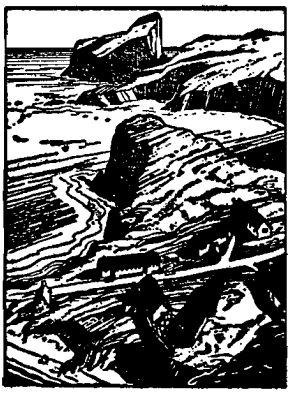
Fair Isle Bird Observatory
BULLETIN



Edited by
PETER E. DAVIS

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FAIR ISLE BIRD OBSERVATORY BULLETIN

VOL. 4 NO. 4 JUNE 1960

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42. Rare Birds at Fair Isle, Spring 1959

RED-NECKED PHALAROPE *Phalaropus lobatus*. A bird seen at Leestit and Fillsi Geo on the morning of June 18th was only the third record for the isle, and the first since June 6th 1930.

ICTERINE WARBLER *Hippolais icterina*. A bird with a well-marked wing-patch was in the Houll area from May 24th to 26th.

MARSH WARBLER *Acrocephalus palustritis*. Different birds were trapped on June 12th, 13th, and 30th. This seems to be the most favoured month for the occasional occurrences at Fair Isle, the last of which was in June 1956.

ALPINE ACCENTOR *Prunella collaris*. A handsome individual of this species was found on the scree at Wester Lother by Colin Pennycuick on June 27th, and was watched for some time by several of us on the following day. A large dumpy Hedge Sparrow with chestnut flanks and dark-speckled white throat above the grey breast, the bird was frequenting an area most reminiscent of the place I had last seen the species, in the French Alps on 1950. The species was seen by Eagle Clarke in the west cliffs of Fair Isle on October 6th 1910, and our status-book also includes, without details, two further sight-records in September 1930 and 1933. These were not incorporated in the *Handbook* list, and are probably best forgotten.

RED-THROATED PIPIT *Anthus cervinus*. A fine bird with brick-red throat was watched by James A. Stout, W. Crawford, Roy Dennis and myself at Shirva on May 18th. It gave a distinctive flight-call remarkably similar to that of the Yellow Wagtails, and J.A.S. had heard this note, though unable to place it, in the same area on the two preceding days. While we were watching, the pipit sang several times from the ground; a song reminiscent of that of the Tree Pipit. The record is apparently the fourth in spring at the isle.

GREAT GREY SHRIKE *Lanius excubitor*. One was on the island from April 2nd to 7th. At one time it was seen to kill a Skylark and to carry it for over a hundred yards. The species is very irregular in spring, though almost annual in the autumn.

SONG SPARROW *Melospiza melodia*. As already recorded in detail in *British Birds* 52:419-421, a male of this American species, not previously recorded in Europe, was found by Roy Dennis on Ward Hill on April 27th, caught later the same same evening, and it lived near the Bird Observatory until May 19th, often singing in the early morning and evening.

P. D.

43. Aspects of Spring Migration, 1959

PETER DAVIS

The spring migration of 1959 has been summarised in *Bird Migration* 1:41-43 and in our Annual Report. It was not an outstanding season, particularly when contrasted with the early part of 1958, with its astonishing "once-in-a-lifetime" avalanche of birds at the end of March; but certain features may be discussed in greater detail.

Stonechats

The early spring movement of Stonechats *Saxicola torquata* was a regular feature of pre-war years, but for the two past decades, according to the islanders, they have appeared irregularly and in very small numbers. The same decrease was of course noted in many parts of Britain. In 1957 I was given two spring records, one on March 6th (George Stout) and one May 1st (James Wilson); and in the first season of early manning of the observatory, in 1958, up to three birds were frequently seen between March 16th and April 13th (*Bull.* 4:42). This welcome recovery was sustained in 1959, when a female appeared on March 3rd, was joined by a male on the 9th and a second female on the 10th. After the 12th there were none until a second small wave began with a hen on the 19th, a cock and two hens on the 20th, and ended with a last bird on the 21st. (As we go to press, this pattern is being repeated in 1960).

Fair Isle is well north of the Stonechat's breeding range, which extends to northern Scotland but no further north than Schleswig-Holstein on the continent. The bird's visits to Fair Isle have been, and are again, too regular to be explained by a hypothetical long-distance drift from the southern part of the North Sea. I believe that we are seeing birds which have "overshot" the Scottish breeding-areas in an early northward movement, corresponding to that which is regularly observed at the south-western bird observatories. The recent arrivals have been in periods of mild weather with light southerly winds, which may have stimulated a prolonged migration; the kind of weather in which our breeding passerines return to the isle, which brings us hirundine movements later in the spring, and in which we receive redetermined passage of continental birds previously drifted across the North Sea.

This phenomenon of overshooting under the stimulus of mild and favourable weather may be a more important feature of the spring migration than has hitherto been supposed. Further evidence for it is provided by the almost regular arrival of Pied Wagtails *Motacilla alba yarrelli* at Fair Isle in spring, and the less frequent occurrence of other British forms

such as the Yellow Wagtail *M. flava flavissima*. Two Fair Isle ringing recoveries seem to indicate this type of movement: the Swallow *Hirundo rustica* of spring 1953 which was found breeding in Caithness in 1954 and 1955, and the Corncrake *Crex crex* of May 1958 that died in South Ronaldsay early in the following July. Visual evidence of the subsequent return of such migrants has come from southward passage of hirundines a few days after a northbound movement through the isle—presumably the interval was spent in Shetland.

In a wider context, a movement of this type could account for many of the occurrences of southern and south-eastern vagrants, and for considerable arrivals with a strong southern component, which frequently appear in spring to the north of their normal range.

Pied Wagtails

Although odd Pied Wagtails come to Fair Isle in most years in March or April, the movement in 1959 was a little stronger than usual. The first bird was seen on March 27th (coinciding with the first significant fall of Meadow Pipits *Anthus pratensis*); there were two by the 30th, and at least four on April 2nd, several remaining for some days afterwards. (For details of the first Shetland breeding-records of this race, see para. 50).

The Late March Drifts

Between March 22nd and the end of the month there came a succession of small arrivals of European birds on intermittent south-easterly winds. A feature of the movements at this period was the segregation of species which make the North Sea crossing from Scotland to Scandinavia after wintering in Britain, from those which had most probably been passing north up the western seaboard of the continent after wintering in southern Europe. The prominent species in the first category was the Blackbird *Turdus merula*, with some Fieldfares *T. pilaris* and Redwings *T. iliacus;* and in the second the Song Thrush *T. philomelus*, the Robin *Erithacus rubecula*, and the Hedge Sparrow *Prunella modularis*. The Chaffinch *Fringilla coelebs* and the Brambling *F. montifringilla* seemed to fall into either category, or both, though the former was certainly commoner as a companion of the Blackbird arrivals.

It is commonplace at Fair Isle to find that wind-drifted migrants of those species and populations which apparently do not make regular voluntary crossings of the North Sea, often arrive on the island during the day. Some of these are "island-hopping" on resumed passage after an earlier drift, but many others arrive tired and at low weights, in conditions which suggest that they have just completed a lengthy crossing. This happened several times in late March 1959. The voluntary oversea migrants, on the other hand, are usually already on the island by dawn, as might be expected if their

presence is due to a comparatively short deflection from the expected route by southerly crosswinds.

The present contribution relates to a problem recently posed by David Lack. In a review of our knowledge of oversea migration (*Ibis* 101:374-399) Dr Lack questions the validity of an important proposition in Kenneth Williamson's theory of migrational drift (*Scot. Nat.* 64:1-18), namely that wind-drifted migrants over an inhospitable area will turn to fly downwind, to avoid deteriorating weather and in order to have the best chance of making a landfall before they are exhausted. (If such behaviour were innate, it would have considerable survival value; but perhaps drift-wastage is comparatively unimportant as a factor in population control, and the proportion of survivors from a long-distance drift too small for their qualities to be widely propagated. As evidence of the extensive wastage of drifted birds it may be mentioned that not one of over 1900 warblers and flycatchers ringed at Fair Isle, and only three of 1400 small continental "chats," have been reported outside the northern islands). Dr Lack seems to postulate that the drifted migrants may be unable to adjust their heading and may be passively drifted downwind. Since this would greatly increase flying-time, the implication is that small migrants may be able to maintain flight for much longer periods than has been supposed.

To return to the late March passage: The morning of March 22nd was fine and birdless, and nothing was trapped. By the early afternoon, however, cloud-cover increased to become complete, and the S.E. breeze freshened. At least six Hedge Sparrows (the first of the year) appeared in the trapping-area, and four were taken between 12.55 and 15.45; a Goldcrest *R. regulus* was seen, and two of three Chaffinches which dropped from a considerable height into the mouth of the Gully trap at 17.45 were caught. Two of the Hedge Sparrows weighed only 16.5 grammes (against a normal figure of about 19-21 gm. for rested migrants at this season) and one of the Chaffinches weighed only 22.3, a fairly low weight. About five Robins and a Woodlark *Lullula arborea* were seen on the morning of the 23rd, and a few extra Blackbirds had also come in, but otherwise there was no follow-up to this movement. The morning of the 24th also started quietly, but the wind backed S.E. again about 1030 and several new migrants appeared. Three Hedge Sparrows were caught out of about five seen in the trap-area; two new Robins were trapped, and six Chaffinches later seen. One Hedge Sparrow weighed only 16.3 gm., and the Robins only 14.2 and 15.7 respectively, compared with 18-20 for birds already resident at the time. This arrival preceded a pre-frontal overnight fall of Blackbirds (over 50 seen) completed by dawn on the 25th. With them came a few Fieldfares and Redwings, about forty Chaffinches, and at least four Bramblings. The latter seemed tired, and

three trapped were at the low weights of 18.5, 18.9, and 21.5 grammes; probably they had flown further than the other birds. Most of these had gone by the morning of the 26th, and the next arrival was not until the afternoon of the 27th, with increasing cloud and a strong S.S.E. breeze. A few Blackbirds, Hedge Sparrows, and Robins, and a very tired-looking Brambling, were thought to have come in at this time. Two trapped Robins were at the exceptionally low weights of 13.2 and 14.5 grammes.

March 28th and 29th brought little further immigration, but on the 30th, a grey day with fresh south-easterlies, a birdless forenoon was followed by the largest of these afternoon falls. At least fifteen Robins were in the trap area by 1430, and ten were caught; two Goldcrests were seen, several Song Thrushes, a Wood Pigeon *Columba palumbus,* and a Yellowhammer *Emberiza citrinella.* The Robins were all at low weights—none weighed more than 17.6 grammes, and one only 13.5. A Goldcrest weighed 4.8, which is near the live minimum for this species, and a Song Thrush at 59.9 was well below average. In a further sample of eight Robins from this movement, taken next morning, none weighed more than 15.6, two were at 13 grammes, and one only 12.6.

Six recaptured Robins and Hedge Sparrows at this period all showed improved weights, as given in the following table.

	Ringed		*Recaptured*		
Date	Time	Weight	Date	Time	Weight
Robin					
25/3	0755	14.9	28/3		18.6
26/3	1245	16.5	30/3	1740	19.4
31/3	0815	13.0	8/4	1515	18.2
Hedge Sparrow					
25/3	1035	17.5	31/3	1730	20.3
26/3	1030	15.6	30/3	1300	17.5
31/3	1430	18.5	2/4	1715	19.5

On March 21st-22nd pressure was high over Scandinavia and Central Europe; a shallow depression occupied the southern half of the North Sea. The drift is likely to have begun in the cloudy area at the eastern side of this low, i.e. in the Heligoland Bight area (the cloud did not extend far inland). The weather map indicates SE winds of about force 3 in the northern half of the North Sea overnight, decreasing towards dawn, but freshening during the morning. Cloud-cover extended to this area by dawn. On the assumptions that the movement originated in the Heligoland Bight area, and that it commenced about nightfall on the 21st (as would be normal for night-migrants), the Hedge Sparrows and other birds involved took about 18-20 hours to gain approximately 450-500 miles. For a straight track this would give ground-

speed of 20-25 m.p.h. in an air-mass moving at not more than 12-15 m.p.h. in the same direction.

It is at least possible that the daytime arrivals on March 24th and 27th were the result of deflection from a redetermined passage out of eastern Britain; and because of this uncertainty I will not discuss them. The larger fall of the 30th, however, was certainly a new drift, from the weather conditions and the very low weights of the arrivals. The slow-moving frontal system of a depression south of Iceland was crossing Britain on the 29th, bringing cloud to the eastern part of the North Sea by evening. The weather-maps show fog on the Danish coast late in the day, with the SE wind ranging from force 1 in this area to force 4 in Shetland. Cloud-cover was virtually complete everywhere by the morning of the 30th. Birds drifted from Denmark on the evening of the 29th would have covered a minimum distance of about 400 miles to arrive in Fair Isle about 20 hours later, and the average wind-speed is unlikely to have exceeded 10-12 m.p.h.

If these interpretations are valid, the movements were considerably too slow for the birds to have flown on a downwind heading from the start; even the most halting Hedge Sparrow or Robin would have a flight-speed of more than about ten miles per hour, more probably twice that figure. It might be suggested that the drift began well inland in the continent, but this seems unlikely in view of the cloudless conditions there. On the other hand, the figures would suit well a movement which began with a cross-wind heading (towards Scandinavia) and was progressively deflected to the west over the sea. The bird would then follow a track increasingly close to that of the wind, and would eventually be flying downwind though blissfully unaware of this.

Early Records of Summer Visitors

April of 1959 was notable for the early arrival of several summer migrants. The first of these were two Swallows *Hirundo rustica* on the 14th, three days sooner than the previous earliest record, made over fifty years ago. A Chiffchaff *Phylloscopus collybito* was also seen on the same day, but this was a fairly normal date (the Chiffchaff is in fact the only warbler to have been reliably recorded on Fair Isle in March). A Whitethroat *Sylvia communis* on April 15th, however, was our second-earliest record, beaten only by one April 11th 1927. On the 18th, both Redstart *Phoenicurus phoenicurus* and two Blackcaps *Sylvia atricapilla* were found; the Redstart was not abnormal (there are at least five earlier notes), but the Blackcaps were no less than ten days before any previously recorded. Another "first," this time by a margin of only two days, was established by a female Yellow Wagtail *Motacilla flava flavissima* on the 21st, and we also had a male of this

form on the 24th. The first Willow Warbler *Phylloscopus trochilus,* on April 25th, was beaten by at least four earlier notices; but is far from occurring annually in April. The Tree Pipit *Anthus trivialis,* seen on the 29th, has a similar status; but a House Martin *Delichon urbica* on the same day was apparently the first April record—the earliest note is of one May 1st 1929. A Corncrake *Crex crex* on the 30th was twice preceded, by birds on April 25th 1913, and 26th 1925, but the species seldom occurs before the second week of May. Finally, a Cuckoo *Cuculus canorus,* also on the 30th, was our second April record; the other being on the same day of April 1914.

Passage to the North-West

In spite of the prevalent westerly winds during the spring of 1959, passage to the north-west was not above average strength. As usual the Snow Buntings *Plectrophenax nivalis* were the first to go, with peak movements of about 150 March 3rd, 100 8th (a diurnal passage), and 85 26th, but small numbers occurred until the end of May. The White Wagtail *M. a. alba* first appeared on March 24th; there were only odd birds until three April 24th, followed by eight 28th and about twenty May 6th. Iceland Redwings *T. i. coburni* were extremely scarce; they were trapped on March 28th, April 5th, 7th (three) and 14th, and a late bird on June 4th. A few other sight-records were made during April and early May. Only two parties of Whoopers *Cygnus cygnus* were seen, five April 8th and four 14th, and the only goose was a Pink-foot *Anser brachyrhynchus,* on April 25th. Single male Lapland Buntings *Calcarius lapponicus* were found on April 17th, 18th, and 23rd, and three birds were present on May 1st. The first Greater Wheatear *Oe. oenanthe leucorrhoa* was caught on April 23rd, and others were seen or trapped during the following days; an obvious fall succeeded on the 29th, and a much larger one on May 6th, with smaller numbers to early June. Meadow Pipits *Anthus pratensis* also arrived in good numbers on April 28th and May 6th; many of these birds were of the yellow "Atlantic" type. The only Greenland Redpoll *Carduelis flammea rostrata* of spring was also on May 6th. The arrival on this day—the only major fall of north-western passerines in the spring—occurred in cloudy conditions with fresh SW wind, and was evidently the result of an eastward drift from a movement out of western Britain; many of the birds arrived on the isle during the afternoon. A dozen Whimbrels *Numenius phaeopus* and several Golden Plovers *Charadrius apricarius* were associated with this movement.

Continental Arrivals in early May

The first fall of continental night-migrants in May began during the afternoon of May 7th, with the arrival of odd

Whitethroats and a Chiffchaff in south-east winds preceding a front; and was completed by the passing of the front and its rain-belt in the early hours of the 8th. On this day the new arrivals included several Whinchats *Saxicola rubetra,* a Redstart, a Grasshopper Warbler *Locustella naevia,* several Sedge Warblers *Acrocephalus schoenabaenus,* Whitethroats, and Willow Warblers, a Garden Warbler *Sylvia borin* and a Lesser Whitethroat *S. curruca,* two Spotted Flycatchers *Muscipapa striata,* and a Reed Bunting *Emberiza schoeniclus.* This list was extended on the 9th, with the discovery of a Wryneck *Jynx torquilla* and a Cuckoo. The drift was renewed on the night of 9th-10th, with fresh SE winds across the North Sea (between a Scandinavian High and a stationary Low west of Scotland), with misty, showery weather. The commoner small passerines increased (Willow Warblers to over twenty) and new birds were two Red-spotted Blue-throats *Cyanosylvia svecica* and an Ortolan *E. hortulana,* two Black Redstarts *Ph. ochruros,* three Blackcaps, Pied Flycatcher *M. hypeleuca,* and Tree Pipit. Most of the birds recorded were sheltering in the western cliffs, and many more were undoubtedly overlooked there. Most of the migrants seen in the following week were probably drawn from this hidden reservoir, as no obvious fall was recorded. During this time several further Wrynecks, Bluethroats, and Ortolans were discovered; two Turtle Doves *Streptopelia turtur* were seen from the 11th, and a Goldcrest on the 14th.

Bluethroats in late May

On May 22nd the Bluethroat was one of the commonest species in a small arrival from Europe, involving Whinchats, Redstarts, and a few warblers. At least four, probably five, Bluethroats were seen on this day, and similar numbers on the following two days; though the individuals were mostly different ones on each occasion. Seven were trapped between the 22nd and 26th, five females, and two males of the Red-spotted form. The arrival took place in clear anticyclonic weather with light SE winds between southern Scandinavia and Fair Isle, and with no cloud or fog indicated on the weather-map anywhere in this area. The movement could well have been an overshoot by birds with a north-west orientation during their spring return to Scandinavia. It may be mentioned that the commonest warbler was the Lesser Whitethroat (three seen on the 22nd), which also makes a movement of this type. A very curious recovery was reported for one of these Bluethroats; a female ringed on the 24th was found dying on the sea-front at Ostende in Belgium (600 miles SSE) on the 28th. The weather maps for the 26th-27th show clearly what must have happened to this bird; for a cold front was moving southward down the North Sea, with light northerly winds, and the Bluethroat was probably drifted to the south whilst making a return crossing from Fair

Isle. The front passed over Ostende during the afternoon of the 27th, no doubt depositing the exhausted bird there.

44. The Arctic Skuas in 1959

PETER DAVIS

The observatory's study of the local colony of Arctic Skuas *Stercorarius parasiticus* was continued in the summer of 1959; and Peter O'Donald returned for nine weeks to help with the collection of data for his work on skua genetics. Without his assistance, the season's exacting programme could hardly have been fulfilled, for during the June netting of the adults the weather was persistently wet and windy, and many of the birds were highly unco-operative. In spite of this, it was one of the most interesting and rewarding seasons we have known.

The colony continued its inexorable increase, and progressed from 61 pairs in 1958 to 65 in 1959. (In both years, one individual was part of two pairs, remating and renesting after the death of its first mate). There were 115 colour-marked breeders at the close of 1958, and fourteen (12.2%) of these did not reappear in 1959. Of the 101 which did return, two died before they could nest, and three were present as non-breeders, so the effective loss to the breeding-strength was actually nineteen of the 1958 adults. The new P.V.C. colours first used in 1958 proved very satisfactory; none were lost and the only drawback was a slight fading of the red rings.

Out of 129 breeding birds in 1959, three died while nesting five remained unringed, and 121 colour-marked birds are "carried forward" to 1960, a higher proportion of marked birds than ever before.

The limits of the main colony were not greatly changed from 1958, though two pairs broke new ground on the lower part of the Brae of Restensgeo, in the north-east, and on the north-west fringe the old Mire of Vatnagard territory was abandoned. The isolated 1958 territory of Johnny's Peats was unoccupied until a non-breeding pair took it, late in the season, but three new breeding territories were founded away from the main aggregation. These were "Auld Jeams's Hill," on the north side of Ward Hill, about half a mile from the nearest fringe territory at Brae North; "Hjon." in the lower half of Johnny Arcus' Park at the foot of Vaasetter (the nest was barely thirty yards from the main road, and was first located from the window of my car!); the "Rippack," just east of the Kirk, over a mile south of its nearest neighbours at Hjon and Tarryfield. This last territory marks the second attempt by skuas to occupy the brecks east of the Village area; the first, at Busta Brecks in 1956, was foiled by man, and this latest pair failed to rear their chick.

Age-Groups of the Breeders

Among the 129 breeding skuas in 1959, only 24 (18.6%) remained from the age-groups which first bred in 1954 (when colour-ringing began) or earlier; 27 (20.9%) first nested in 1955, 23 (17.8%) in 1956, 13 (10.1%) in 1957, and 14 (10.9%) in 1958, whilst 28 (21.7%) were newcomers in 1959.

With the loss of three pre-1954 matings which had persisted until 1958, we now have a comprehensive picture of the age of the present matings in the colony, for the remaining pairs from the years before colour-marking were recognizable by other characteristics. Only one pair is now of uncertain vintage, the Homisdale Springs partnership which was already present when observations started in 1948. Next in seniority are the Brae Middle and Tarryfield pairs, together since 1950. Table I shows the age of the present matings.

TABLE I

	Continuance of matings established in							
1948 or before	1950	1954	1955	1956	1957	1958	1959 (new)	Total
1	2	1	5	13	6	11	26	65
Percentages:								
1.5	3.1	1.5	7.7	20.0	9.2	16.0	40.0	100.0

One 1958 pair, from Johnny's Peats, remained intact although the birds moved 700 yards to take up a vacant territory near the airstrip.

Changes in the Matings

Twenty-one of the sixty matings which survived at the end of the 1958 summer were broken by 1959: five by divorce, two by deaths after return but before nesting, thirteen by the absence of one partner, and one by the absence of both. As in earlier years, this total includes a high proportion of matings established only in the previous year: eleven out of twenty-two pairs formed in 1958 were dissolved, compared with only ten out of thirty-eight older partnerships. However, two of the young matings were broken by the deaths in May 1959, and since these were in no way connected with age, only nine breaks in new 1958 pairs can be considered.

Williamson (1959) has suggested that the instability of one-year-old matings may be due to later return to the breeding colony, and slower attainment of breeding-condition in younger birds, allowing senior partners to remate before the less experienced ones return. He pointed out that the phenomenon of divorce was much commoner in matings of only one season's duration than in old-established pairs; in 1956, when divorce was first detected, six out of eight cases concerned pairs new

in 1955, and a seventh pair may have been no older.

The divorces in 1957-58 gave further support to Williamson's hypothesis. Two divorces of pairs new in 1956 took place after only one season, though they were not detected until 1958, owing to the temporary absence of one or both 1956 birds from the breeding-strength in 1957. Three divorces of 1957 pairs were noticed in 1958, two of one-year old matings, and one of an old-established pair. A fourth divorce, of another old partnership, came to light when one bird returned in 1959, after a year's absence as a breeder. To summarize: out of fourteen divorces in 1956-58, ten, probably eleven, concerned matings only one season old.

In view of this, it was rather surprising to find that only one of five divorces of 1958 pairs in 1959 concerned a pairing established in the previous year. In the other four cases, two pairs had been together in two seasons, and two in three seasons. It seems that if asynchronous return to the colony is a main cause of divorce (as is very probable) then in some seasons it can operate among birds in the older age-groups more than among their inexperienced juniors. Gales at sea, for example, might delay the return of old birds and allow youngsters travelling behind to overtake them.

Divorce played an insignificant part in dissolving young matings in 1959, yet a higher number of these were broken than would be expected if matings dissolved at random, independently of their age. The new matings in 1958 were 38% of the total matings in that year, but they contributed half the number dissolved by 1959. The discrepancy is accounted for when we consider the age-groups of the 1958 breeders which failed to reappear, for a higher proportion of the new intake of 1958 (5 out of 21) than of older individuals (11 out of 99) were not seen in 1959. The comparable figures for 1956-57 are 4 out of 22 and 5 out of 76 respectively; and for 1957-58 they are 4 out of 20 and 13 out of 93 respectively: so this low return of first-time breeders is not an isolated phenomenon. Over these three seasons, 19.1% of breeders with only one year's experience failed to return in the following year, compared with only 10.8% of birds in older age-groups.

Three possible explanations of these results present themselves. Either there is a higher rate of mortality in first-time breeders (three to five year-olds), which seems rather improbable; or they do not return to the colony; or they return but do not breed. We have some data on "intermittent breeders" (i.e. birds which have already bred in the colony missing a season and then returning to the breeding strength) but these do not help in the solution of our problem, for in five out of nine instances the bird concerned had bred on Fair Isle for two or more seasons before its year of absence. If any of the missing birds of the 1958 intake were still alive in 1959,

it is unlikely that they spent much time in the Fair Isle colony, for we were constantly looking for colour-ringed non-breeders, and the bright P.V.C. rings of the 1958 birds would have made them easier to detect than formerly.

It may well be, that some birds which have bred only once are attracted to other colonies in later years. Two reports of colour-marked birds, which must be of Fair Isle origin, have come from Shetland colonies, one from Noss in 1957 and the other from Foula in 1958; but in neither case were the colours seen well enough for us to identify the individuals concerned. We must hope for more precise information of this kind in future years.

Intermittent Breeding

The first instance of intermittent breeding in the Fair Isle skuas was noticed in 1956, when a bird that was nesting in 1954 but not in 1955 returned to the breeding population. Two similar cases emerged in 1957, four in 1958, and a further one in 1959.

Before 1959, however, no intermittent breeders had been recognized in their non-breeding year. This season, two colour-marked 1958 breeders occupied territory as non-breeders, and a third was seen on several occasions. At Swey North, only one bird of a Pale x Pale mating established in 1958 came back. It reoccupied its former territory, and eventually took as mate a single-ringed Intermediate, a distinctive white-cheeked bird which had been one of a neighbouring non-breeding pair in 1958. This bird was evidently not yet mature, and no eggs were laid. At Brae East, one of the Dark x Dark pair of 1958 died in May 1959; its bereaved partner remained, and eventually mated with an unringed non-breeder late in the season. The third non-breeding adult was the innocent party in a case of divorce at Vatstrass, where it had previously nested for three seasons. Evidently it had returned late, to find its former mate already paired, and we identified it three times in June-July among non-breeders near the Burn of Furse. Its three yellow colour-rings were still intact, and it could not have been confused with any other individual.

Return of Young Birds

No less than twelve of the twenty-six new breeders in 1959 had been ringed as chicks in the colony in earlier years: two were five years old, nine were four, and one three. Two of them were mates, at the new Rippack territory.

These twelve incomers bring the total of identified returned young to twenty-nine, of which twenty-four were on the strength in 1959. Table II lists these returns by years and age-groups.

TABLE II

Return as Breeders of local-born young.

	Age at First Breeding		
	Three	Four	Five
1955	2	2	1
1956	3	2	
1957		1	2
1958	1	3	
1959	1	9	2
Totals	7	17	5

The proportion of birds breeding for the first time at five may be higher in future samples, since the butt-ended rings used until 1953 were undoubtedly lost by some birds of this age, and even by some four-year-olds. We may also find that some skuas do not breed until they are six.

The more durable Double Ended rings were first used on the 1954 crop of young, and unless some six-year-olds appear in 1960, the intake of this first reliably marked age-group was completed in 1959. Forty-four chicks were reared in 1954, and all but one were ringed. Only eight have been heard of again. One was found injured near Spiggie in Shetland (c. 30 miles NNE of Fair Isle) when almost three years old; another was recovered in Angola in its fourth November; and a third died at a small Arctic Skua colony near Boddam in Shetland (only two miles from Spiggie) at the end of May 1959. The remaining five returned to breed at Fair Isle, three at four and two at five years old. This low rate of return, and the recoveries in Shetland, seem to confirm what we had already supposed, that surviving young do not necessarily come back to the colony of their birth.

The still incomplete recaptures of 1955 chicks, however, already show a better rate of return. All the 53 chicks reared in 1955 were ringed, and already twelve of these have been recovered, all in their native colony. Two were caught as non-breeders in 1957, but have not yet joined as breeders; another was nesting at three, and nine more at four years of age. Since this total will almost certainly be increased in 1960, we may infer that there is a marked preference for return to the native colony. The mortality rate in adults seems to be in the region of 10% *per annum;* as it must be higher in juveniles it is most unlikely that more than thirty or so of the 1955 chicks were still alive by 1959.

Breeding Success in 1959

Success in 1959 was well below the average for recent years, and comparable with that in the poor season of 1957. The factors involved were different in these two years, however, for

1957 was a season of high hatching-success and poor chick-rearing, whereas the reverse was true in 1959. Eggs were lost mainly through predation (see para. 46 for an account of the impact of a large increase in the Bonxie population), but also because of three fatal accidents during the egg stage, two of which were caused by man. Deaths in the chicks were due mainly to torrential rain at hatching-time or soon after.

The Table III gives the detailed figures for breeding-success since the study began. The 1957 figures have been corrected to allow for a fledged chick now known to have died before it could go to sea.

TABLE III

Breeding Success in the Arctic Skua Colony

Season	No. of Pairs	Eggs Laid	Eggs Hatched	Young Reared	% reared of Eggs Laid
1949	20	36	30	14	38.9
1950	22	40	34	25	59.5
1951	26	49	35	23	46.9
1952	32	55	49	45	81.8
1953	31	60	56	54	90.0
1954	34	62	47	44	71.0
1955	44	75	60	53	70.7
1956	51	96	76	69	71.9
1957	55	99	88	54	54.5
1958	61	119	101	89	74.8
1959	65	125	90	69	55.2

45. The Bonxies in 1959

PETER DAVIS

Nineteen pairs of Bonxies *Catharacta skua* nested at Fair Isle in 1959, compared with seventeen in the previous year and twenty-one in 1957.

As in the Arctic Skuas (para. 44) breeding-success was unusually low, and the main losses were similarly in the egg stage. The reasons for this seem to have been rather different in the two species, however, as the bulk of the losses in the Bonxies were due to the intervention of man; in fact, only seven out of nineteen eggs which did not hatch are believed to have failed from "natural causes." Most of these were chilled or infertile, but at least two were broken in squabbles between pairs nesting in close proximity—one adult was seen to dive at a sitting neighbour and knock it off the nest.

Most of the egg-losses came late in the incubation period, and so far as we could tell, there were no replacement layings.

The breeding-success in recent years is shown in the following table:

Breeding Success in the Bonxies

Season	No. of Pairs	Eggs Laid	Eggs Hatched	Young Reared	% Success
1953	9	15	9	8	53.3
1954	8	16	10	10	62.5
1955	13	26	21	20	76.9
1956	17	29	26	22	72.4
1957	21	39	34	15	38.5
1958	17	38	26	24	63.2
1959	19	37	18	14	37.8

Fourteen of the seventeen sites used for breeding in 1958 were used again in 1959, the missing pairs being at Dronger, Vaasetter, and the Mire of Vatnagard. New sites were on the Sukka Mire (where three pairs nested in close proximity), on the neighbouring Breed Piece, on the north summit of Burrashield, at the summit of Vaasetter, and at Wirvie Brecks.

There was a big incursion of about forty Bonxies in early May; these established themselves on the western part of the airstrip and gradually paired off during the summer, though only two pairs (Breed Piece and Burrashield North) actually achieved a late nest. Non-breeding territories were established at Vaadal, near the west end of the airstrip, on the former Arctic Skua territories of Airstrip South and Airstrip Roadside, and close to the hill road at Brunt Brae. Thus with the pairs already breeding on Sukka Mire, Breed Piece, and the Mire of Vatnagard there is now almost an unbroken line of Bonxies from Vaadal to the foot of Ward Hill, a situation which bodes ill for the Arctic Skuas on the western side of their colony. Other non-breeding Bonxie pairs were at Dronger, on the southern part of the Brae of Restensgeo, and on the south face of Eas Brecks.

The new breeding pairs at Breed Piece and Burrashield North were of particular interest, as one bird in each carried a single ring. Unfortunately we were never able to catch the Burrashield one, which refused to return to its nest while a net was there, but the Breed Piece one was trapped on June 27th. It proved to have been ringed as a chick at Hjon in 1955, and was therefore nesting for the first time at four years old. The only previous capture of a former chick was at Brae of Restensgeo in 1956, a bird nesting at six years of age. It was still there in the 1959 season. We shall probably have the opportunity to learn more about the age of first breeding in Bonxies in later years, as several of the non-breeders were seen to be carrying rings.

46. Arctic Skuas *versus* Bonxies

As already mentioned in the account of the Bonxies' year (para. 45), an arrival of about forty Bonxies in the airstrip area, and the subsequent pairing of some of them during the

summer of 1959, has confronted the Arctic Skuas with an almost unbroken line of unwelcome neighbours at the west side of the colony.

The relationship between the two species is an uneasy one. The Arctic is much superior on the wing, and the relentless attacks of a group or pair send a passing Bonxie yelping towards the horizon. The Bonxie is therefore not very successful as a predator on the smaller bird, and his few successes are mainly with newly-fledged juvenile Arctics that have wandered outside their home territory.

On the ground, however, the Bonxie is a stolid bird, not easily shifted, and since most Bonxie territories are taken up a fortnight or more before the Arctics return to the breeding-ground, isolated pairs have managed to settle within the Arctic colony from time to time. Such territories have proved ephemeral, presumably because the constant attacks by the surrounding Arctics have prevented the larger birds from breeding successfully.

Apart from these intrusions, the Fair Isle Arctic Skuas have had to contend only with scattered pairs of Bonxies on the fringes of their colony, and except for recurrent squabbles in the air, the main indication of the Arctics' mistrust has been their habit of leading their chicks to the part of their territory furthest from the impinging Bonxie ground.

At Foula, Hermaness, Noss, and elsewhere in Shetland, expanding colonies of Bonxies have progressively deprived the Arctic Skua of ground it formerly held. These gains seem to have been made by gradual outward expansion of a compact colony, rather than by piecemeal occupation of the Arctic ground, and have given the smaller birds no alternative but to withdraw before a solid phalanx.

It seems likely that something of the same kind is about to happen at Fair Isle (unless there is intervention from irate sheep-farmers!) and it may be of interest to record the effects of the first big impact between the two competing species in 1959.

The big party of invading Bonxies settled on the western part of the airstrip in mid-May, when the neighbouring Arctics were already on the territory, but had not laid. The Bonxies spent most of their time resting on the open runway, but soon commandeered the bathing-pool nearby, virtually denying it to the Arctics for the rest of the summer. The fringe territory of Airstrip Roadside, a few yards north-east of the pool, had not been reoccupied by the Arctics owing to the absence of one bird and the remating elsewhere of the survivor of the 1958 pair; this ground was soon taken by a single Bonxie as its regular sitting-place. Meanwhile the Arctics were laying, and we noticed that in all the peripheral territories close to the Bonxies—Byerwall West, Airstrip

South, Middie, and West, and Breed Piece—the eggs were laid further away from the airstrip than in previous years. This was particularly noticeable at Airstrip South, where the nest-site was nearly fifty yards from the 1958 one, on the moorland of Byerwall. The other pairs could not move so far, owing to restrictions imposed by neighbours, but nests were ten to twenty yards farther from the airstrip than before. The retreat of Airstrip West left a minute area of no-man's-land at the edge of the runway, and this was taken by a new pair, Airstrip Edge, whose eggs were unfortunately trampled by sheep when half incubated. The withdrawal of Airstrip South was soon followed by Bonxie occupation of their former nesting-area, this time by a non-breeding pair. These birds often used to wander into the Airstrip Middle ground, and they are thought to have been responsible for the disappearance of the egg. A replacement clutch of two eggs was chilled and failed to hatch, and this may have been due to the constant disturbance caused by the Bonxies.

At Breed Piece one of the adults died, and the eggs were lost. The southern half of the territory was occupied by a pair of Bonxies, which subsequently bred. A non-breeding Bonxie pair took the upper part of the Breed Piece ground, adjacent to the Brunt Brae Roadside, Middle, and East Arctic territories, and remained there all summer. They were probably responsible for the death of a newly-fledged juvenile from Brunt Brae East.

The remaining eggs in the airstrip area were successfully hatched. The Airstrip South pair immediately led their young over the ridge of Byerwall into Vaadal, and reared them two hundred yards from the nest. The Byerwall West pair were less wise, and when we came to search for the chicks, we found nothing except a group of well-fed Bonxies sitting in the territory.

Thus in a single season four former Arctic Skua territories seem to have been lost to invading Bonxies, and it is virtually certain that the process will continue in future years.

47. Some Breeding Birds in 1959

STORM PETREL. There was no definite proof of breeding, despite careful searches of several suitable areas in the cliffs. However, six out of eight birds netted at Malcolm's Head on the night of July 31st had good brood-patches. The remains of about twenty birds were found during the season at various places on the west and north coast; most of not all had been killed by feral cats, which are also known to have destroyed a number of Puffin chicks (one was actually seen carrying a chick at Troila Geo). It is possible that these cats are responsible for the disappearance of Storm Petrels from the accessible breeding-sites that were known up to the war years.

FULMAR. Counts of occupied sites were made in late July and early August, mainly by Roy Dennis and Gustav Virgin. They covered the entire south, east, and north coasts, and noted 2427 sites. It is estimated that there are at least as many on the west coast. One "blue" Fulmar was nesting at Fair Heilor.

SHAG. Counts and estimates of the breeding population were collected for the entire coastline; the total was about 1200 pairs. The largest groups were at South Gunnawark (c. 110), South Ramnigeo (c. 70) and South Naaversgill (c. 60).

PEREGRINE. A pair bred at North Gunnawark, rearing at least two young.

CORNCRAKE. This bird, formerly common in the crofting area, bred for the first time since 1955. In late May and June birds were calling at Kennaby, Quoy, and in the marsh north of the Kirk ("The Waters"). James Wilson uncovered a nest of Kennaby while scything his hay-crop on July 15th; he protected it with a "tent" of grass and left an area around the nest uncut until the ten eggs hatched out on July 29th. He also found a deserted clutch of six eggs in another strip of rye-grass about fifty yards away on July 21st; this may have been an early attempt by the owners of the first nest, or have belonged to a second pair. Stewart Thompson scythed over a third nest at Quoy on July 23rd; this had hatched out some time previously, and contained an addled egg and fragments of shell. An adult had been caught near this place on June 11th; a well-grown chick was ringed on July 27th, and an almost-fledged youngster on August 31st.

LAPWING. The colony increased from eight or nine pairs in 1958 to ten or eleven in 1959. The first eggs were laid exceptionally early, a c/3 was found on April 11th. This is about two weeks earlier than normal. All the pairs except one were in or near the enclosed parks of Hjon; the remaining birds occupied a territory near the pool on Byerwall (the "Sprittery Hole") before the return of the Bonxies which own this ground. The Lapwings were not deterred by these formidable neighbours, and hatched four eggs successfully on May 14th. Next day one of the adults was lying dead near the pool, and there was no sign of the rest of the family; they were located about a quarter of a mile away, near the Plantacrubs in Homisdale. Here the surviving parent led a hectic life, surrounded by Arctic Skuas, but after three weeks ran the gauntlet of the Vatstrass skuas and triumphantly fledged two youngsters on the seaward side of the Double Dyke trap.

RINGER PLOVER. A pair bred in the usual area north of Scary Lee on the east side of Buness. The nest with c/4 was found on May 3rd, and the eggs hatched on the 26th. A second pair was often seen on the shingle at Muckle Uri Geo, in the extreme south of the isle, and from their agitated calls

were thought to be nesting; but if they were they almost certainly had no success.

SNIPE. We again had a single breeding pair, in the Gilsetter march. The nest was never found, but a nearly-fledged chick was caught on August 21st.

GREAT BLACK-BACK. The breeding population was about 40 pairs, of which about 25 were on the Sheep Craig.

LESSER BLACK-BACK. Twenty pairs bred: nine on the South Gavel, ten at Goorn, and one at Fair Heilor.

HERRING GULL. About 140 pairs were counted, which was probably over 90% of the total population. The main colonies were on the Sheep Craig (c. 35 pairs), the Burrian (c. 25), and Malcolm's Head (c. 25).

KITTIWAKE. The census gave about 2750 occupied nests, in 30 separate groups. The biggest of these were on the west side of Malcolm's Head (c. 400), on the south face of the Sheep Craig (c. 300) and on the NE face of the Craig (258 nests).

GUILLEMOT. Roy Dennis's counts of birds on the ledges at the island's 23 colonies in June gave some 2080 birds. The breeding population may be between 1500 and 2000 pairs. In counts of Bridled Guillemots at the more accessible colonies we found 34 Bridled out of 350 birds examined, or 9.75% of the total. This compares well with the figure of 9.2% given for Fair Isle by H. N. Southern in the *Handbook* twenty years ago.

RAVEN. Three pairs nested, at South Ramingeo, Gunnawark, and near Wester Lother. The first was unsuccessful, but the others reared a total of at least seven young.

WREN. The dawn census of singing Wrens in 1959 was made between 0230 and 0600 GMT on May 23rd and June 5th. Forty birds were located, compared with 45 in 1958 (see *Bull.* 4:57) and 47 in 1957 (*Bull.* 3:184). The west-coast population, which was abnormally high in 1958 following a series of south-easterly gales in the spring, decreased sharply in 1959, from 21 to only 12 songsters, while the east-coast numbers increased from 17 to 21. On the north coast there were six instead of seven birds, and a single south-coast territory, occupied in 1957 but not in 1958, was reoccupied this year. The shift of population from west to east may be associated with the frequent westerly gales, and the virtual absence of strong easterlies, in the winter and early spring of 1958-59. The winter was not severe; there was only one period of snow-cover, in mid-January, and this was not prolonged. The territories deserted on the west coast were mainly the more exposed ones initiated in 1958, but included some in what had become an area of overcrowding between Malcolm's Head and Hoini. The new east-coast sites were mainly those with a south-east aspect, used before 1958 but not in that year. There were no

inland territories, though at least four birds (at Duttfield, Funniquoy, South Harbour, and Steinsi Geo) were in the habit of penetrating up to 300 yards inland, and occasionally used song-posts there, during the breeding season.

BLACKBIRD. A pair nested in one of the old buildings at the lower camp on Ward Hill; they raised three young, which flew in the third week of June, and one of these was retrapped at the Observatory in November. A second pair of Blackbirds may have nested in the vicinity of Swarts Geo.

P. D.

48. Bird Notes from Unst, Spring 1959

MAGNUS SINCLAIR

GREAT NORTHERN DIVER *Colymbus immer*. One stayed for a short while on May 28th and called inshore.

RED-THROATED DIVER *Colymbus stellatus*. One arrived March 5th, and two seen on the 15th.

GREY LAG GOOSE *Anser anser*. Seven seen on the unusual date of June 28th. They rose from the farm at Belmont and flew north over Snarravoe Loch. They were probably attracted by the tame geese at the farm.

BUZZARD *Buteo buteo*. One on May 1st and 23rd.

SPARROWHAWK *Accipiter nisus*. One on April 24th and May 1st.

KESTREL *Falco tinnunculus*. One on March 27th. Two on April 29th and singles May 1st, 2nd, and 9th.

CORNCRAKE *Crex crex*. First heard craking on May 11th.

OYSTERCATCHER *Haematopus ostralegus*. One on February 22nd and five on the 27th were the first recorded.

GOLDEN PLOVER *Charadrius apricarius*. A flock of 50 arrived March 6th, when LAPWINGS *Vanellus vanellus* also increased. Five passed overhead on April 28th, and about thirty present May 6th.

TURNSTONE *Arenaria interpres*. Up to thirty seen until the last week of May, when most left. In June, six 4th and two from 6th to 9th. Two were seen at Baltasound on the 16th.

WHIMBREL *Numenius phaeopus*. One at the breeding grounds on May 2nd, and numbers arriving up to the 15th.

BLACK-TAILED GODWIT *Limosa limosa*. Two had arrived April 21st.

DUNLIN *Calidris alpina*. A few on May 22nd-23rd, about six on June 9th.

ARCTIC SKUA *Stercorarius parasiticus*. A pale bird seen on April 28th, but none at the Saxa Vord colony on May 2nd.

BONXIE *Catharacta skua*. First seen April 12th, and several by the 22nd.

ICELAND GULL *Larus glaucoides*. A sub-adult bird, probably

the same one that summered in the area in 1958 (see *antea* p. 62), was seen frequently from March to the middle of June.

ARCTIC TERN *Sterna macrura.* First arrivals on May 13th.

WOOD PIGEON *Cuculus canorus.* One reported calling from Norwick on May 28th by Mrs T. Spence.

SWIFT *Apus apus.* One on the Hill of Clibberswick on June 21st.

SWALLOW *Hirundo rustica.* One on May 12th, and five passed through on the 25th. A flock of twenty were flying north-east on the 28th, and a dozen seen on 31st. In June small numbers seen in the first week, singles on 21st and 23rd, and four on 25th.

HOUSE MARTIN *Delichon urbica.* Four on June 1st.

ROOK *Corvus frugilegus.* Two on March 13th and one April 1st.

REDWING *Turdus iliacus.* The only spring record was one April 10th.

WHEATEAR *Oenanthe oenanthe.* The first records were a male April 15th and 16th, three males and a female 19th.

REDSTART *Phoenicurus phoenicurus.* A male on May 11th.

BLACK REDSTART *Phoenicurus ochruros.* A male on March 18th. The record appears to be the earliest ever made in Shetland (including Fair Isle).

BLUETHROAT *Cyanosylvia svecica.* A female seen at close range in a rose bush on May 15th and 16th. Apparently the first record for Unst since 1906. (Numbers at Fair Isle were exceptional in May 1959).

LESSER WHITETHROAT *Sylvia curruca.* One on May 15th.

WILLOW WARBLER *Phylloscopus trochilus.* One May 12th and two 26th.

GOLDCREST *Regulus regulus.* One on March 28th.

SPOTTED FLYCATCHER *Muscicapa striata.* One May 23rd and 24th.

WHITE WAGTAIL *Motacilla alba.* First seen on March 13th, an early date (six days earlier than the first at Fair Isle). Singly on April 6th and 12th, two 16th, and one 21st. Three May 10th displayed to one another). For notes on breeding in Unst in 1959, see below).

SISKIN *Carduelis spinus.* One on June 26th (a curious record which was watched at Fair Isle on the same day).

CHAFFINCH *Fringilla coelebs.* Single birds on March 29th and April 14th-16th.

SNOW BUNTING *Plectrophenax nivalis.* About fifty daily in mid-February, and flocks of about 100 on 23rd and 27th. Up to thirty in the first week of March, and small flocks on 14th and 18th. About fifty April 2nd, and one on 24th. A male May 7th.

49. Pied and White Wagtails Breeding in Unst

MAGNUS SINCLAIR

White Wagtails only occasionally nest in Shetland, and there have been no published records of Pied Wagtails breeding in the islands. In 1959 I found three pairs of wagtails nesting in North Unst. In two of these the male was a Pied Wagtail and the female a White. I had not seen a Pied Wagtail in Unst before.

Nest 1. Two *alba* wagtails arrived at Haroldswick on April 24th. On the 26th they were seen to be a male Pied, with black mantle joined by an unbroken line to the bib, and a female White with grey back and the black of the crown and bib not meeting on the shoulders. This pair took up territory along a dry-stone dyke at the roadside and the 28th, and were seen around all through May. The female was seen with nesting material on the 7th and 10th, and the male on the 8th. On June 2nd I came upon their nest half pulled out of a hole in the dyke, and two young about 1-3 days old lying headless in the road. This was probably the work of a cat. The pair deserted the vicinity on the following day, but the male was seen once on the 11th.

Nest 2. On June 21st I saw a White Wagtail feeding a juvenile out of the nest near a quarry about threequarters of a mile from the first territory, and I heard later that the nest had been in the quarry.

Nest 3. I was informed by Mr M. Thomson on July 2nd that a pair of wagtails had been seen all summer at a soapstone quarry at Quoyhouse (about $1\frac{3}{4}$ miles from the first territory), where they were thought to be nesting. On July 5th I visited the quarry and found a male Pied and a female White (or possibly a first-summer Pied) on territory there. After a long watch I saw them carry food to a hole under a flat stone. The nest had five almost fully-fledged young and a small dead chick lay outside it. On the 12th the nest was empty and I saw the adults and two of the young on a dyke nearby.

50. Various Notes from Shetland

HONEY BUZZARD *Pernis apivorus.* In early August 1959 the remains of a large raptor arrived at Fair Isle, sent by Mr R. D. Green of Voe, in the north Mainland. It had evidently been dead for some weeks. Mr Green wrote that the bird had been seen in his district since early June, constantly mobbed by a crowd of smaller birds. He had identified it as a Honey Buzzard, a conclusion we were happy to confirm. The two dark bars on the underside of the base of the tail, and a

broader one near the tip, were noted. According to the Venables' *Birds and Mammals of Shetland* (1955) there are only five previous Shetland examples, the last of which was in Unst in May 1913.

LITTLE CRAKE *Porzana parva*. On April 14th 1959 Mr R. N. Neven-Spence of Uyeasound, Unst, wrote to say that a specimen of the Little Crake had been picked up there by Mr Robert Sutherland on the 10th. The bird had evidently struck a telephone wire. The body was eventually passed to George Waterston, and found its way to the Royal Scottish Museum. Following *The Birds of Scotland* by Baxter and Rintoul (1953) the record is the fourth for Scotland, and the first since 1911. There are no previous Shetland records.

STONECHAT *Saxicola torquata*. In view of the rarity of this species in Shetland I was interested to hear from Mr A. G. Cockenden of Lerwick that he had seen a male at West Voe, Sumburgh, on March 22nd 1959. There had been an arrival at Fair Isle on the previous day.

P. D.

51. Handa Birds, July 1959

H. DICKINSON and M. P. HARRIS

A party from the University College of Swansea spent the period 3rd to 14th July encamped on Handa, Sutherland. C. F. Unsworth, L. C. Llewellyn, E. I. S. Rees (Aberystwyth) and the present writers were mainly concerned with birds. F. W. H. Underwood joined the party for the period 3rd to 9th.

The weather was generally inclement and greatly interfered with activity but short spells of good conditions occurred, especially on 8th, 10th, 13th and 14th. At first winds were south-westerly and reached gale force on the 5th and a severe thunderstorm occurred during the night 5th/6th. On the 11th the wind went round to NE/NW and reached severe gale force. After this the wind declined to a calm by the 13th and became light south-westerly on the 14th.

Notes of the species observed are given in the usual B.O.U. Checklist (1952) order. Details of birds ringed are also given.

Locality names are those of the Ordnance Survey "six inches to the mile" map.

BLACK-THROATED/RED-THROATED DIVER *Colymbus arcticus/stellatus*. Single divers were seen offshore on most days. Both species were identified.

LEACH'S/STORM PETREL *Oceanodroma leucorrhoa/Hydrobates pelagicus*. A small white-rumped petrel was seen on the 3rd. No others were found despite careful day and night search.

FULMAR *Fulmarus glacialis*. Present on the cliffs but much disturbed by high winds and seas. Several were seen sitting

on young or eggs. Because of interference by bad weather on the days available for the counting of Fulmars only extremely rough estimation was possible and this was of more than 600 actual or possible nest sites occupied.

GANNET *Sula bassana.* Single birds seen fishing well offshore on most days. A maximum of 5 on the 12th after severe gale.

CORMORANT *Phalacrocorax carbo.* A few seen daily. A survey round the island on the 10th gave a total of 519, including 309 immature birds.

HERON *Ardea cinerea.* Three on the 4th and singles on most days.

MALLARD *Anas platyrhynchos.* A ♀ on the 4th, 4 ♀ on the 8th and a ♂ on the 12th.

COMMON SCOTER *Melanitta nigra.* Two in Handa Sound on the 4th.

EIDER *Somateria mollissima.* Seen every day. On the 4th four and 11 young. The numbers of young dwindled from then on.

RED-BREASTED MERGANSER *Mergus serrator.* Single ♂♂ on the 7th and 13th. A ♀ on the 8th.

GREY LAG GOOSE *Anser anser.* Two passed over the island heading to the west on the 5th.

BUZZARD *Buteo buteo.* Four records. Single dark birds on the 3rd and 8th. A strikingly pale bird on the 11th and 12th.

PEREGRINE *Falco peregrinus.* Two adults and a juvenile present.

RED GROUSE *Lagopous scoticus.* One on the 11th.

OYSTERCATCHER *Haematopus ostralegus* (5 pull ringed). 15 pairs with young or defending territory. A flock of 52 on the 11th. A completely white plumaged bird with very pale bill and legs was seen on the 10th.

LAPWING *Vanellus vanellus.* Group of 4 on the 5th.

RINGED PLOVER *Charadrius hiaticula.* Up to 6 daily including one sitting on three eggs.

SNIPE *Capella gallinago.* Up to 3 on most days and also 3 unfledged young on the 9th.

CURLEW *Numenius arquata.* Seen daily. A maximum of 29 on the 8th.

WHIMBREL *Numenius phaeopus.* One on the 13th.

COMMON SANDPIPER *Tringa hypoleucos.* Up to 2 on most days.

REDSHANK *Tringa totanus.* At least 1 on most days. 6 on the 5th.

DUNLIN *Calidris alpina.* Two on the 4th, 5th and 7th. 3 on the 8th.

ARCTIC SKUA *Stercorarius parasiticus.* Two skuas probably of this species on the 7th. 2 light and 1 dark phase on the 13th. 2 light phase on the 14th.

GREAT SKUA *Stercorarius skua.* One on the 6th. One on the way to Scourie on the 9th (F.W.H.U.).

GREATER BLACK-BACKED GULL *Larus marinus* (30 pull ringed). Breeding population between 50 and 60 pairs. Of the birds ringed three have since been recovered. One ringed on the 5th was found injured at Dundee on October 10th 1959. Another ringed the same day was found wounded at Strangford Lough, Northern Ireland, on January 23rd, 1960. One ringed on the 10th was reported, presumably on a fishing boat, off Co. Dublin on November 26th, 1959.

LESSER BLACK-BACKED GULL *Larus fuscus.* About 10 present. No nests found.

HERRING GULL *Larus argentatus* (121 pull ringed). Breeding population estimated at about 150 pairs. Seven of the ringed birds were recovered in the same area within two months of ringing. One ringed on the 10th was recovered on a fishing boat 60 miles NNE of Handa on December 17th, 1959.

COMMON GULL *Larus canus.* Up to 5 daily. A pair was thought to be breeding on a point to the south of the Port an Eilein landing but the nest could not be found.

BLACK-HEADED GULL *Larus ridibundus.* A single bird seen flying to the south on the 11th.

KITTIWAKE *Rissa tridactyla.* Nesting sites were well distributed along the cliffs, a large group being on Stac an t-Seabhaig. It was estimated that some 2500 nest sites were occupied.

COMMON/ARCTIC TERN *Sterna hirundo/macruro.* About 40 seen daily of which the highest daily count of Arctic was 12. A pair defended the point to the east of the landing. A breeding population, estimated at about 15 pairs, was on Glas Leac but a landing was not possible.

RAZORBILL *Alca torda* (19 pull ringed). The Razorbill population extends along the cliffs from west of Stac na Faoileige on the north side of Handa to the south-western extremity facing Bogha Mòr. An estimate of the population was made by counting the Guillemots and also the ratio of Razorbill numbers to those of Guillemots at several places. The ratio was between 2 and 2½, and the estimated population was about 50,000 birds. Two birds ringed on the 7th have been recovered in Norway. One was shot near Flöro on September 18th, 1959. The other was shot near Kristiansand on 21st November, 1959.

COMMON GUILLEMOT *Uria aalge* (8 pull ringed). The breeding population extended along the cliffs in much the same areas as the Razorbill, but does not extend quite as far west on the north side of the island. This species is confined to suitable ledges and is numerous on the west face of Stac an t-Seabhaig. Counts of birds on ledges exceeded 17,500 and, allowing for birds flying around and on the sea, a reason-

able estimate of population was about 24,000 birds. Bridled Guillemots were present and counts were taken in several areas. Of 5631 examined 402 (7.1%) were bridled. Part of this count was made under poor conditions and some bridled birds may have been missed.

BLACK GUILLEMOT *Uria grylle*. Up to 5 seen daily in Handa Sound or in Port an Eilein.

PUFFIN *Fratercula arctica*. Puffins were most readily seen on the top of Stac an t-Seabhaig where an estimated 100 pairs occupied a typical burrowed puffinry. Others were seen standing on ledges and entering cracks in the cliffs and appeared to be sharing the Razorbill habitat. The bulk of the population was found amongst rock falls, both soil covered and bare, below the island's highest cliffs near Sithean Mor. On some of the vegetation covered rock falls Fulmars were sitting at the entrance of holes that looked like Puffin burrows and this was thought that some nest site competition may occur between the two species. From counts of all birds seen the population was estimated at about 450 pairs.

The point adjacent to Stac an t-Seabhaig was covered by tumps of thrift separated by grooves in the soil; this is typical of a disused and eroded burrow system and this area was probably an old puffinry. The complete absence of the Puffin on the top of the main island is almost certainly due to the presence of rats.

ROCK DOVE *Columba livia*. A few were seen on most days with a maximum of 8 on the 5th.

SWIFT *Apus apus*. Two seen on the 5th passing to the south after a gale.

SKYLARK *Alauda arvensis*. A few birds were seen and a nest with 3 eggs found.

SAND MARTIN *Riparia riparia*. A pair with young in the nest in sandy soil just below the top of a low cliff near the north landing beach.

RAVEN *Corvus corax*. Singly on the 5th and 6th. 3 on the 10th.

HOODED CROW *Corvus cornix*. Up to 7 seen daily. A juvenile seen in a nest on the 8th was found dead nearby on the 10th.

WREN *Troglodytes troglodytes*. Singing birds in two places 200 yards apart on the north-eastern corner of the island. Not seen or heard elsewhere and the population was probably two pairs.

WHEATEAR *Oenanthe oenanthe*. A breeding population of about 15 pairs.

WHINCHAT *Saxicola rubetra*. Two adults and 3 young in the area of the deserted village.

MEADOW PIPIT *Anthus pratensis*. Present. No counts made.

ROCK PIPIT *Anthus spinoletta*. The maximum count on one

day was 3 pairs with young and 15 other adult birds.

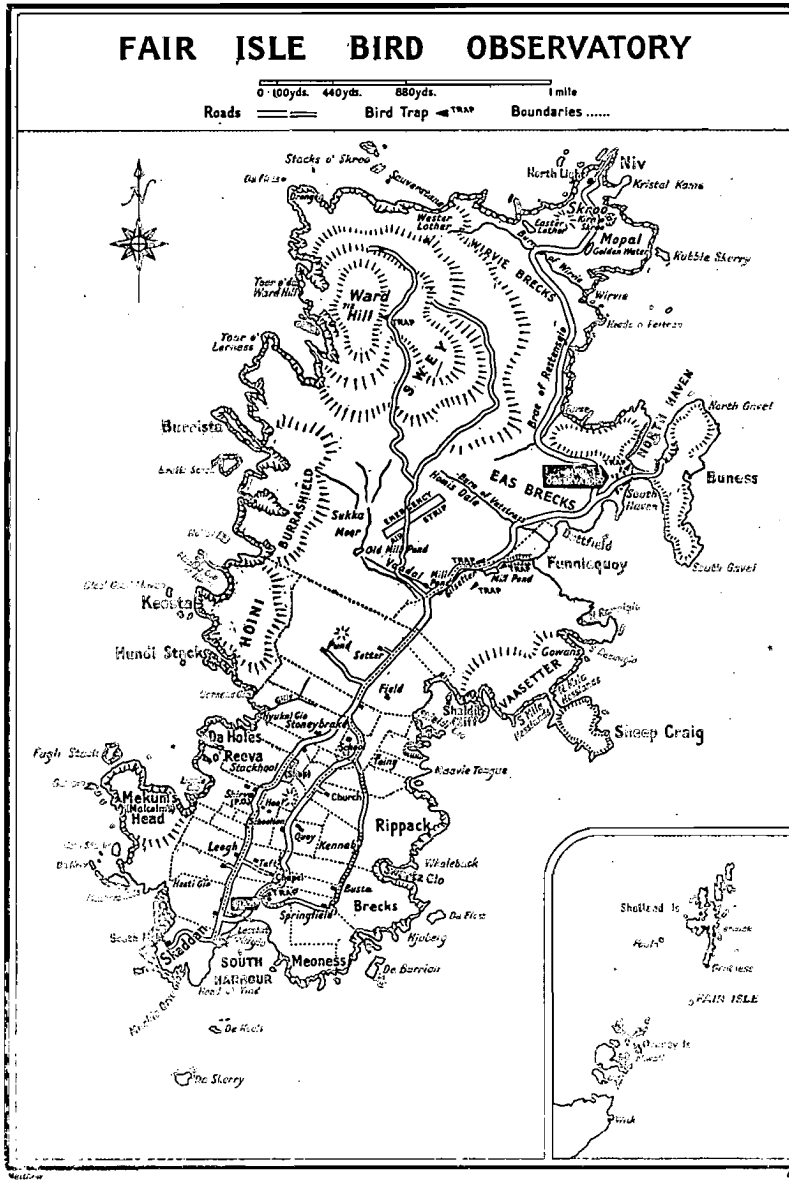
PIED/WHITE WAGTAIL *Motacilla alba*. A juvenile seen on several occasions. 2 full grown but not racially determined on the 8th and one on the 11th. A ♀ White on the 10th.

STARLING *Sturnus vulgaris*. A flock present and seen often. Maximum count of about 300.

TWITE *Carduelis flavirostris*. Two family parties, of 2 adults and 3 juveniles, and also two other adults.

UNIVERSITY COLLEGE,
SWANSEA.

15th March, 1960.



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