Maunder and Threlfall's (1972) method. Because of the difficulty of following unmarked chicks after they had begun to fly, fledging success was calculated from the number of chicks reaching 35 days, after which time they were assumed to be able to fly.

Laying dates, hatching dates and fledging success

Laying dates show a very skewed distribution (fig 1). The mean laying date was 22nd May, the median the 23rd May. The laying period on Foula was estimated to be between 16th May and 18th June.

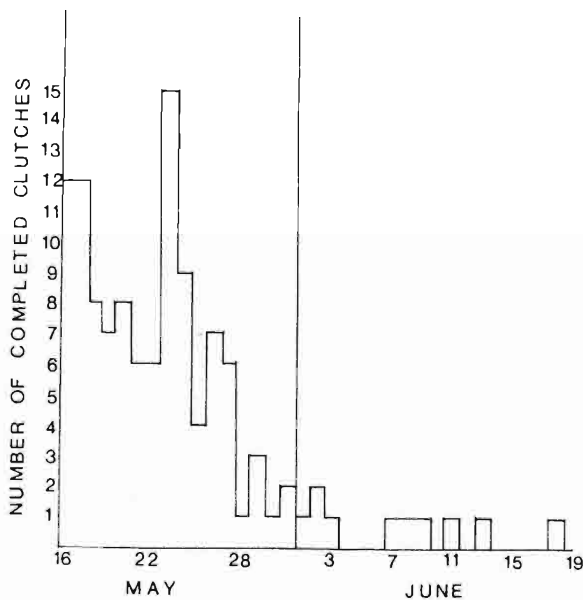


Fig. 1. Distribution of laying dates.

Table 1. Mean hatching date of clutches of 1, 2 and 3 eggs.

Clutch size	Sample size	Mean date	Range of dates
1	6	30 June	14 June - 15 July
2	98	18 June	12 June - 10 July
3	13	15 June	12 June - 22 June

Hatching dates of clutches of one, two and three eggs differed in means and variability (table 1). The hatching dates of clutches of one were more variable than those of clutches of two, which in turn were more variable than clutches of three.

Clutch size decreased through the season ($r = -0.377$, $p = 0.001$).

Brood size and breeding success

The brood size in 1976 was 1.703 (± 0.063) and the hatching success was 83.5%. The causes of egg loss and failure to hatch are summarized in table 2. Addled eggs in this study

Table 2. Causes of egg loss (127 nests)

Category	Number lost	% lost
Addled	20	7.7
Destroyed by Fulmar	11	4.2
Not fully incubated	4	1.5
Rolled out of nest	2	0.8
Unknown	2	0.8
Washed out of nest	1	0.4
Total eggs lost	40	15.4

are defined as those remaining in the nest long after they were due to hatch, still being incubated by the adult for the full time. Most egg loss was due to addled eggs. The next most important cause of loss was Fulmars, which were seen taking over Kittiwake nests and destroying the eggs.

Fledging success was 87%. The first flight by a chick was seen on the 17th July. The fledging period recorded varied between 33 and 47 days. A total of 15 chicks fell out of nests in the study area (7%), and 12 died in the nest before their 35th day (5.5%).

The overall breeding success was 73.3%. Table 3 summarizes the breeding statistics for the area by clutch size. The number of chicks fledged per pair for all clutch sizes was 1.48. Clutches of three were the most successful, fledging 1.92 chicks per pair, in spite of the fact that three chicks never fledged from any clutch of three.

Table 3. Breeding statistics by clutch size

Clutch size	Number of eggs	Number hatched	Number fledged	Hatching success %	Fledging success %	Breeding success %*	Chicks fledged per pair
1	9	7	2	77.0	28.5	22.0	0.22
2	210	177	162	84.2	91.5	77.1	1.54
3	39	34	25	87.2	75.5	64.1	1.92
All sizes	258	218	189	84.5	86.7	73.3	1.48

*Breeding success equals the number of eggs producing fledged young.

Predation

Bonxies breed over two thirds of Foula, so any Kittiwake colony studied would be close to breeding Bonxies. One or two Bonxies flew over my study area every hour but were never seen attempting to predate Kittiwakes.

In 1975 and 1976 I counted dead chicks in the sea below the study area during fledging. There was no way of knowing how many chicks were washed in and out of the area by tides, but counts were always made at high tide so are thought to be comparable from day to day. I also recorded whether these corpses appeared to have been eaten.

In 1976 I collected corpses of Kittiwake fledglings from the island near the study colony. These chicks were all found in Bonxie territories. Great Black-backed Gulls and Hooded Crows occur on the island but the chicks were unlikely to have been killed by them as Bonxies exclude these species from the centre of the island.

In 1975 the results of the corpse counts showed that at least 28 fledglings out of approximately 1,725 produced in that area died on leaving the nest. Only 14 of these seemed to have been eaten by Bonxies. In 1976 about 40 fledglings died in the sea in the same area. Six of these had been eaten by Bonxies. Fledgling production was similar in the two years.

The wings of the corpses collected in 1976 were measured to age them (Maunder and Threlfall 1972). These measurements showed that all the dead fledglings were more than 35 days old and so able to fly.

Discussion

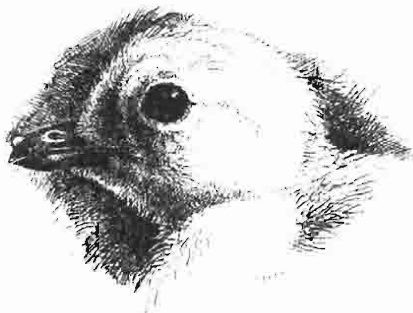
In contrast to other studies of Kittiwakes (see references cited in the introduction) very little skua predation was recorded in this study.

Andersson (1976) states that he observed 18 cases of predation among 900 nests in 124 hours of observation at Her-

maness. In the period between 26th July and 5th August he gave a rate of chick loss of between 0.0027 and 0.0032 chicks per nest per day (calculated from his data). A similar calculation for Foula up to the 35th day after hatching gives a rate of 0.006 chicks per nest per day. This rate can be accounted for both by chicks that fell out of the nest and those that died in the nest. None of this loss is due to predation yet Andersson claims that no other form of chick mortality occurs at Hermaness. Also the period he was examining would, in a normal year on Foula, be during peak chick fledging. The date of first chick fledging on Foula was 17th July and Andersson did not start his study until 26th July. From the figures arrived at over a ten day period Andersson assumed a similar rate of disappearance up to fledging, which he assumed occurred a week later. From this he calculated that the mean number of chicks fledged per pair would be between 0.87 and 1.1, considerably lower than the Foula figures.

The situation on Foula is clearly different. No direct predation of Kittiwake chicks or eggs was seen, but analysis of Bonxie pellets shows that a small number of adult Kittiwakes are taken in the early spring. This declines to zero by the end of May (Furness 1977), although a few fledglings are taken in July.

Falling from the nest was a major cause of chick loss on Foula, particularly in broods of three where the nest did not seem to be big enough for all the chicks. Cullen (1957) cites falling from the nest as a major cause of chick loss in Kittiwakes on the Farne Islands. Those chicks that did fall from the nest in the Foula study area were seen dead on the rock shelf at the bottom of the study area. These corpses were fed on by Great Black-backed and Herring Gulls but never by Bonxies. Neither the gulls nor the skuas were ever seen attempting to take eggs from the nest.



KITTIWAKE CHICK

Keth Brockie

Table 4. Comparison of breeding statistics for Foula, North Shields, Forvie, Barents Sea, Newfoundland, St Abb's Head and North Norway colonies.

Area	Number of nests	Clutch size	Fledging period (days)	Hatching success (%)	Fledging success (%)	Breeding success (%)	Chicks fledged per pair	Reference
Foula	127	2.04	33-47	85.5	86.7	73.3	1.48	This study
North Shields	295	2.01	32-55	67.7	86.0	56.0	1.15	Coulson & White (1958)
Forvie	382	1.96	-	75.4	-	46.0*	-	Cuthbert (1972)
Barents Sea								
1937	218	2.33	-	-	-	-	-	Belopolskii (1961)
1938	152	1.53						
1939	92	1.74						
Newfoundland	8306	1.85	30-50	-	-	54.0	-	Maunder & Threlfall (1972)
St Abb's Head	112	1.87	-	73.9	70.0	51.4	0.968	Patterson (unpublished data.)
North Norway	2659	-	-	-	-	-	0.27	Barrett & Shei (1977)

*up to 15 days after hatching.

High chick mortality immediately after fledging has been found in Orkney, even in areas where Bonxie predation is negligible (Hope Jones, pers. comm.).

Table 4 summarizes the breeding statistics available for all the main Kittiwake colonies studied. There seems to be a great deal of variation in the values recorded for breeding success over the range of the species. This would suggest that it is unnecessary to invoke predation as a major factor affecting breeding success. The high value obtained on Foula would indicate that predation by Bonxies had a negligible effect on the breeding success of the Kittiwake there.

Acknowledgments

This study was carried out in partial fulfilment of a B.Sc. degree at Durham University. I would particularly like to thank Dr J. C. Coulson for supervising the project and for criticising the manuscript of this paper. My thanks must also go to my husband for his helpful discussion both during the fieldwork and writing up stages of the project. Finally I would like to thank Dr I. Patterson for allowing me to use his unpublished data for St Abb's Head. This work was written up for publication during tenure of an N.E.R.C. research studentship at Aberdeen University.

Summary

Bonxies have long been thought to have deleterious effects on Kittiwakes on Foula. The results of a study in 1976 showed that Kittiwake breeding success was high, that there was no Bonxie predation of eggs or chicks and that only a few fledglings and adults were taken. An examination of Kittiwake breeding statistics from other areas shows great variation in breeding success, suggesting that it is unnecessary to invoke predation as a major factor affecting Kittiwake breeding success.

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Notes on the Whitethroat in Sutherland

DONALD MACDONALD

The most detailed studies of the breeding cycle of the Whitethroat have been made by Howard (1907-14) in Worcestershire and by Crowe (1955 and unpub.) in Surrey. The observations in the present study were made at Dornoch, Sutherland, mainly at three territories on the outskirts of the town, comprising a hillside slope, an area of former woodland and a country lane, referred to as areas A, B and C respectively, from 1972-4 and from 1976-8, being more intensive in the last three seasons. During these latter three years daily visits were made to each of the three areas, usually in the early morning. Some nesting data from earlier years are also included. In the two southern counties the species is a common summer migrant whereas in Sutherland it is very sparsely distributed and near the fringe of its European range. All times given are GMT.

Population and habitat

The average number of singing males located within a radius of about 5 km from Dornoch was eleven but a thorough search might reveal more. It is well known that the males of some warblers, including the Whitethroat, almost entirely stop singing from the time that their females begin to lay. Consequently if one were to concentrate too much on population statistics there is the likelihood that one would miss nest building operations and it is then very difficult to locate breeding pairs, particularly in an area where the species is sparsely distributed.

The catastrophic drop in Whitethroat numbers from 1969, attributed to severe drought in their winter quarters in the Sahel Zone of the southern Sahara, showed, as elsewhere, a marked decline of the species at Dornoch. This, however, was

considerably less than the 77% decrease estimated for the whole of Britain by Winstanley *et al.* (1974), as occasional population figures taken at Dornoch in years before the decline set in showed that the number of singing males never exceeded 20.

Whitethroats occupy two distinct habitats in the Dornoch area. By far the most favoured are the dense scrub jungles including a varied assortment such as wild Raspberries *Rubus idaeus*, brambles *R. fruticosus* agg., whins *Ulex*, Broom *Cytisus scoparius* and wild roses *Rosa* with a tangled undergrowth of nettles *Urtica*, various umbellifers or Bracken *Pteridium aquilinum*. Most of these sites contain a few small trees which provide ideal song posts for the males. All three of the intensively watched territories, A, B and C, belonged to this type of habitat. A few pairs, however, resort to the exposed whin covered slopes overlooking the golf links, which are within 100-200 m of the seashore. Ryves (1948) states that the Whitethroat is the only warbler that regularly breeds close to the coastal cliffs in Cornwall.

Territory

Howard (1907-14) and Crowe (unpub.) refer to the rivalry between males on arrival in the setting up of territories and later to the numerous disputes between paired males and unpaired intruders from adjoining territories. No such contests took place in the present study area as there was not a single record where two territories were adjacent to one another and it was even exceptional for two males to be within ear-shot of one another.

Only once was an intruding male recorded entering a paired territory. This occurred in territory A on 20th June 1973 when the pair were feeding nestlings. Just prior to the male arriving with food at the nest site an intruder male appeared at 18.08 and perched on top of a dead Raspberry cane about 10 m from the nest site, where he remained for about two minutes in a hunched back posture, delivering a song as he flew away. At 18.18 when the pair were together at the nest site the intruder reappeared on a nearby tree from which he sang a few songs before flying away. The resident male took no notice of the intruder on either occasion.

Crowe (unpub.) states that in his study area in Surrey territories varied from 0.10117 - 0.53957 ha, but pairs were mainly restricted to about 5-10 m on either side of a hedge, depending upon its thickness and accompanying vegetation. The size of territories were mainly defined by the males' song posts and in areas A, B and C they roughly consisted of narrow strips extending to 100, 130 and 150 m respectively. In

width each of them was restricted to less than 100 m owing to the nature of the habitat.

Voice

Witherby *et al.* (1938) give the song rate as 7-12 times a minute but the higher rates are only reached when the bird is greatly excited. The highest song rates heard in the study area were 367 and 310 songs each of which were delivered in half-hour periods during long, sustained singing performances, giving rates of 12 and ten times a minute respectively. Song declines rapidly on arrival of the female and almost ceases altogether when incubation begins. When singing at high intensity the male rapidly flicks his tail from side to side with each delivery. The latest song heard was on 7th August 1976 when a male sang four songs including one aerial display song.

By far the most frequently heard note is a deep, croaking *churr* which varies considerably in intensity. Whenever a human appears on the scene or if one happens to occupy a watching stance too near to a nest site then both sexes keep up an incessant churring. On one occasion a male was heard churring very harshly and continuously from a dense thicket of bramble, wild rose and whin, and eventually a Tawny Owl was flushed from an open space in the middle of the prickly tangle.

Another characteristic note is the *wheet*, *wheet* call which is somewhat difficult to assign to any particular function. As far as could be ascertained it is a call mainly restricted to the male, and at times is intermingled with his song and the *churr* note, especially when a bird is very excited. A Rook flying closely over a male perched on top of a whin spray, a Jackdaw passing near a male performing his aerial display song and a predator suddenly flying out of a nearby tree all elicited the *wheet*, *wheet* call. A sharp *tac*, *tac* referred to as an alarm note by Witherby *et al.* (1938) was seldom heard. Fledglings were often heard to make low, cheeping or churring noises when perched in the undergrowth.

Arrival and behaviour of males

The average date of arrival of the first male in the study period years was 13th May, ranging from 9th to 16th May. The earliest arrival date recorded at Dornoch was 6th May 1952. Males having set up their territories spend most of their time feeding, frequently singing and flitting about from one song post to another proclaiming their territories. At times, however, one could spend up to an hour in a territory without hearing any song or obtaining a sight of the owner.

In 1973 and 1978 the male in territory C failed to obtain a mate. In 1973 male C was present and singing from 16th May to 28th June and in 1978 from 27th May to 20th June. As will be seen later, it is perhaps significant that while those males were watched for periods of eleven hours extending over 25 days and four and a half hours extending over 13 days respectively, no sign of nest building was seen in either year.

Arrival of females, display, pairing and nest building

The earliest arrival of a female was 16th May. The shortest time a male had to wait for a female to enter his territory was four days but sometimes it was as long as 14 days or more. The full sequence of arrival to pairing was observed on only four occasions but as the pair in each case behaved in an almost similar manner it will be sufficient to illustrate the behaviour pattern of one pair only.

In May 1978 visits were made each morning to territory B, usually sometime between 06.00 and 08.00. The male arrived on 9th May and for the next six days was heard singing in intermittent bursts as he flitted about his territory. On the morning of the 16th, however, he was in a highly excited state, flying all over his territory and singing almost incessantly, even when flitting from one stance to another. In half an hour he sang 256 songs. There was no sign of another male in the vicinity. Next morning the situation had undergone a complete change. He was then confined to a restricted area, sang little, but frequently uttered the *wheet, wheet* note and at times carried nesting material to a wild Raspberry patch. On the 18th the female was first sighted as the male made dive-bomb displays towards her in the Raspberry patch followed by some sexual chases. That behaviour was repeated on the 19th and for the first time the male was seen performing a full aerial display song. On the 20th and 21st the female was observed carrying nesting material to the male's nest and on the 22nd the first egg was laid.

It would appear that the female, although not seen until the 18th, had arrived on the 16th as otherwise why should the male suddenly change his behaviour pattern? If the female did not arrive until the 18th, the day on which she was first sighted, then pairing, coition and the laying of the first egg would all have taken place within four days, which is highly improbable. Howard (1907-14) states that at least six days is required from the female's arrival to the laying of the first egg.

In six cases where nest building was observed the male built the nest after the female's arrival and she added the lining. Crowe (unpub.) states that the male usually builds

prior to but occasionally after the arrival of the female. The laying of a clutch followed in all nests built by the male with one exception. In 1978 male A built a nest which the female lined. There followed a period of six days when the territory was visited for nearly an hour each day during which visits there was no sign of the female. On the seventh day, however, a female was also present and was seen going to the male's nest but, as subsequent events showed, apparently rejected it. Three days later the male was observed building another nest which was then lined by the female and ultimately used for breeding. It would appear from these events that two females were involved and that the first female was possibly predated. It is interesting to note that L. Stewart-Brown in Campbell and Ferguson-Lees (1972) states that he had never seen a female lay in a cock's nest.

Some males sang intermittently while building. Building material was procured at varying distances from the nest site and one male was watched as he tugged at dead grass stems with his bill. Nest building was recorded only during early to mid morning. Males usually completed a nest within two days.

Table of nesting data

	Territory A			Territory B			Territory C			Elsewhere		
	Clutch	Hatched	Fledged	Clutch	Hatched	Fledged	Clutch	Hatched	Fledged	Clutch	Hatched	Fledged
1966										5	5	5
1968										—	—	5
										—	—	5
1970										—	—	5
1972							—	—	5			
1973	4	3	3							—	—	5
1975	—	—	5									
1976	5	5	5	—	—	5	—	—	5			
				4	4	4*						
1977	5	5	5	—	—	4	5	5	3			
	—	—	4*									
1978	5	5	0	5	5	2						
	4	4	4*	4	4	4*						

*Denotes second brood.

Where clutch and hatching numbers are unknown the Fledged column also denotes the number of nestlings found in the nest.

The nest

The most favoured choice of nest sites were wild Raspberries as they held eleven out of 20 nests; brambles followed

with five and the remaining four were in low whins with a grassy undergrowth. The average height of the 20 nests from ground level was 42 cm, ranging from 15 to 80 cm. Most nests below 60 cm were surrounded by a thick undergrowth of weeds, one or two of which were exquisitely hidden.

The nest, although substantial, is flimsily built with a rather deep cup but those built for second broods were more hastily constructed and had much shallower cups. Witherby *et al.* (1938) state that nests are generally lined with black hairs but in the present study only four were so lined and only two of those had a plentiful supply of black hairs. Most nests were lined with finer dead grasses and fibres. Nearly all nests were decorated around their rims to a more or less extent with flecks of vegetable down and occasionally a dead leaf was added. When nests were uplifted from their sites one could invariably see daylight through the foundations. The average depth of the nest cup was $4\frac{3}{4}$ cm, ranging from 4 to $5\frac{1}{2}$ cm. One nest was taken apart and found to be composed of 425 dead grasses and a lining of 140 black hairs. Six particularly long strands taken from the nest foundation measured various lengths from 52 to 91 cm. A nest analyzed by Crowe (unpub.) consisted of 442 dried grasses and about 200 small and finer pieces.

Egg laying, the egg and the clutch

Crowe (1955) states that the first egg was on every occasion laid 48 hours after completion of the lining but, as shown earlier, the female in territory B in 1978 laid her first egg within 24 hours of completing the nest lining. The ground colour of the eggs varied from whitish to greenish and were either lightly or more heavily marked. As one would expect, eggs of a female's second clutch matched those of her first. In ten nests found at the egg stage six were of c/5 and four of c/4, three of the c/4 being second clutches. Five appears to be by far the most regular clutch size as eight out of a further ten nests found with young held five nestlings. In 20 nests the first egg was laid in the following periods: late May—ten, early June—three, mid June—three, late June—two, early July—two. The late June and early July layings were second clutches.

Incubation and hatching

Perhaps the most striking feature at the outset of incubation is the diminution of song. Although song decreases markedly after pairing, when incubation begins it almost ceases and one can remain, at times, in a territory for well over an hour without hearing a single note. The occasional song phrase heard occurs most often when the sexes change over

at the nest. The male either calls the female off or indicates that he has left the eggs by uttering a subdued warble or repeating the *churr* note once or twice. More often than not, however, the change over takes place quite silently. On one occasion when hidden very close to a nest, very low soft churring notes were heard from the pair as the change over took place.

Crowe (1955) states that the male spends much longer on the nest during the first few days of the period, and as incubation advances he slowly spends a smaller total of hours on the nest. In the present study it was not possible to say whether or not this was the case as incubation data were very scanty compared to Crowe's very detailed findings. In 32 incubation periods the female averaged 35 minutes with a longest stint of 85 minutes, and the male in 19 periods averaged 29 minutes with a longest time of 47 minutes. In territory C in 1977 the male was neither seen nor heard between the second day of incubation and the hatching date. In watches extending to four hours over a period of six days during that spell the female alone was seen to incubate. Her incubation periods averaged 16 minutes and her off-nest periods eight minutes.

The full incubation period was ascertained on only five occasions. Two clutches hatched on the eleventh day (ten days + hours) and the other three on the 12th day (eleven days + hours). At two of those nests there was a period of at least 22 and 16 hours respectively between the hatching of the first and last chicks. Out of a total of 46 eggs in ten clutches only one egg, which contained a dead embryo, failed to hatch. On no occasion was there any evidence of a male being polygamous.

Nestling period

During the first few days and in cold weather nestlings are brooded to a large extent by both adults but mainly by the female. Brooding periods were much shorter than those of incubation and averaged about 12 minutes, the longest recorded being one of 21 minutes by a female. The adults were much shyer when attending nestlings than during incubation. All those data agree with the findings of Crowe (1955).

With few exceptions food brought by the adults to the young was difficult to identify. Green caterpillars of varying sizes were a favoured item from the second day onwards and probably accounted for at least 50% of the nestlings' diet. Other items, each of which were identified on two occasions, were brown caterpillars and small moths. Once a female arrived with a white butterfly *Pieris*, the wings of which dangled

down each side of her bill like a huge cravat around her neck. The adults rarely went beyond 50 m of the nest site to obtain food for the nestlings but on two occasions on the same day a male flew 300 m across a field to a large Sycamore *Acer pseudoplatanus* to obtain food, and another male made several trips of well over 50 m into the middle of a barley field for green caterpillars.

Two females gave distraction displays when flushed from their nests when each held nestlings. The first female after giving a *churr* note flitted onto an adjoining track where she scuttled along for about 20 m with outspread wings. The other female on two occasions slipped off furtively through the surrounding foliage of the nest site and then fluttered down a sandy bank with partially spread wings. When approaching the fledging stage nestlings are very liable to explode out of the nest if one comes too close.

Some nests became tilted at quite an angle so that there was a danger of the nestlings falling out. At one nest where two of four nestlings had fledged the nest had tilted completely over on its side leaving the two remaining young ones perched on the interior side of the nest and roofed over by the other side.

Out of a total of 45 nestlings hatched from the known size of ten clutches, 35 fledged successfully, giving a fledging success of about 78%. In each of three nests where five young hatched, three, two and one nestling died respectively, the three and two during particularly cold spells early in the nestling period. The two nestlings left in the nest where three had died were very retarded in growth and did not begin to feather until their ninth day. The single chick that died was an early casualty in a nest where the remaining four mysteriously disappeared on the ninth day, leaving the nest quite intact with no sign of any dead nestlings beneath the site. This was the only nest out of 20 found prior to and during the study period that failed to produce a fledgling. The earliest fledging date was 16th June and the latest 1st August, the latter being a second brood.

Fledging period

Except in cases where a second clutch was laid, Crowe (1955) states that once a brood fledged adults and young left the territory area within a few days. Adults with their fledglings in the present study area behaved quite differently. Nearly all pairs along with their young could be located for several days, and five broods remained within 150 m of the nest site for periods from 11-17 days. Even a second brood of fledglings remained in their territory for 12 days. Apart

from second broods the young appeared to be divided between the male and the female for feeding purposes. Green caterpillars continued to be a major part of their food supply while new items identified were crane-flies on three occasions and once a ripe Raspberry. By the 13th day of fledging the young are able to forage for themselves but on several occasions they were fed until the 17th day.

Fledglings make fairly rapid progress after leaving the nest and by the end of the first week they have become much more mobile; their stumpy little tails begin to lengthen and a few days later are well grown. They are enchanting little things to watch at this stage, as they are constantly on the move, exercising their limbs by extending a leg and wing backwards, lifting the wings high above the back or spreading them downwards and stretching up on their legs and arching their backs.

Second broods and departure

Four nests related to second broods. These were genuine second broods and not replacements of predated nests. It was only in the last three years that a strict watch was kept for second broods as until then it was not realised that the species might be double brooded so far north. It would appear, however, even in this fringe area, that possibly up to 25% may be double brooded.

There was considerable variation in the period between the fledging of the first brood and the laying of the first egg of a second clutch. The longest interval was about 19 days and the shortest about four days. In 1978 the first brood nestlings in territory B fledged on 16th June; on the following day the male was observed with nest material and by 25th June the female was incubating a clutch of four eggs.

The preliminary song and display functions to second nesting operations were on a very low key compared to the early days of arrival and pairing. Apart from a slight recurrence of song accompanied by an occasional aerial display dance, no dive-bomb swoops or sexual chases were observed.

Watching second brood pairs at the nest was much more difficult as the plumage difference between males and females became much less distinct. The plumage of both adults by this time becomes rather dishevelled as they are on the verge of the moult and no longer can one see a male with prominent grey cap and beautiful pinkish buff breast as in the days after arrival. No data on the actual moult were obtained and, generally, little is seen of the birds after mid August. The latest date of recording a Whitethroat in the area was 10th September.

Acknowledgments

I am most sincerely indebted to R. W. Crowe for his kindness in giving me permission to peruse his unpublished notes on the Whitethroat. I also wish to thank J. Bell, Warden of Earl's Cross Hostel, Dornoch, and his successor W. Skene for granting me access to the hostel grounds at all times.

Summary

The Whitethroat was studied at Dornoch, Sutherland, during 1972-4 and 1976-8. Details of population, habitat, territory, voice and breeding cycle are given. Breeding success was high, only one nest in twenty being a total failure, and some were double brooded.

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WHITETHROAT John Busby

Isle of May Bird Observatory and Field Station report for 1978†

Prepared for the Observatory Committee by
J. M. S. ARNOTT, *Honorary Secretary*

The Observatory was manned from 28th March to 3rd November with the exception of short periods in April, June and July for which records were kindly provided by other observers on the island. During the year 157 species were observed, eleven more than in 1977, and including one bird new for the Isle of May, a Marsh Harrier. Other rarities included Thrush Nightingale*, Yellow-browed Warbler, Red-breasted Flycatcher, Coal Tit, Rustic Bunting*, and Yellow-breasted Bunting*. Unusually high numbers of Long-eared Owls, Short-eared Owls, Redwing and Willow Warblers were noted. Several heavy falls of migrants were reflected in the ringing total of 4,995 birds, 34% up on 1977, and which included 1,934 Puffins. Lapwings bred for the third successive year, and Moorhens for the second.

Migration highlights

The usual April migration in small numbers included a few uncommon birds including a Great Grey Shrike on 1st and a Stock Dove, the first since 1962 and one of 17 during the year, on 11th. The only real fall in April occurred at the end of the month when easterly winds on 29th brought amongst others 100 Fieldfares, the unusually large number of 50 Ring Ouzels, a Wryneck, 3 White Wagtails, a Yellow Wagtail, a Pied Flycatcher, 20 Wheatears, 100 Bramblings and the island's first Marsh Harrier. These were followed on 30th by four more Wrynecks, 200 Robins, and the first House Martin and Lesser Whitethroat for the year. Wryneck numbers built up to ten on 1st May, the highest recorded spring figure, although exceptionally there were none in the autumn.

Five more Wrynecks arrived on 6th May, together with ten Whinchats, ten Redstarts, ten Ring Ouzels, the first Sedge Warbler and Whitethroat, and a Thrush Nightingale*. Eight Red-backed Shrikes were recorded between 19th May and 16th June, again more than usual though down on the spring total of 18 in 1977. Passage was light in the good visibility and generally easterly winds of the rest of May, and included

†Reports since 1958 published annually in *Scottish Birds*.

*indicates subject to acceptance.

three Bluethroats between 21st and 23rd, a Rustic Bunting* on 22nd, and an Icterine Warbler on 23rd.

The August highlight occurred on 14th, a day of west to southwest winds force two to four, with good visibility, following a day of light and variable wind on 13th with some light rain in the evening. A fall of over 1,000 Willow Warblers took place, the largest number ever recorded on the island, and 123 of which were ringed. They were followed, startlingly, on 15th by three Budgerigars.

Most of September experienced steady westerly winds, but on 6th which had a force five southeasterly, following a force three easterly the previous day, 20 species arrived including a Bluethroat, an Icterine Warbler, 20 Willow Warblers, two Spotted Flycatchers, a Red-breasted Flycatcher, 25 Pied Flycatchers and a Yellow-breasted Bunting*. Seawatching had to compensate during most of the rest of the month, and brought, amongst the Manx and Sooty Shearwaters, eleven Arctic Skuas on 21st, the highest recorded number, a Pomarine Skua on 23rd, a Black Tern on 26th, and a Glaucous Gull on 27th September.

Following the Willow Warblers another daily record total was broken in autumn on 11th October when light easterly winds had veered overnight from northeast, and about 8,000 Redwings were observed flying past in a southerly direction. Only about 200 landed on the island where they joined about 100 of the 2,000 Song Thrushes flying past and, among others, a Yellow-browed Warbler and a Red-breasted Flycatcher. There was another influx of Redwings, this time about 2,000, on 15th October in a light southeasterly wind and accompanied by about 800 Blackbirds and 600 Song Thrushes. There were also six Long-eared Owls and nine Short-eared Owls out of exceptionally high autumn totals of, respectively, eight and at least twenty.

Passage dates of some migrants

Sooty Shearwater 26 Aug-17 Oct, 60 on 26 Aug.
Manx Shearwater 26 Aug-28 Oct, 61 on 20 Sep.
Arctic Skua Singles 12 Jun, 17th and 26 Jul; 4 Aug on, 11 on 21 Sep.
Great Skua Singles 24 May, 15th and 17 Jul; 3 Aug on.
Wryneck 29 Apr-24 May, 10 on 1-2 May; none in autumn.
Sand Martin None in spring; 28 Jul-19 Oct.
Swallow 4 May-10 Jun, 24 Jul-18 Oct, 150 on 8 Sep.
House Martin 30 Apr-26 Jun; 4 Aug-27 Sep, one 26 Oct.
Tree Pipit 28 Apr-17 May, 60 on 2 May; 1-28 Aug.
Meadow Pipit To 26 May, 250 on 2 May; 14 Aug on, 200 on 4 Sep.
Robin To 25 May, 200 on 29 Apr; 17 Aug on, 70 on 15 Oct.
Redstart 24 Apr-27 May; 6 Sep-20 Oct.
Whinchat 24 Apr-27 May; 6 Sep-11 Oct.
Wheatear To 12 Jun, 50 on 30 Apr-6 May; 10 Jul-13 Oct.
Blackbird To 6 Jun, 50 on 18 Apr; 1 Oct on, 800 on 15 Oct.

Fieldfare To 25 May, 400 on 5 May; 11 Oct on, 700 on 26 Oct.
Song Thrush To 25 May; 27 Sep on, 2,000 on 11 Oct.
Redwing To 12 May; 28 Sep on, 8,000 on 11 Oct.
Sedge Warbler 6 May-5 Jun, 27 Jul-7 Oct.
Whitethroat 6 May-7 Jun, 15 on 21 May; 24 Aug-15 Sep.
Garden Warbler 22 May-7 Jun; 14 Aug-15 Oct.
Blackcap 2-22 May; 3 Oct-1 Nov, 30 on 16 Oct.
Chiffchaff 1 Apr-27 May, 20 on 1 May; 1-15 Oct.
Willow Warbler 29 Apr-8 Jun, 50 on 20 May; 3 Aug-11 Oct, 1000+ on 14 Aug.
Spotted Flycatcher 10-26 May, 20 on 21 May; 4 Aug-11 Oct.
Pied Flycatcher 29 Apr-31 May; 20 Aug-11 Oct, 35 on 7 Sep.

Unusual occurrences

Greylag Goose One 6 Jun—1st June record.
Pintail One 29 Sep—8th record.
Marsh Harrier One 29-30 Apr—1st record.
Kestrel 16 during autumn—more than usual.
Coot One 26 Jul—9th record and 1st since 1958.
Curlew Sandpiper One 20 Oct—6th record.
Ruff Singles 26 Aug, 7 Sep—1st since 1971.
Pomarine Skua One 23 Sep—13th record.
Iceland Gull One 16 Oct—7th record.
Glaucous Gull 4 between 27 Sep and 27 Oct.
Stock Dove At least 17 between 11 Apr and 24 Sep—1st since 1962.
Long-eared Owl 6 on 15 Oct—highest recorded number.
Short-eared Owl 9 on 15 Oct—highest recorded number.
Sand Martin One 19 Oct—latest date.
Thrush Nightingale* One 6-8 May—3rd record.
Bluethroat 3 during 21-23 May, one 6 Sep.
Redwing 8,000 on 11 Oct—highest recorded number.
Reed Warbler One 4 Jun—5th spring record.
Icterine Warbler One 23 May, one 6-8 Sep.
Yellow-browed Warbler At least 4 between 2nd and 16 Oct.
Willow Warbler Over 1,000 on 14 Aug—highest recorded number.
Red-breasted Flycatcher One 6 Sep, one 11 Oct.
Coal Tit One 9-10 Oct—5th record, 1st since 1956.
Red-backed Shrike 9 between 19 May and 16 Jun.
Great Grey Shrike 3 between 2nd and 6 Apr—8-10th spring records.
Rustic Bunting* One 22-24 May—9th record.
Yellow-breasted Bunting* One 6 Sep-12th record.
Red-headed Bunting One 4-13 Jun—probable escape.

Rarities in 1977 The records marked with an asterisk in the 1977 report as subject to acceptance have all been accepted by the *British Birds* Rarities Committee. They were Short-toed Lark on 26 May, Thrush Nightingale on 22 August, Greenish Warbler on 14-16 August, Richard's Pipit on 23 September, Yellow-breasted Bunting on 17 September, and Little Bunting on 17-18 September and on 9 October.

Breeding population (all numbers refer to pairs)

The Herring Gulls and Lesser Black-backed Gulls had about the same numbers as last year, about 2,500 and 250 respectively, following another small-scale cull by Nature Conservancy staff. Fulmar numbers were much the same at 57 (62 in 1977, 57 in 1976, 72 in 1975), as were the Shags at 807 (816 in 1977, 365 in 1976, 676 in 1975). For the second year running



PLATE 29 (a) Curlew on nest at hatch.



(b) Male Whinchat carrying food to nest.

PLATES 29-31. A selection of moorland birds by William Brotherston, to mark his becoming an honorary member of the club.



PLATE 30 (a). Male Golden Plover on nest.

(b). Lapwing at nest.

William Brotherston





PLATE 31 (a). Snipe on nest.

(b). Common Sandpiper with young.

William Brotherston





PLATE 32. White Stork at Galston (Ayrshire) 30-31 May 1979. Small influxes in spring are now becoming regular.

(a) Searching for worms.

(b) Roosting on cottage near midnight.

Donald A. Smith



one pair of Moorhens bred on the North Ness and five pulli were seen, and for the third year running Lapwings nested successfully. There were at least four pairs, and seven pulli from three nests were observed. Shelducks and Swallows had one pair each, and Eiders, Oystercatchers, Kittiwakes, Razor-bills, Guillemots, Puffins, feral Rock Doves, Rock Pipits and Starlings also bred.

Ringling

The ringing total for the year was 4,995 of 71 species, among which again the largest number for one species was 1,934 Puffins, this year a record total. In the six seasons since Dr Harris's study began in 1973 a total of 8,718 Puffins has been ringed. On a smaller scale, record totals were also obtained for Cuckoo (5), Redwing (202), Ring Ouzel (33), Willow Warbler (476), Spotted Flycatcher (31), and Goldfinch (7). Other comparatively high figures were for Fulmar (18), Wryneck (18), Song Thrush (241), Black Redstart (5), Chiffchaff (32), and Red-backed Shrike (8). Among those birds not often ringed on the May were Kestrel (9th), Short-eared Owl (5th), Coal Tit (2nd), Thrush Nightingale (2nd), and Red-headed Bunting (2nd).

Recoveries

During the year 179 recoveries of 19 species were reported. Herring Gulls had the highest figure with 67, mostly on the east coast from Fife to Kent, but with two in the Clyde area, one in Lancashire and one in Cheshire. They included 13 birds reared on the May that were culled while breeding on the Farnes. Shags had the second highest total of 64 recoveries following the usual pattern from the Moray Firth to Yorkshire, but exceptionally including one from Orkney and one from near Stavanger in Norway. There were 15 Puffin recoveries, mostly local, but also two birds from the north of France, possible casualties from the oiling incidents there. The other recoveries included the first for an Isle of May ringed Bluethroat, and a selection of these follows, with the age-code after the species name:

	<i>Ringed</i>	<i>Recovered</i>	
Fulmar (1)	11. 8.77	5.10.77	Eiderstadt, Schleswig-Holstein, West Germany.
Robin (3)	15.10.76	28.11.77	Bude, Cornwall.
Robin (3)	26. 9.75	6.12.77	Tenby, Pembroke.
Robin (4)	4. 4.78	24. 4.78	Rotterdam, Netherlands.
Robin (4)	8. 4.78	29.11.78	Noord Brabant, Netherlands.
Bluethroat (5)	17. 5.77	27. 9.78	Burs, Gotland, Sweden.
Redstart (3)	1.10.78	11.10.78	The Calf, Isle of Man (controlled).

Blackbird (4)	28. 3.78	16. 5.78	Heligoland, W. Germany (controlled).
Blackbird (6)	26. 4.78	7. 5.78	Fair Isle (controlled).
Song Thrush (2)	1.10.76	12. 3.78	San Benedetto, Ascoli Piceno, Italy.
Song Thrush (2)	17.10.76	20. 5.78	Budal, Sor-Trondelag, Nor- way.
Song Thrush (2)	18.10.76	4. 1.78	Antequora, Malaga, Spain.
Whitethroat (4)	16. 5.77	16. 9.78	Almonte, Huelva, Spain (controlled).
Garden Warbler (3)	19. 8.77	28. 5.78	Rottumerug, Netherlands.

Research

Projects continued during the year were:

Gulls Breeding success among Herring and Lesser Black-backed Gulls, recruitment associated with the culls, and analysis of ringed birds (Neil Duncan, Durham University).

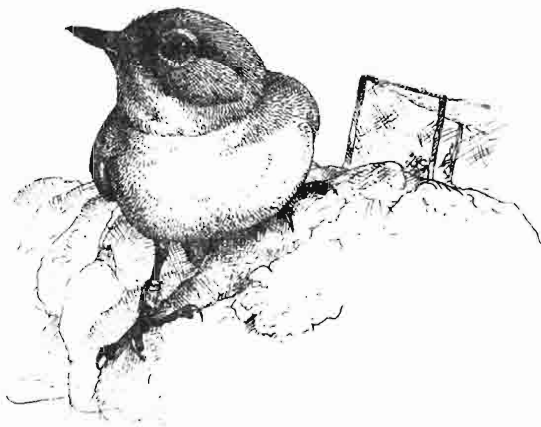
Puffins Status and breeding biology (Dr M. P. Harris, Institute of Terrestrial Ecology).

Behaviour Studies of Herring Gulls and Puffins (Dr R. Prescott and others, St Andrews University).

Marine fauna Survey and monitoring programme (Dr J. L. S. Cobb, St Andrews University).

N.C.C. Warden The Nature Conservancy Council again employed a reserve warden on the island during the summer months.

Our sympathy is extended to Mr Jim Smith and his daughters on the sad loss they suffered through the death of Mrs Smith in the autumn, and we are grateful to him for the way



PIED FLYCATCHER *Keith Brockie*

he has continued to operate the boat service. Warm thanks are also due to the Principal Lightkeepers and their staff for their kind help, and to the volunteers who contribute to the running of the Observatory in many different ways.

*J. M. S. Arnott, East Redford House,
Redford Road, Edinburgh, EH13 0AS.*

Birdwatching at the Loch of Strathbeg

J. DUNBAR

It may be safely said that northeast Aberdeenshire has never suffered from tourist saturation and probably the main reason for this is its lack of the highland scenery for which Scotland is justly famous. The birdwatcher too on his first visit might be excused for being unimpressed by Buchan's rather featureless coastal plain and bare farmland. However, as always, it is just a matter of knowing where to look. The extensive coastal section has perhaps most to offer and the place with which I am most familiar is the RSPB's reserve at the Loch of Strathbeg where I have been warden for the past six years.

This shallow coastal lagoon is the largest of its type in Britain and is some 220 hectares in extent, separated from the sea by a belt of sand dunes between 500 and 1,000 metres in width. On much of its landward side the loch is bounded by freshwater marsh of varying width where willow scrub is fairly rapidly colonizing. The loch floor is carpeted by stone-wort and other wildfowl food plants and if I say that up-ending swans can touch bottom over roughly three quarters of the loch then perhaps this gives some idea of its value as a feeding place for waterfowl.

Situated as the reserve is on the extreme northeast tip of the county, even a casual glance at a map will suggest to a dedicated twitcher that here, with the sea on two sides and the Scandinavian coast only 300 miles away, is a spot to watch. Indeed, never a year goes by without some outstanding rarity arriving. Last year's speciality was a Great White Egret, and in other years Red-footed Falcon, Caspian Tern and Little Egret have occupied pride of place. Highest on this list perhaps was a Pied-billed Grebe which stayed for two months and sparked off a miniature (birdwatcher) migration of its own as news of its presence spread along the grapevine. Spoonbills have become more or less regular visitors and two or three have been wearing Dutch rings. An interesting point

here is that two Teal recovered on the reserve also wore Dutch rings, which raises the question as to what percentage of the duck flocks occurring at Strathbeg originate as far south as Holland.

Thomas Edward was the first to write (in 1854) of what he saw at Strathbeg. A Banff shoemaker, he lacked both the means and the transport to visit the loch very frequently. However, having got there on Shanks's pony it was his wont to stay for a day or two sleeping rough. Either the local weather was more clement than or naturalists are no longer as mettlesome as they used to be, though I fear the latter may be nearer the truth. Like other birders of his day Thomas Edward made up for his lack of binoculars by the judicious use of a gun as an aid to identification. Meanwhile he lamented the destruction caused by the 'murderous gunner'. Some of Edward's findings still apply today: for example, he found Coot abundant—they still are during the autumn and winter—and Moorhen scarce, which they are today. Of the rare birds he recorded in the area the fate of one in particular, a suspected Great Snipe, deserves mention. This bird was, along with other species, sent to a Banff minister for his table. Due to misunderstood instructions the bird was accidentally cooked and eaten by the reverend gentleman before either himself or Edward had had a chance to examine it properly.

The main reason for the reserve's existence is not of course its visiting rarities but the huge wildfowl flocks that occur between September and April. These waterfowl concentrations are of international importance with the highest count to date being about 25,000. This concourse of large birds is truly spectacular both in sight and sound. There is a good variety of duck species with 19 so far having been recorded. In addition to the more usual species, Gadwall, Scaup and Smew are regular in small numbers. The two most numerous geese are Greylag and Pink-foot but small flocks of Barnacles occur, some of which we have found are on migration from Spitsbergen to the Solway. My favourite sound though, if wardens may be permitted such liberties, is that made by displaying Whoopers as the flocks arrive in the autumn. With disputes arising between family parties, calls echo across the water on the still, frosty air. The bird species list for the reserve steadily lengthens with so far 196 having been recorded.

Of course the birdlife is only one facet of the reserve's natural history. Mammals too feature largely in the records of the area. There is, for example, a healthy Roe *Capreolus capreolus* population and these attractive creatures are always a pleasure to watch. I well remember one June dawn seeing a doe

accompanied by her tiny offspring wading up to the shallows at the loch's edge because, presumably, the youngster would have found the tall vegetation on the loch side very heavy going. Badgers *Meles meles* too are fairly common in this part of the country and the reserve has its sett, albeit a small one. One summer after the hides had been built, Badgers dug themselves a temporary refuge under one of them. Evidence of their presence was visible nearby in the dug-up remains of a wasp's nest and in those of various Rabbits *Oryctolagus cuniculus* lying around. Most satisfying of all the mammals on the reserve is the Otter *Lutra lutra*. This most difficult of animals to study, at least in loch and marsh habitat, is extremely elusive at Strathbeg and is seldom seen. Even so we do know a little of its habits and food on the reserve and in time may be able to solve some of the mysteries regarding its life here.

The variety of habitat from foreshore to woodland makes for a wide diversity of plants. To mention a few of the more noticeable or interesting species we could begin on the sand dunes with Grass of Parnassus *Parnassia palustris* and Lovage *Ligusticum scoticum*. In a section of loch shallows Creeping Spearwort *Ranunculus reptans* has a limited distribution and in the surrounding marshland several orchid species grow including Butterfly *Plantanthera chlorantha* and Coralroot Orchids *Corallorhiza trifida*.

The history of the loch and its surroundings is equally fascinating. During late glacial and into post glacial times what we now know as the Loch of Strathbeg was a sea bay. The cliff along the landward side of the loch and on which the Bay hide now stands dates from this period. Gradually a gravel bar formed across the mouth, leaving only a small gap through which the burn now called Savoch flowed. The result was an excellent tidal harbour where the small fishing community of Rattray formed, which eventually became a royal burgh. However, in the early 1700s a storm finally sealed the harbour entrance and finished what remained of the fishing industry there. This was the last natural move in the basic formation of the loch as we know it, though change nevertheless continues. For example, the Back Bar is increasing in width and storms plus silting cause changes in the loch bed. Towards the end of the 18th century efforts were made to drain the loch. These failed, though remains of the old drainage channels can still be seen both on the ground and on aerial photographs. One channel, still known locally as the Canal, runs from the outlet burn towards the village of St Combs. During the First World War the loch was used as a seaplane base.

Voluntary wardens can be of great assistance in management and notable amongst them are some dedicated local

people on whom have fallen many of the heavier management tasks such as the erection of hides. One of these, The Fen, is built on stilts in a reedbed in the edge of the loch. During periods with high loch levels the water under it can be two feet deep and this fact helped to add more than a little interest during construction operations. The work of a voluntary warden is, however, far from being work and no play. Each is encouraged to study the particular aspect of natural history in which he is especially interested. All of us enjoy watching wildfowl and this enjoyment intensifies as autumn approaches when the reserve lives up to the description given it by someone who knew it well. He described it as 'this wild loch of the geese' and I can do no less than agree.

Access to the reserve is across Ministry of Defence property so a permit from me before your visit is essential.

*J. Dunbar, The Lythe, Crimonmogate,
Lonmay, Aberdeenshire.*

Short Notes

Kestrel rolling over in flight

On 22nd April 1978 I was watching an adult male Kestrel hunting over a young conifer plantation on the lower slopes of the Galloway Hills near Newton Stewart, Wigtownshire. It stopped hovering and circled higher, reaching perhaps 50-60m before flying in a straight and level course. Suddenly it half-closed its wings and quickly rolled over sideways in a complete turn; it flew on and again quickly rolled over in a complete turn before it continued hunting out of sight. As far as I could see there were no other Kestrels in the vicinity which was about 3km from the nearest known breeding site.

Although female Kestrels will occasionally turn over and present talons in courtship display Kestrels rolling over in normal flight would seem to be unusual.

R. C. DICKSON

Black-winged Pratincole in Aberdeenshire

On 11th July 1976 a flurry of birds drew my attention over a marshy area of farmland adjoining the Loch of Strathbeg, Aberdeenshire. I suspected the cause of the disturbance would be a hawk, but when a dark outsize Swallow-shaped bird appeared circling back over the marshland towards the loch it was obvious from its rapid, gliding and dipping, erratic flight that it was not of the ordinary.

It landed on a sandbar of the main feeder burn at the loch-side, 300 m from the hide where, with the aid of a telescope and in good light, J. Dunbar was able to view the black under the wings clearly when they were obligingly raised in wader fashion several times, which distinguished it as a Black-winged Pratincole. However, after a few minutes a group of Lapwings began to mob it, causing its departure westwards. Unfortunately it did not return.



Description The general impression was of a large dark brown Swallow with a deeply forked tail and obvious white tail-base; buff throat with narrow black border (which was becoming slightly broken), white underbelly; blackish primaries, black underwing; dark legs.

ROBERT CARDNO

[Note that the date was 11th July, not the 15th as published in the Scottish Bird Report (10: 97) and in the Rarities Committee report (*British Birds* 71: 498). Breeds in southern Russia and central Asia; winters in Africa. There are 15 previous records for the British Isles, only one of which was from Scotland (Fair Isle 1927).—ED.]

Gymnastic Carrion Crow

As I was driving into North Berwick, East Lothian, on 15th October 1977, I noticed what looked like a ragged piece of windblown black polythene hanging from a telephone wire above a field. It was in fact a Carrion Crow hanging upside down by its feet, quite still with its wings half open until after a few moments it simply dropped and flew to a nearby shed roof.

Another Crow flew in to perch on the wire in the orthodox manner for a few minutes, then joined the other on the roof. One of them picked up a short twig in its beak and both spent several minutes walking about on the shed, dropping the stick, pecking at both it and the roof, and carrying the stick again until it eventually fell to the ground. One Crow flew down but returned without it.

They were joined on the shed by another Crow and three Jackdaws, and a mutual aerial chase followed until only one Crow remained.

A performance on the high wire by a Rook was reported in 9: 382, and by a Carrion Crow in *British Birds* 69: 310, where references are given to similar instances in both species. I thank Derek Goodwin for his comments.

D. J. BATES

Review

The Birds of Angus (including south Kincardineshire) by George M. Crichton. Published by the author, 1976, pp. 48, with 8 plain photographs, 20 x 15 cm. 90p.

This is the only book to have been published dealing specifically with this interesting area but the author acknowledges his debt to the unpublished manuscript of the late Henry Boase (c. 1962), to Harvie-Brown's *Fauna of the Tay Basin and Strathmore* and to Baxter & Rintoul's *Birds of Scotland*.

W. G. HARPER

Current literature Articles and reports on the status and distribution of birds in Scotland are listed here. Strictly biological studies such as ecology or behaviour are excluded, as are references from widely read journals such as *British Birds* and *Bird Study*. Most listed items and many others are in the club library and we are grateful to everyone who has made donations. The library also welcomes copies of ornithological work on any subject published outwith the main bird journals.

The Breeding Birds of the 'Flooders' Fresh-water Marsh, Part of Caerlaverock National Nature Reserve, in 1978. G. A. Wright 1979. Nature Conservancy Council report.

Perthshire Bird Report 1976-7-8. M. Marsland & E. D. Cameron 1979. Perth Museum & Art Gallery, George Street, Perth; 80p + 15p postage.

Birds and gas flares. W. R. P. Bourne 1979. *Marine Pollution Bulletin* 10: 124-5.

Angus and South Kincardine Bird report 1978. N. K. Atkinson 1979. *Angus Wildlife Review* 1978.

Recoveries of Black-headed Gulls ringed in Dumfriesshire and Galloway. D. Skilling. *Transactions of the Dumfriesshire and Galloway Natural History and Antiquarian Society*, 3rd ser. vol. LIII (1977-8): 15-23.

Berwickshire Seabird Populations 1978. E. S. & S. R. D. da Prato 1979. Nature Conservancy Council, SE Region, Edinburgh.

Edinburgh Ringing Group: Six: 1978. (Includes papers on Shelducks, censusing warblers, wintering Greenfinches, ringing Swifts, and breeding Golden Plovers). 60p from S. R. D. da Prato, 38 Caerlaverock Grove, Tranent, East Lothian.

Letter

Colonization of Scotland by northern birds

If my criticisms of Mr Murray's paper follow classical lines, as they do, I am puzzled why he did not deal with the subjects there (10: 282-3). As I said, the reason why I took up his failure to deal with human activities and its impact on the 'megafauna' was because this was both the most glaring omission and the one which we know most about. I note that he still omits to refer at all to my first and most fundamental criticism, the length of time involved, in excess of 10,000 years, during which we know that there were continual climatic fluctuations, though we only have information relating to most birds for less than 200 years, in which time there have been spectacular changes. If Mr Murray claims to be referring to facts and then wishes to assert that the range of 50 species of birds in Europe is still determined by the last glaciation in preference to last winter, I fear I must just beg to differ. Birds can fly about and choose the terrain which is currently congenial, and are liable to move with every fluctuation in climate.

Mr Murray goes on to enlarge the discussion in two directions. First, he says that in an article headed 'Colonization of Scotland . . .' he was actually dealing with the whole of northern Europe. In point of fact the small populations of northern birds in Scotland which live on mountains in an island seem particularly likely to be unstable, according to the principles set out by R. H. MacArthur and E. O. Wilson in their *Theory of Island Biogeography* (1967), and while as Mr Murray remarks we may know about any trend towards colonization, we may know less about past extinctions. Secondly, he suggests that the microfauna may be more stable than the megafauna. In point of fact while it may be less vulnerable to direct human action, it is likely to be at least as sensitive to changes in habitat and especially the consequences of the introduction of competitors, predators and disease by man, about which we still often know nothing at all despite the fact that in some cases, such as the Grey Squirrel *Sciurus carolinensis*, Sitka Spruce *Picea sitchensis*, Mink *Mustela vison*, Rabbit *Oryctolagus cuniculus*, myxomatosis or Dutch elm disease, they are often clearly vast. Mr Murray has been unduly simplifying a very complex issue.

W. R. P. BOURNE

Notices

'British Birds' subscriptions SOC members are entitled to subscribe to **British Birds** at the special rate of £8.50 instead of £12. You should send a stamped addressed envelope for a leaflet to Macmillan Journals Ltd, 4 Little Essex Street, London WC2R 3LF.

Wing tagged Rooks Several hundred Rooks have been tagged on both wings with 5 x 3 cm Darvic wing tags at Burnhouse, Midlothian. Sightings would be gratefully received and acknowledged. Details of the base colour of the tag (red, white, yellow, blue, green), the colour of the Scotchlite strip ((red, white, yellow, blue, green) and letter/digit combinations (letter/digit, letter/letter, digit/digit, single digit or letter) are needed with location (including map reference) and habitat information. Please contact Paul Green, Department of Zoology, University of Edinburgh, West Mains Road, Edinburgh EH9 3JT.

Colour marked Greenland White-fronted Geese The Greenland White-fronted Goose Study group has marked these birds with large-numbered white Darvic rings on the west coast of Greenland in summer 1979. Sight records are wanted, giving the serial number of the Darvic ring which can be read through a telescope, the date and the locality. Other details (adult, immature, pair, family size, flock size) would also be useful. The serial number of the ring (letter-digit-digit) should be carefully checked; the initial letter falls nearest the lower end of the tarsus. The subspecies winters in Ireland, Scotland and Wales, with occasional records in eastern North America. Observers in all parts of the range are asked to scan flocks for marked birds. All sightings should be sent to P. J. Belman, 107 Grange Road, Ealing, London W5 3PH, and will be acknowledged.

Lead poisoning in waterfowl is a problem in certain places but there is no available information on its extent or seriousness. This is being investigated in a project set up by RSPB, WAGBI, and the Wildfowl Trust. Any dead waterfowl (ducks, geese, swans, Moorhens and Coots) e.g. from shooting, botulism, oiling, or simply found dead, would be useful. Whole frozen birds or preferably extracted guts are required. The guts should be preserved in a 10% formaldehyde (available from chemists) in a polythene bag. The bag should be clearly labelled for species, sex, weight of whole bird, date, locality, and habitat in which the bird was found. Should bulk be a problem, just the gizzard and liver would suffice. The material can be taken to a local collection centre. For further details contact Dr Greg P. Mudge, Research Department, The Wildfowl Trust, Slimbridge, Gloucestershire, GL2 7BT. Tel. Cambridge (Glos.) 333, ext. 42 (office hours only).

The Scottish Ornithologists' Club

REPORT OF COUNCIL

For Year to 30 June 1979

Membership Subscription rates, which had been unchanged during the previous four years of high inflation, were increased from the start of the session. Inevitably some members felt unable to continue their subscriptions but the net drop in total membership, at only 9%, was considerably less than anticipated. During the year 291 new members joined the club, including 52 juniors and 19 children nominated for family membership. One member transferred to life membership and another joined as a life member. Reduced subscriptions were paid by 341 members over retirement age. In the table, family members are counted as two people; nominated children pay no subscription.

Year to 30 June	1974	1975	1976	1977	1978	1979
Honorary	4	4	4	1	1	1
Life	18	22	29	29	49	51
Ordinary	2312	2175	2406	2536	2572	2357
Junior	317	252	299	282	271	211
Nominated children	—	63	80	98	87	82
	<u>2651</u>	<u>2516</u>	<u>2818</u>	<u>2946</u>	<u>2980</u>	<u>2702</u>
	+91	—135	+302	+128	+34	—278

Members are urged to enrol their friends and all interested in birdwatching so as to ensure a good increase in membership in the current session.

Covenants The number of covenanted subscriptions rose from 587 to 710, covering 845 members and by far exceeding expectations. This most encouraging development is reflected in the considerable increase in the tax recovered. Council acknowledges with gratitude the help given to the club by those members who signed a deed of covenant and appeals to others to follow suit.

Deaths Council records with deep regret the deaths during the year of Dr David Bannerman, an honorary president since 1959 (an obituary was published in *Scottish Birds*) and of Dr Douglas Adamson, a past chairman of the Dundee Branch.

Finance The accounts show a gratifying surplus of £6237 for the year. This is far better than expected and considerably exceeds the figure budgeted for. A number of factors combined to bring about this large surplus—higher subscriptions, increases in income tax recovered from covenants and in sales of the journal, and a bookshop surplus over 28% more than last year, together with reductions in some expenditure items. The latter included a substantial saving in the cost of publication of the journal as only three numbers were printed. The very large deficit of three years ago has been more than recovered, and for the first time in many years the accounts show a healthy surplus. The availability of cash has allowed bookshop stocks to be maintained during the summer months—normally a time when cash is in short supply until subscriptions are paid in the autumn—with a corresponding decrease in the paperwork involved.

Branches The expanded programme of local activities carried out by some branches has proved to be of considerable interest to members. Several branches again held fund raising events to help purchase equipment and to contribute towards the running expenses of their branch; this is reflected in the reduction in the overall branch expenses shown in the revenue account for the year. It is hoped that branches will continue this form of self-help which is to the benefit of the club as a whole.

Monthly meetings were held throughout the winter by the twelve branches, and local excursions took place in both summer and winter. Enjoyable weekends were once again spent in the Solway area and Argyll. Council is most appreciative of the work done by many members who led excursions and arranged the birdwatching weekends, and also thanks those who organised meetings and gave lectures.

Annual Conference For the first time in five years the conference returned to the preferred late autumn date, and the 31st annual conference and 42nd annual general meeting of the club were held in North

Berwick on 27-29 October 1978. Although the previous conference had taken place only nine months earlier, the location and time of year proved very popular and the conference was fully booked. Those on the waiting list were promised advance notice for 1979 and all but two accepted the early invitation. The weekend with its customary high quality of lectures and social activities at other times, was greatly enjoyed by all who attended. An account appeared in *Scottish Birds* 10: 196.

Scottish Bird Report The delay in publication of the 1976 report was noted last year. Further delays occurred in the compilation of the 1976 and also the 1977 reports and council agreed that both should appear in one number of the journal; they were eventually published in February 1979. Council was determined that this very considerable delay in the publication of the SBR, which also disrupted the regular publication of the journal, should not be allowed to continue. Accordingly, having considered the recommendations of the editorial committee, it was agreed that the best way to ensure quarterly publication of the journal was to handle the SBR separately, using a different editor and printer for it. The journal could then be published on a regular schedule, and the SBR sent out with one of the issues when it was ready.

Roy Dennis had offered to edit the SBR and was appointed as its editor in January 1979; David Bates continues to edit the journal. The three assistants who had helped to compile the 1977 report, Alan Brown, Ron Forrester and Angus Hogg, agreed to continue, and council is very grateful to them for their help. Council also records its thanks to the local recorders, and their assistants, who carry out the task of preparing their reports to a schedule which has to be set many months ahead of the publication date of the SBR. While it is hoped to publish the report in time for distribution with the autumn journal, it is realised that this may not prove to be possible.

Scottish Birds Three issues, one a double number continuing the 1976 and 1977 *Scottish Bird Reports*, with 172 pages of text and plates were published during the year. The summer number appeared in mid-June, almost back to the scheduled time, and it is hoped that from September onwards the journal will be published early in each quarter.

Research and fieldwork In October 1978, on completion of his term as President, Andrew Macmillan tendered his resignation as chairman of the research committee, a position he has held since it was set up in 1972. Council records its thanks to him for his work on the committee during this time. Dr Iain Taylor, a lecturer in the Department of Forestry and Natural Resources, Edinburgh University, accepted council's invitation to take over as chairman and three new members were elected—Mr Tony Colling, Dr Jeremy Greenwood and Dr Derek Langslow. All will act as assessors, with Dr Taylor, on all SOC research matters; they will also be responsible for making recommendations to council on the annual applications for grants from the endowment fund.

Members again took part in various surveys organised by other ornithological bodies, such as the ringing scheme and common bird census of the BTO, wildfowl and goose counts arranged by the Wildfowl Trust, and the beached bird survey organised by the RSPB.

Conservation A report identifying new pressures on the native population of wild birds of prey in Britain, and making suggestions as to how these problems could be overcome, was received for comment. The report, which was prepared by a Working Party for the Secretary of State for Scotland's Advisory Committee on the protection of birds of prey, and the corresponding committee for England and Wales, was fully endorsed by council which also gave enthusiastic support to its recommendations.

Endowment Fund Once again ten applications for grants from the endowment fund were received; eight, totalling £495, were approved. £25 was given to the Bardsey Island Appeal, launched in 1978 to secure and endow the island bought by the Bardsey Bird and Field Observatory. Martin Cook received £25 towards expenses incurred during his survey of the breeding distribution of Crested Tits; and Roy Dennis was given £75 towards the travel costs of his visit to Scandinavia to study breeding Ospreys, Goldeneye ducks, and fish farming. The University College of Wales, 1979 Greenland White-fronted Goose Study, was given £100 for its expedition to breeding grounds in Greenland; and Stewart Murray received £100 towards boat hire charges for a seabird survey of Boreray, St Kilda. Yves Prévost, leader of the University of Edinburgh West African Osprey Expedition, was granted £50; the expedition is studying the Osprey in its winter quarters and he plans to stay for a year in the Gambia and Senegal if there are sufficient funds. Finally, two grants were given for continuing studies—£70 to David Lea, who had not claimed the grant awarded last year because bad weather had prevented his study on Storm Petrels, and £50 to Bob Swann and others for their studies on Manx Shearwaters and Shags on Canna.

Scottish Centre During the year the SOC Council and committees met in the Scottish Centre for Ornithology and Bird Protection; the premises were also used regularly during the winter for branch and informal group meetings. In addition the Centre has been used for meetings of the Fair Isle Bird Observatory Trust, the Isle of May Bird Observatory and Field Station Committee, and the Scottish Advisory Committee of the RSPB.

Many birdwatchers from home and abroad visited the Centre for advice on places to watch birds, and to buy books from the bird bookshop, and numerous postal enquiries were answered.

Bookshop Book sales continued to rise, with sustained growth in overseas orders, and reached just over £62,500—an increase of about 25%. Council approved the recommendation of the bookshop manager that SOC members should not pay postage for book orders over £5. It is too soon to estimate the increase in orders from existing members, but already a number of bookshop customers have taken up SOC membership to qualify for this concession. Council is very grateful to the BTO and Grampian Ringing Group respectively for inviting the club to display and sell books at the BTO Annual Birdwatchers' Conference at Swanwick and the Scottish Ringers' Conference at Aberdeen.

Library Council approved a request from the library committee for a larger allocation of funds with which to purchase and bind books; this was necessary because the previous allocation had remained unaltered for many years although the cost of books and binding had risen significantly. The committee had also considered ways of raising money for the purchase of new books; it was agreed to sell some of those seldom borrowed from the lending section, and to use the proceeds for purchases and binding. Because the cost of books was now so great it was decided that reviewers would in future be asked to donate review copies to the library. This change of policy should result in a considerable saving in library costs.

Mrs Daphne Peirse-Duncombe is warmly thanked for organising a coffee morning in aid of library funds, which raised over £155; £39 was spent on strip lighting in the basement room of the library and the balance used for further purchases. Council acknowledges most gratefully donations, and gifts of books, journals and reprints, received during the year.

Club representation Council records its thanks to Frank Hamilton and Dr Derek Langslow for their service to the club as its representatives

on the British Section of the International Council for Bird Preservation. It is also very grateful to Mr Bede Pounder for agreeing to take over from Dr Roger Bailey as SOC representative on the Duck Working Group of the International Wildfowl Research Bureau.

Secretarial staff Due to increased business in the bookshop, Mrs Maureen Suess was welcomed to the part-time staff in November 1978.

Acknowledgments Many members have contributed during the year towards the running of the club for the benefit of its members. They have served on council and on club and branch committees, given lectures, organised and led excursions, arranged branch social events and helped to produce the journal; council very sincerely records its thanks to them all. Finally, it acknowledges most warmly the work of the staff in the daily organisation and administration of the club.

For the Council,

VALERIE M. THOM, President.

Revenue account for the year ended 30 June 1979

	Year to 30/6/79	Year to 30/6/78
INCOME		
Subscriptions received for year	£11452	£7532
Income tax recovered on covenanted subscriptions	1771	998
Dividends and interest received (gross)	693	301
Surplus on bookshop (sales £62,501)	16246	12640
Sale of "Scottish Birds"	652	428
Sundry sales less sundry purchases	40	245
Donations, including annual raffle proceeds	236	669
Conference	244	—
Transfer from Life Membership Fund	—	50
	<u>£31334</u>	<u>£22863</u>
EXPENDITURE		
Branch expenses including lectures	£976	£1025
Travel expenses of council members and delegates to conferences	592	504
Secretarial and editorial expenses	16486	14084
Office expenses	2044	2012
Scottish Centre for Ornithology and Bird Protection: Club's share of running expenses	1168	1437
Cost of books purchased by library	335	148
Expenses in production of 1976/77 SBR	£100	
less contribution from "Scottish Birds"		
Appeal Fund	100	—
Cost of publishing "Scottish Birds" (less advertising revenue £797)	3421	2979
Net cost of annual conference	—	101
Subscriptions paid	75	75
	<u>£25097</u>	<u>£22365</u>
Excess of Income over Expenditure	6237	498
	<u>£31334</u>	<u>£22863</u>

Balance Sheet as at 30 June 1979

	Year to 30/6/79	Year to 30/6/78	
GENERAL FUNDS OF THE CLUB			
Accumulated surplus from previous year	£1769	£1271	
Add surplus for year	6237	498	
	<u>8006</u>	<u>1769</u>	
(Note £1000 earmarked for House Fabric Fund)			
Life Membership Fund	3363	3162	
"Scottish Birds" Appeal Fund	1651	1751	
	<u>£13020</u>	<u>£6682</u>	
REPRESENTED BY			
Cash in hand and bank	£735	£395	
Cash in Edinburgh Building Society	2970	78	
Bookshop stock	12251	9667	
Tie, badge and car sticker stock	250	125	
Debts due to club	2687	2308	
Investments at cost as below	1798	1798	
	<u>20691</u>	<u>14371</u>	
Less			
Subscriptions paid in advance	£36	93	
Debts due by club	7606	7596	
Due to Endowment Fund	29	—	
	<u>7671</u>	<u>7689</u>	
Total net assets	<u>£13020</u>	<u>£6682</u>	
Investments as at 30 June 1979			
	Market value	At cost	At cost
Safeguard Industrial Investments Ltd.—			
875 Ord. shares of 25p each	£701	£508	£508
£1280—19½% Treasury Stock 1979	1226	1290	1290
	<u>£1927</u>	<u>£1798</u>	<u>£1798</u>

Endowment Fund

(The free income of which is available for the advancement
of ornithology)

Revenue account for the year ended 30 June 1979

	Year to 30/6/79	Year to 30/6/78
INCOME		
Interest and Dividends received (gross)	£679	£542
EXPENDITURE		
Grants as detailed in Report of Council	£495	£460
	<u>£184</u>	<u>£82</u>

Balance Sheet as at 30th June

Endowment Fund as at 30 June 1979	...	...	£3417	£3412
Add Increase in cost value of re-investment	...	...	139	—
Donations	...	...	—	5
			<hr/>	<hr/>
			3556	3417
Add Accumulated revenue as at 30 June 1978	...	...	1807	1725
Excess of Income for year	...	...	184	82
Grant refunded	...	...	70	—
			<hr/>	<hr/>
			£5617	£5224
			<hr/>	<hr/>
Made up of :				
Investments at cost as below	...	...	£3151	£3011
Edinburgh Building Society : Capital Account	...	...	407	905
General Account	...	...	2201	1028
Due by Club's general funds at 30/6/79	...	...	28	490
			<hr/>	<hr/>
			5787	5434
Less Grants allocated but not yet paid	...	...	170	210
			<hr/>	<hr/>
			£5617	£5224
			<hr/>	<hr/>
Investments as at 30 June 1979				
		Market	At	At
		value	cost	cost
£1220 9½% Treasury Stock 1983	...	£1117	£1140	—
£1140 5% Exchequer Stock 1976/78	...	—	—	£1000
£440 British Printing Corporation—				
8½% unsecured Loan Stock	...	284	441	441
500 St Andrew Trust Ordinary 25p	...	580	570	570
1952 M & G Equity Investment for Charities	...	3110	1000	1000
		<hr/>	<hr/>	<hr/>
		£5092	£3151	£3011
		<hr/>	<hr/>	<hr/>

EDINBURGH, 24th September 1979.—I have audited the foregoing revenue accounts for the year to 30 June 1979, and the balance sheets as at that date. I have accepted as correct subscriptions and other receipts shown as received in the books and the value placed on the bookshop stock. Subject to this I certify that in my opinion the foregoing accounts are correctly stated and sufficiently vouched.

(Signed) ROBERT CAVEN,
Chartered Accountant.

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William Brotherston, Mrs Irene Waterston.

NOTICES

DUMFRIES WEEKEND

The annual weekend excursion to the Solway goose grounds has been arranged with the County Hotel, Dumfries, from Friday, 22nd to Sunday, 24th February 1980.

Accommodation: inclusive terms £24 (including service charge and V.A.T.) as follows: bed on Friday 22nd; breakfast, packed lunch, dinner and bed on Saturday, 23rd; breakfast and packed lunch on Sunday 24th. Dinner on Friday night is £5.00 extra per person (including service charge and V.A.T.). A limited number of rooms with private bathrooms are available for the additional charge of £3.00 per night.

Members may bring guests and should book direct with the Manager, County Hotel, Dumfries (tel. 5401), notifying him that they are attending the Club excursion. Members should also advise the Hotel in advance if they require Dinner on the Friday night.

Those not staying at the County Hotel are invited to attend an informal meeting at the Hotel on Friday at 8.30 p.m., when details of the weekend excursions will be announced. An informal programme of slides will be shown on the Saturday evening. Members or guests who may have slides of interest are asked to bring them to the Hotel, and to contact the Club Secretary on the Friday evening to discuss their inclusion in the programme. A selection of books from the Bird Bookshop will be taken to the Hotel for sale during both evenings. It is advisable to bring warm clothing, gum boots if possible, and thermos flasks for the excursions.

ARGYLL WEEKEND

The Stirling branch intend to repeat their Argyll weekend based at a country cottage near Ford in early March 1980. Accommodation is limited. The charge will depend on the number attending. Anyone interested should contact the Stirling branch secretary, Sandy Mitchell, 10 Kenilworth Court, Bridge of Allan, Stirlingshire FK9 4EJ. Tel. 078-683 2461 (please send sae if writing).

NORTHERN MEETING

As announced in the autumn journal, an additional meeting of the club will be held during the weekend 18-20 April 1980 at the Drumossie

Hotel, Inverness. The programme is enclosed with this journal. Please note that bookings can only be made on the form attached to the programme.

In the interest of members living north of the Highland Boundary Fault, Council has decided that all other bookings will be placed on a waiting list until 31 January 1980. On 1 February vacancies for the meeting will be allocated in strict order of receipt on the waiting list; such members will be advised of their booking as soon as possible after that date. The Manager of the Drumossie Hotel has been instructed not to accept any booking unless made through the Club Secretary.

Branch News

Mallorca A party of 21 members assembled at Glasgow airport on 14th April for a week's birdwatching in Mallorca. After a short delay the plane departed at midnight during a severe thunderstorm, the party eventually arriving at the Hotel Capri, Porto Pollensa, at 6.30 a.m. An hour later saw the first bleary eyed birdwatchers taking a look at their mist shrouded surroundings. After breakfast the cars were duly delivered and the party dispersed in small groups to various parts of the island. The hotel provided a packed lunch (very nice if you like chicken and its origins!) which enabled everyone to spend the maximum time in the field, returning at 8.00 p.m. to a good four course dinner, after which everyone retired to the bar to discuss the day's sightings. This set the pattern for the rest of the week.

There developed some friendly rivalry between members as to the number of new ticks they had added to their life list. By the end of the week some had seen over 40 new species. The total number of species seen by the group was 152, which included Black Vulture, Red and Black Kites, Marsh and Montagu's Harriers, Booted Eagle, Eleonora's Falcon, a party of 21 White Storks, Black Stork, Great White and Little Egrets, Collared Pratincole, Black and Whiskered Terns, Collared Flycatcher, and on the last day a party of 30 Bee-eaters.

All too soon the week passed. Although the weather was variable with some rain and cold winds everyone rated the holiday an unqualified success. Many thanks are due to Helen Halliday for organizing the trip and to the staff of the Hotel Capri for looking after us so well. Will this become another SOC annual event to rival the conference as a date to look forward to?

GEOFF SHEPPARD, LOGAN STEELE

Current Notes

These notes include unchecked reports and are not intended as a permanent record, nor will they be indexed. Please send reports via local recorders at the end of March, June, September and December.

Seawatching at Handa in May showed that it too shares the passage of skuas discovered in recent years at Balranald. Storm Petrels have been discovered in the Forth—far beyond their known range—by attracting them into mistnets using song recordings. Easterly weather in mid August and early October drew flocks of continental migrants to the east coast; as yet reports of the latter are incomplete.

A **Red-necked Grebe** summered again in the central Lowlands. **Black-necked Grebe** 7 pairs reared 12 young. **Cory's Shearwater** Troon (Ayr)

29 Jun. **Great Shearwater** Fair Isle 22 Aug. **Storm Petrel** 22 trapped Isle of May and one at Fife Ness in Aug using taped song; hitherto thought to be rare so far down North Sea. **Little Bittern** Morton Lochs (Fife) and Tynninghame (E Loth) in May. **Barnacle Goose** 250 Gladhouse (Midl) 1 Oct; 50 St Abbs (Ber) 3 Oct. **Garganey** bred SW Scotland. **Red-crested Pochard** Kilconquhar (Fife) 12 Sep; St Abbs 1 Oct. **Stellers Eider** Orkney May. **Marsh Harrier** summered E Scotland; up to 2-3 Hule Moss (Ber) 6-16 Sep. **Montagu's Harrier** Handa (Suth) 23 May—1st in Scotland since 1960s. **Golden Eagle** Strathbeg (Aber) Jun. **Quail** Fenton (E Loth) 3 Jun. **Buff-breasted Sandpiper** Musselburgh (Midl) 3 Aug; Aberlady (E Loth) 4-8 Aug; **Broad-billed Sandpiper** Aberlady 8 Aug. Suspected **Great Snipe** St Abbs 3 Oct. **Marsh Sandpiper** Doonfoot (Ayr) 29 Jul—3rd Scottish record. **Green Sandpiper** 9 Fair Isle 18 Aug. **Pomarine Skua** 73 passed Handa 1-5 May; one Minch mid Jul; Fair Isle 30 Jul, 30 Aug. **Arctic Skua** exceptional flock of 60 passed Handa early May. **Long-tailed Skua** 27 Balranald (N Uist) May; one Handa May; Girdleness (Kinc) 3 Jul; Orkney in summer. **Black Tern** early one Eden estuary (Fife) 12 Jul. **White-winged Black Tern** Gladhouse (Midl) mid Aug. **Turtle Dove** 3 Fair Isle 31 Aug. **Swift** 4500 SW Fenton 28 Jul. **Alpine Swift** Tynninghame 11 Sep. **Bee-eater** Kirkwall (Ork) Jul. **Wryneck** St Abbs 2-4 Oct. **Short-toed Lark** Fair Isle 9 Aug-Sep. **Red-throated Pipit** possibles Barns Ness (E Loth) 30 Sep and St Abbs 2 Oct. **Robin** 80+ St Abbs 2 Oct. **Song Thrush** 250+ St Abbs 2 Oct. **Redwing** 400+ St Abbs 2 Oct. **Aquatic Warbler** 3 Fair Isle 18 Aug. **Marsh Warbler** 2 Isle of May in Jun; Fair Isle 7 Aug, 17 Aug. **Reed Warbler** Ythan estuary (Aber) mid Aug; Fair Isle 24 Aug. **Icterine Warbler** Girdleness 17-19 Aug; Fair Isle 18 Aug; St Abbs 3 Oct. **Subalpine Warbler** Whalsay (Shet) and Isle of May late May—spring total now 4. **Barred Warbler** 4 Fair Isle 18 Aug, 7 on 24 Aug; Ythan mid Aug; St Abbs 4 Oct. **Garden Warbler** 50 Fair Isle 18 Aug, 26 on 24 Aug. **Greenish Warbler** Fair Isle 19 Aug. **Yellow-browed Warbler** St Abbs from 30 Sep, 6 on 2 Oct. **Willow Warbler** large arrival E coast mid Aug. **Red-breasted Flycatcher** 2 St Abbs 3 Oct. **Collared Flycatcher** Bressay (Shet) 24 May. **Red-backed Shrike** Fair Isle 24 Aug; St Abbs 30 Sep. **Maggie** Handa 15 Apr—a great rarity this. **Rose-coloured Starling** Eyemouth (Ber) 20 Sep. **Mealy Redpoll** *Carduelis f. flammea* Handa Jun. **Common Crossbill** Fair Isle 19 Jul, 25-26 Jul. **Scarlet Rosefinch** Fair Isle 17-22 Aug, 26 Aug-Sep; St Abbs probable 2 Oct. **Little Bunting** two 2-4 Oct. **Yellow-breasted Bunting** Fife Ness 29 Aug. **Black-headed Bunting** Fair Isle 10 Aug. **Snow Bunting** Aberlady 15 Sep.

D. J. BATES

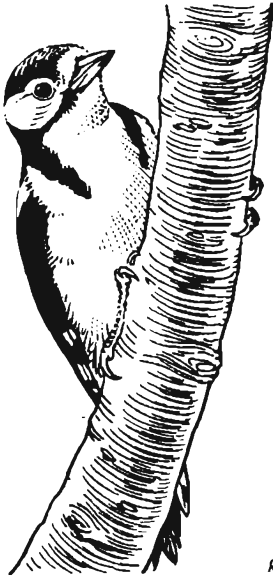
WITHOUT COMMENT

'Adult swans, like other waterfowl, moult all their feathers at once ...'
Birds 7 (5) : 35 (spring 1979).

Late news - 1979 RAFFLE

All concerned are congratulated on selling over £650 of tickets; after deducting the 1st prize, printing and postage, there was a net profit of £558 which has been put towards *Scottish Birds* printing costs. Details of prize winners can be obtained from the Club Secretary by sending an sae.

RSPB Scottish News



25

Welcome

SOC members already know that some people are not satisfied just to look at birds, but want to kill them or steal their eggs and young. In the past catching these people has proved very difficult.

Recently, Peter Ellis has been appointed Investigations Officer for Scotland. He will be based in Edinburgh and will greatly increase our ability to help the Police in enforcing the bird protection laws in Scotland.

We hope members will contact him at the address below should they discover any serious violations of the bird protection laws.

So how did the Ospreys do ?

Well this year was a good year for the Scottish ospreys. Twenty pairs reared a total of 32 young, despite the bad weather. At Loch Garten the same pair as last year returned and three young were fledged.

The Expanding Y.O.C. !

Perhaps some of you do not know that the R.S.P.B. have a Young Ornithologists Club for young people under the age of 15. The club has its own colour magazine six times a year, it runs courses and outings, and now has a membership of nearly 100,000 members. If you know an interested young person give him or her the chance to become involved too. Details can be received from the address given below.



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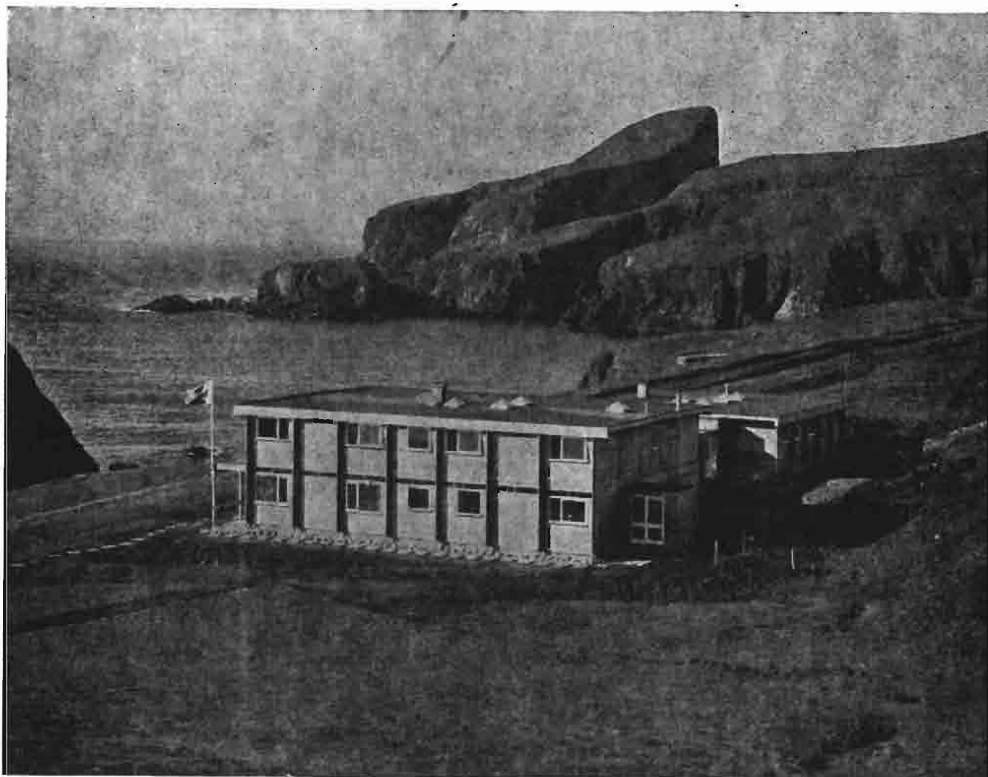
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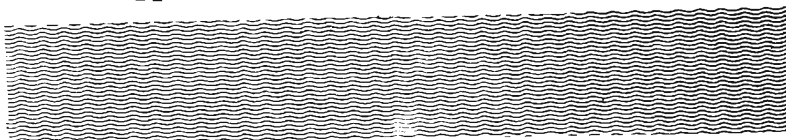
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- SPRING IN CRETE** Mar 13-20 Dr Su Eden **£220**
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- SPRING IN ARGOLIS** Mar 18-27 Dr William Taylor **£245**
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- SPRING IN CORFU** Apr 7-14: 14-21: 21-28: 28-5 May **£198**
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All applications and requests for information on these and other courses should be addressed to The Warden, Kindrogan Field Centre, Enochdhu, Blairgowrie, Perthshire, PH10 7PG. Tel. Strathardle (025 081) 286.

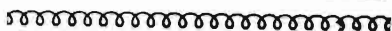
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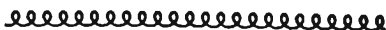
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7 x 35K	10°	24oz	£53.25	£32.95
9 x 35K	8.2°	24.5oz	£53.25	£32.95
9 x 63	5.5°	48oz	£83.50	£67.50
12 x 65	4°	48oz	£84.50	£68.50
8 x 22 miniature	6.5°	12oz	£66.50	£33.25

Celestron Mirror Telephoto lenses

Supplied complete with T-mount

750mm f6.....	£548.90
1000mm f11.....	£295.00
1250mm f10.....	£526.73

Please quote make and model of camera when ordering

We are also stockists of East and West German Zeiss, Swift, Habicht and Russian binoculars, also Nickel Supra, Hertel and Reuss and Habicht telescopes.



Barclaycard and Access welcome - just quote your number.

All prices quoted include VAT, but post, packing and insurance is £1.50 extra. All binocular prices include case and straps. Money returned if not satisfied.