

British Birds

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British Birds

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Rare breeding birds in 1975

Turnstones

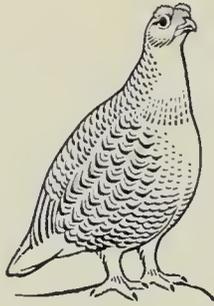
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Mystery photograph

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News and comment · Recent reports

British Birds



News and comment

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British Birds publishes material dealing with original observations on the birds of the west Palearctic or, where appropriate, on the species of this area as observed in other parts of their range. Except for records of rarities, papers and notes are normally accepted only on condition that the material is not being offered in whole or in part to any other journal. Photographs and sketches are welcomed.

Papers should be typewritten with double spacing and wide margins, and on one side of the sheet only. Shorter contributions, if not typed, must be clearly written and well spaced, and notes should be worded as concisely as possible. Authors of papers and notes should consult this issue for style of presentation (especially for systematic lists, reference lists and tables). Tables must either fit into the width of a page or into a whole page lengthways, and should be self-explanatory. English names of birds should have capital initials for each word, except after a hyphen, but group terms and names of other animals and plants should not. Both English and scientific names of birds, and the sequence, follow *A Species List of British and Irish Birds* (BTO Guide 13, 1971). Scientific names (underlined) should appear immediately after the first mention of the English name. Subspecific names should not be used except where relevant to the discussion. Dates should always take the form '1st January 1977', except in tables where they may be abbreviated.

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British Birds

VOLUME 70 NUMBER I JANUARY 1977



Editorial

Readers will find that, with this new volume, *British Birds* takes on a new style. Apart from various typographical changes, the use of art paper throughout each issue enables us to place photographs within the papers, articles and notes to which they refer. The inclusion of more drawings, particularly at the start of papers, will, we hope, similarly enliven the appearance of the journal.

Scientific papers and notes, letters and reviews will continue to be the main items, and will be as varied in their style and contents as those of past years. The 'Photograph of the Year' competition (see 69: 421, 517) and 'Mystery photographs' (69: 495, plate 52b) are new features that readers will have noted already. Two other innovations start in this issue: 'Personalities' (pages 32-33) and 'Diary dates' (page 41). We hope soon also to introduce a regular feature devoted to 'European news', with up-to-date reports from Continental contributors of events such as extensions of breeding ranges and irruptions. 'Recent reports' is now including topical items, but depends for its success upon the promptness of observers' reports. The individual reader can also add to the interest of this journal by telling us about items for 'News and comment'; while continuing to include matters of scientific and conservation importance, we hope that this feature will in future contain more news of people, and of what they are doing. This is your journal: its contents depend upon what you supply, and we shall welcome your help.

Rare breeding birds in the United Kingdom in 1975

I. J. Ferguson-Lees and the Rare Breeding Birds Panel



This is the third report of the Rare Breeding Birds Panel. The functions and methods of operation were identical to those described in detail in the first report (*Brit. Birds* 68: 5-23). The members of the panel during 1975 remained the same as in 1973-74: A. W. Colling, Peter Conder, R. H. Dennis, I. J. Ferguson-Lees and Dr J. T. R. Sharrock. Following his retirement as director of the Royal Society for the Protection of Birds, Peter Conder resigned from the panel at the end of the year. With the necessary approval of the editorial board of *British Birds* and the councils of the British Trust for Ornithology and RSPB, his place has been taken since July 1976 by Ian Prestt, the new director of the RSPB.

The year 1975 will undoubtedly be remembered best for the nesting in Scotland by a pair of Spotted Sandpipers *Tringa macularia*. That remarkable event apart, however, it was an interesting year, with five other species featuring for the first time in these annual reports: Red-necked Grebe *Podiceps grisegena*, Turnstone *Arenaria interpres*, Glaucous Gull *Larus hyperboreus*, Little Gull *L. minutus* and Hoopoe *Upupa epops*, though in only one of these cases (Little Gull) did a pair actually nest, and that was unsuccessful. The year's disappointments included the virtual and complete absences of, respectively, Montagu's Harriers *Circus pygargus* and Spotted Crakes *Porzana porzana*, the poor showing of Savi's Warblers *Locustella luscinioides* and the continued failure of Serins *Serinus serinus* to make their long-awaited establishment here. On the other hand, the repeated success of Goldcrests *Bucephala clangula*, the great increase in the number of reported Goshawks *Accipiter gentilis*, the most successful year for Red Kites *Milvus milvus* this century and totals of over 80 singing Cetti's Warblers *Cettia cetti* and at least 65 singing Firecrests *Regulus ignicapillus* were all causes for satisfaction. With the publication of *The Atlas of Breeding Birds in Britain and Ireland* (1976), we have been able to make comparisons with the numbers of each species known or inferred in 1968-72, as well as with those published in our two earlier reports for 1973 and 1974 (*Brit. Birds* 68: 5-23, 489-506).

In this report, no locality or county is named unless the panel was given

permission to do so. County names are usually those used by the recorders supplying the records and, consequently, still include a mixture of old and new names. Where county names have been suppressed, the code letters used in the entries for each species are the same as in the previous two reports; thus, developments within any county can be followed, even though the identity of the county is not revealed.

As in past years, most records were supplied by county recorders, but some were submitted directly by observers. In such cases, we sought permission to inform the county recorder, and this was usually granted. The trend of increasing co-operation between county recorders and the panel regrettably reversed in 1975, the number of non-reporting counties, which had fallen from 15 in 1973 to three in 1974, rose to 34 in 1975 (see fig. 1), though we are delighted that records are now being supplied from Cornwall. With the co-operation of every county society, these annual reports could give a complete picture for the United Kingdom, which, as well as being of scientific interest, would be of great value in conservation planning (thereby helping the birds, in whose interests the non-reporting counties have presumably been withholding their data). We also regret to have to note that some reports received by the panel were obviously intentionally vague, thereby greatly lessening their value as permanent records and making more difficult the preparation of this report (which is only a part of the function of the panel), as well as producing an unnecessarily confusing result in some cases, because overlap between neighbouring areas could not

Fig. 1. Areas covered by this report. Records (or a negative return) were supplied to the panel by the recorders for all of the areas shown black. In some cases, individual observers supplied data for the counties left white, but records were not received from the local editor, so the picture may be very incomplete for these 34 areas. The panel does not collect records from the Republic of Ireland



be eliminated. We appeal to all county and regional societies to consider the value of the panel's work and to supply fully detailed reports for 1976 (and any new retrospective ones for 1973-75). Please always use the panel's special forms, which may be obtained free from the panel's secretary, **Dr J. T. R. Sharrock, 59 Curlew Crescent, Bedford MK41 7HY.**

Systematic list of 1975 records

Great Northern Diver *Gavia immer*

No records received, even of summering individuals. The pair with two young in Ross in 1970 (E. N. Hunter, *Scot. Birds* 6: 195) remains the only proven case.

Red-necked Grebe *Podiceps grisegena*

Two records of single adults in summer.

Lanark Adult displaying on 25th May at same pool as one seen on 16th June 1974.

Perth One adult summered.

This species has never been recorded even attempting to nest in Britain, but it breeds commonly on the Continent north to central Finland and west to Denmark. The above records are of special interest in the light of the recent colonisation of, particularly, Scotland by other Fenno-Scandian birds.

Slavonian Grebe *Podiceps auritus*

Records from only 12 sites and survey incomplete in main county: 39-43 pairs reported, but less than 30 young seen, of which probably no more than half were reared.

Caithness One site with one to three pairs: (1) six or seven birds seen, and one pair with two young on 6th July.

Inverness Eight sites with total of 32-34 pairs: (1) 12-13 pairs and some young seen; (2) seven pairs reared nine or ten young; (3) three pairs failed; (4) two pairs probably failed; (5) six pairs, but no young seen; (6) (7) one pair failed at each; (8) what may have been the pair from (7) appeared at a different site during 7th-20th June and seemed to be nesting, but then moved to another lochan nearby, where they were probably unsuccessful.

Moray One site with four pairs: (1) four pairs on 3rd June, and broods of one, two and three young on 9th July, but only two young seen later.

Perth Two sites with total of two pairs: (1) one pair reared two, possibly three, young; (2) one pair in May and early June, but no evidence of nesting.

Success remains low and the species did not nest in Aberdeen after breeding there in 1974, but the continued colonisation of Perth for the third successive year is encouraging. Unfortunately, the survey was much less complete in Inverness than it was in either 1973 or 1974, the data coming from only eight sites compared with 18 and 19 in the previous two years. The *Atlas* recorded confirmed breeding in 12 squares and probable in one, and the total population was 48-62 pairs during 1971-74. (See page 22 for 1974 addition.)

Black-necked Grebe *Podiceps nigricollis*

Three sites in two counties, but data incomplete.

County A Two sites: (1) (2) pairs nested at each, but no information on numbers or success.

County B One site: (1) at least eight pairs at the main locality on 26th May, but eventual success not known.

There were apparently fewer at the site in county B than in either of the preceding years (up to 14 pairs in 1973, nine pairs and three single adults in 1974). The total population is now probably well below the maximum of 'less than 20 breeding pairs' noted in the *Atlas*, which recorded confirmed breeding in five squares and probable in two (one in the Republic of Ireland).

Pintail *Anas acuta*

Nine sites in two areas, with a total of about 21 pairs and breeding proved in several cases, but data probably incomplete.

Cambridge/Norfolk One site with about five pairs: (1) breeding population believed to be five pairs, but success unknown.

Orkney Eight sites on three islands with total of about 16 pairs: (1) one pair with five young on 1st June; (2) three pairs or females with young on 7th June; (3) one pair 'looking territorial' on 10th May; (4) one pair possibly bred; (5) two pairs possibly bred; (6) male at site where breeding proved previously; (7) minimum of three pairs or females with young on 23rd June and 15th July; (8) two pairs or females with young on 15th July. In addition, on the same island as (7) and (8), at least three other family parties were seen with flying young during 14th-16th July; there, too, as many as nine males were seen together on 26th May, and a total of 56 Pintails on 1st October included many juveniles.

Although breeding was reported from only two areas, compared with three in 1973 and five in 1974, the totals in both were higher and the results of the fuller (though still not complete) survey in Orkney are encouraging. The *Atlas* recorded confirmed breeding in 35 squares (one in the Republic of Ireland) and probable in 11, putting the total population at 'under 50 pairs in most years'. (See page 22 for 1974 correction.)

Scaup *Aythya marila*

No records received, and a late report of proved breeding in Orkney in 1973 (page 21) is the only one since 1970 (three nests at one site in Perth) and 1967-71 (infertile clutches laid by unmated female in Suffolk). The *Atlas* recorded confirmed breeding in four squares.

Goldeneye *Bucephala clangula*

Two pairs nested, one female hatching ten young, and a third probably did so at a second site.

Inverness Two sites: (1) a female with ten newly hatched young on 21st and 29th May, and a second female incubating five eggs on 21st; (2) a female attached to area of nest box on 29th May, but no young seen subsequently.

This was the third successive year with evidence of nesting by three pairs, following single pairs in 1970-72; all were again in nest boxes. Further, the breeding areas were not thoroughly searched in 1975 and it was thought possible that the number of pairs involved might have been as high as five. The *Atlas* recorded confirmed breeding in two squares and probable in three.

Common Scoter *Melanitta nigra*

About 143 pairs reported, and a number of additional females, but again mainly at one site in Northern Ireland.

Caithness Five sites: (1) one pair on 27th May; (2) male and four females on 1st June and

still four females on 3rd July; (3) four females on 1st June; (4) three males and five females on 4th June; (5) eight females on 21st June; also seen on hill lochs 31st May-11th July, but no evidence of breeding anywhere.

Dunbarton/Stirling One site: (1) up to three, six and ten adults of both sexes, including at least seven pairs, in three localities at Loch Lomond during 13th-17th May, but no subsequent evidence of breeding.

Fermanagh One site: (1) breeding population of Lough Erne estimated at about 123 pairs, and over 120 young seen in 25 broods, but probably only 21+ young were reared.

Inverness One site: (1) female with three young about two weeks old on 7th July, near area where single females at two lochs in late June 1974. The main site (15 pairs and six nests found in 1974) was not visited.

Perth One site: (1) one pair on same loch as in 1973 and 1974, with six small young on 21st June, five of which were well-grown on 18th July.

Shetland Two sites: (1) at least five pairs, and nest with five eggs found on 29th June; (2) one pair possibly bred.

Once again, most (86%) of the pairs reported were in Fermanagh; the breeding success there, although not good, was much better than in other recent years (for example, only one brood of five seen in 1974). Elsewhere, we received no record of any in Argyll in 1975 and the data from Inverness are incomplete, but the continued presence at Loch Lomond, the most southerly site in Scotland, is satisfying. The *Atlas* recorded confirmed breeding in 23 squares (five forming the Lough Erne site and three in the Republic of Ireland) and probable in five (one in the Republic), with an estimated total population in the United Kingdom of 110-150 pairs in Fermanagh and 30-50 pairs in Scotland.

Goshawk *Accipiter gentilis*

At least 27 sites reported and confirmed pairs in 13 or more cases, of which at least three bred successfully.

Argyll One site: (1) one bird in display flight, but no evidence of breeding.

Inverness At least five sites: (1) one pair during summer; (2) one adult in display flight; (3) (4) (5) single birds seen. Certainly breeding in north Speyside and adjacent areas.

Sutherland One site: (1) one pair displaying.

Yorkshire Three sites: (1) one pair displaying on 2nd February (with second male) and 2nd March, rebuilt and decorated previous nest, but no further breeding activity after 23rd March; (2) one (sub-adult?) pair displaying, partly built and decorated new nest, but no further breeding activity after 27th March, although still in area; (3) birds regularly seen, but no evidence of breeding.

County D Nine sites, with successful breeding in at least two: (1) (2) single pairs each reared three young; (3) (4) birds seen at each, pair displaying at one and male found shot at end of breeding season, but no evidence of nesting and some may have been immatures or even the adults from (1); (5) one pair which bred successfully since 1968, except 1973, rebuilt nest but then abandoned it and male found dead later in season; (6) (7) single pairs nested, one having eggs robbed and the other young removed, but not clear whether only one pair involved; (8) (9) single pairs, but no further details.

County E At least one site, but no details.

County G Details from only two sites, though certainly breeding at others: (1) at least one or two birds; (2) first-summer male trapped, in area where Pheasants *Phasianus colchicus* reared, and released in county H.

County H Two sites: (1) two birds (one adult) during year; (2) two birds, but no evidence of breeding.

County I Pairs seen in summer at three sites, and possibly even a second pair at one, but degree of overlap uncertain and no evidence of breeding.

County J Two sites, with successful breeding in at least one: (1) one pair bred successfully and second pair possibly present; (2) one or more birds seen regularly, but no proof of breeding.

Goshawks are now more fully reported to the panel and the picture is becoming much clearer, even though no records of this species reached us from counties A, B, C and F in 1975. A number of recorders still wish the names of their counties to be suppressed for this species, but it is obviously widely scattered now and we can state that the number of pairs breeding in Scotland may well be in double figures, while the same probably applies in England. The *Atlas* recorded confirmed breeding in 11 squares and probable in 20, putting the population in a range of ten to 30 pairs. We have no knowledge, of course, how many of these Goshawks are wild, feral or escaped, and it is suggested that some are still being released in Scotland. (See pages 21 and 22 for 1973-74 additions.)

Red Kite *Milvus milvus*

A total of 32 pairs, of which 28 nested (one twice); 16 of these were successful, rearing 25 young. At least nine non-breeders were also found, making a total April population of 73 or more birds.

County A No nesting attempts known.

County B One site, unsuccessful: (1) one pair laid eggs, but failed.

County C Total of 23 sites, 14 successful: (1) to (9) nine pairs reared two young each; (10) to (14) five pairs reared one young each; (15) to (19) five pairs laid eggs, but failed; (20) to (23) four pairs occupied sites, but did not nest.

County D Four sites, one successful: (1) one pair reared one young; (2) (3) (4) three pairs laid eggs, but failed.

County E Three sites, one successful: (1) one pair reared one young; (2) one pair laid eggs which were stolen, then laid again, but failed; (3) one pair laid eggs, but failed.

County F One site, unsuccessful: (1) one pair laid eggs, but failed.

A comparatively successful year and, indeed, the best this century. Not only was there one more nesting pair than in 1974 (and two more than in 1973), but the number of young reared more than doubled from 12 to 25 (14 in 1973). The nesting attempt in county F was the first confirmed there for 25 years. The *Atlas* put the population at about 26 pairs, with confirmed breeding in 19 squares and probable in two.

Honey Buzzard *Pernis apivorus*

Details of only one pair reported and data very incomplete.

Hampshire Breeding continued, but no details received.

Norfolk One site: (1) one pair present from 11th May to at least 30th July, with a third bird on 1st June, but no evidence of nesting.

The information received is again disappointingly inadequate and we do urge those concerned to deposit their records with the panel for summary in this report. The *Atlas* put the population at not exceeding a dozen pairs in any year, with confirmed breeding in seven squares and probable in one, but the data should be centralised so that trends may be detected. (See page 21 for 1973 addition.)

Marsh Harrier *Circus aeruginosus*

Five males and seven females nested and reared a total of 18 young.

Norfolk One site, successful: (1) one pair reared four young. Three other birds summered in the county.

Suffolk Three sites, with successful breeding at two: (1) one pair reared five young, and a bigamous male was mated to three females, two of which reared four young each while

the third failed; (2) one pair reared one young, and a second female was also present but did not nest; (3) one pair nested, but the male disappeared and the female subsequently deserted.

The *Atlas* recorded confirmed breeding in four squares and probable in two, concluding that it was 'unlikely that there were more than half a dozen nests in Britain in any year during 1968-72'. Six nests each were reported in 1973 and 1974, rearing 16 and ten young, and against this background 1975 must be regarded as an above average year. Yet the total is still far below the 1957-58 figure of nearly 20 pairs.

Montagu's Harrier *Circus pygargus*

Only two reports of single birds on single days.

Bedfordshire Female on 9th June in same locality and on same date as one in 1974, but no evidence of breeding.

Cornwall One in May in possible breeding area, but not seen again.

The *Atlas* recorded confirmed breeding in 13 squares and probable in 18. In the early 1950s there were at least 40-50 pairs, including up to 20 in Devon and Cornwall where the species last bred in 1972; this total declined to 15-25 pairs by the mid 1960s, five to eight pairs by 1970 and two or three pairs by 1973. In 1974, for the first time, there were no confirmed records of breeding, and 1975 represented a further decline with no report of a pair or even of one bird seen regularly. The outlook for the future of the Montagu's Harrier as a British breeding species now seems very bleak. (See pages 21 and 22 for 1973-74 additions.)

Osprey *Pandion haliaetus*

Again 14 pairs, of which nine laid eggs, but only seven successful in rearing the comparatively small total of 16 young.

Inverness One site at Loch Garten, unsuccessful: (1) one female and two males, both attempting to mate with her, in second half April; one male left and pair remained until September; one egg laid in flimsy nest in usual tree, probably on 9th May, but female could not incubate it and it was later removed for analysis; increase in display and nest-building in July, but no further eggs laid.

Perth One site at Loch of Lowes, unsuccessful: (1) single male nest-building during 6th-16th April, then left; female arrived on 17th and another male on 19th, pair remaining throughout summer and latterly building nest in 1970 tree, but did not lay eggs.

County A One site, unsuccessful: (1) one pair present from 17th April and female incubating in 1974 eyrie from May throughout June, but on 30th June it was found that the eggs had been stolen and replaced by three hens' eggs.

County B Six sites, four successful: (1) (2) single pairs each reared two young in 1974 eyries and these seen flying on 5th August; (3) one pair laid three eggs in 1974 eyrie and reared two young; (4) one pair reared three young in new nest; (5) one pair present for most of summer, but failed to nest; (6) one pair occupied new eyrie by early May, but later broken eggshells were reported under the tree and no adults were present in mid June.

County C Two sites, both unsuccessful: (1) one pair arrived in April and built new nest, but, although both birds remained until at least early August and also rebuilt old eyrie, failed to breed; (2) one pair had rebuilt eyrie by 18th June, but failed to breed and left by end July.

County D Two sites, both successful: (1) one pair laid three eggs in usual eyrie and reared three young; (2) one pair reared two young in 1974 eyrie.

County E One site, successful: (1) one pair laid three eggs in 1974 eyrie, of which one failed to hatch, and reared two young.

This was a disappointing year after 1973 and 1974, in each of which ten pairs were successful and reared 21 and 20-21 young; the fact that one

clutch was stolen is a sad reminder that nests are still at risk from egg-collectors. The *Atlas* recorded confirmed breeding in seven squares and probable in four, but there were only about seven nesting pairs by 1971-72. Fourteen young Ospreys were ringed in 1975, bringing the total so marked to 101; the number of young reared since 1959 is now at least 129 and perhaps 132 or more. There were no foreign recoveries in 1975, but a male ringed as a chick at Loch Garten in 1969 was found dying in another county. Of 20 nesting adults examined through telescopes, five had been colour-ringed as nestlings in Scotland and two others carried metal rings alone.

Hobby *Falco subbuteo*

Data incomplete: reported from only about 48 sites, with breeding proved by 30 pairs, of which 21 were successful in raising at least 33 young, two failed and six were of uncertain outcome.

Bedford Four observations of single birds at four localities between 3rd May and 5th August, but no evidence of breeding.

Berkshire Four sites, with breeding proved at two: (1) one pair with well-grown young in nest on 2nd August; (2) one pair with one young in nest on 2nd August; (3) one pair present, but nest not found; (4) up to two birds seen, but no evidence of breeding. Other observations of single birds continued to suggest that the species was 'probably under-recorded'.

Buckingham Four sites, but no evidence of breeding: (1) (2) single birds on 2nd and 7th June, and 25th June, at traditional sites; (3) one bird from late April through the summer; (4) one female shot in late July, cared for and released by falconer. Other observations of single birds continued to indicate that the species was 'much under-recorded'.

Devon 'A good season with young reared at several sites', but details withheld by county recorder.

Dorset At least 12 sites, with breeding proved at three or four: (1) one pair reared young; (2) one pair nested, but success unknown; (3) two pairs reared at least one young each, though possibility of overlap with (2); (4) one pair probably failed; (5) one pair seen regularly; (6) to (12) pairs reported, but no further details. Single birds elsewhere, and total number of pairs attempting to breed, according to county recorder, 'could easily be 20'.

Hampshire Only one site reported, with breeding proved: (1) one pair reared one young. No other records received from this county which had '13-15 pairs' representing 'less than 50% of the actual county total' in 1974.

Hereford Two or three observations of single birds in one part of the county, and one found with broken wing, but no evidence of breeding.

Huntingdon One site, with breeding proved: (1) one pair reared two or three young at 1974 site.

Oxford About ten sites, with breeding proved at six: (1) (2) (3) three pairs nested within radius of 6½ km, at least one rearing young; (4) one pair reared at least two young; (5) (6) single pairs nested; (7) (8) single pairs probably bred; (9) (10) single pairs possibly bred. Other observations suggested that 'the true total was higher than ten', according to the county recorder.

South Yorkshire One site, but no evidence of nesting: (1) one or possibly two birds remained throughout May-August.

Stafford A few observations 'doubtless related to passage birds'.

Surrey Twelve sites, with 13 pairs proved breeding: (1) two pairs reared three and two young; (2) two of three pairs reared two and one young, success of third unknown; (3) (4) (5) single pairs reared at least one young each; (6) one pair reared two young, and possibly a second pair; (7) one pair nested but failed; (8) (9) (10) single pairs reared at least two young each; (11) one pair probably nested; (12) one pair possibly nested. Single birds reported from three other areas in May and June.

Warwick At least one site, with breeding proved: (1) one pair reared three young. Wide

scatter and frequency of other observations led regional recorder to conclude that there might have been 'at least ten breeding pairs', but no other records were supplied to him.

West Midlands/Worcester One site, but no proof of nesting: (1) one pair seen regularly from late July to late September.

Worcester At least one site, with breeding proved: (1) one pair bred successfully, but no further details. Numerous other observations led regional recorder to conclude that there was 'possibly more than one pair, but less than five'.

No reports or only odd individual records were received from several of the main counties (notably Sussex, Hampshire, Wiltshire and Somerset) and no details from Devon. This is unfortunate because a full picture of the numbers of this species would be valuable. The *Atlas* recorded confirmed breeding in 95 squares and probable in 43, with an estimate which was 'close to, or may exceed, 100 pairs'. From the data supplied by the counties above, however, together with estimates based on what has been published elsewhere for the missing areas in recent years, it seems likely that the population in 1974-75 was in the range 81-148 pairs and probably of the order of 110-125 pairs. (See pages 21 and 22 for 1973-74 additions.)

Spotted Crake *Porzana porzana*

No records received. The *Atlas* recorded confirmed breeding in two squares and probable in 20. More than half of these were in Scotland where, after no reports in 1973, birds were heard at four sites in 1974. The population seems clearly to fluctuate.

Dotterel *Eudromias morinellus*

More data than in 1973-74, but still very incomplete: reported from eight counties and statements of nesting by at least 17 pairs, but general comments from some of the main areas shows that others were proved breeding.

Aberdeen/Banff/Inverness/Perth/Angus General comment: 'Breeding population much as usual for recent years; average 0.3-0.8 young per adult on different hills.'

Aberdeen/Banff/Inverness Details from four sites: (1) two birds on 25th May; (2) at least two different adults with three and two young, probably other pairs failed; (3) adult with three chicks about one week old on 30th July; (4) adult with three young, and party of seven, on 3rd August.

Angus Details from one site: (1) two juveniles, and another party of eight or nine, of which two were juveniles, on 25th July. General comment: 'Seven pairs bred.'

Inverness Details from two sites: (1) one bird on 19th June, four adults and four juveniles on 31st July, probably other pairs failed; (2) one pair on 1st June and 27th July, but no proof of breeding. Present in another area, but no data available.

Perth Details from three sites: (1) one pair on 11th May at what was probably new site; (2) one pair with one young at new site first occupied in 1974; (3) five birds in party on 6th July at site now possibly in regular use. These represent the southern and western limits of the range in the Scottish Highlands.

County A Present, but no evidence of successful nesting.

County B One site: (1) one pair with nest and three eggs on 1st June, but found deserted on 12th June. The first proof of nesting in this county.

County C Five sites: (1) one pair laid three eggs, all of which hatched, and one or two young flew; (2) one pair laid three eggs which probably failed to hatch and no sign of any birds in June; (3) one pair in late May, but no further searches made; (4) (5) birds seen in May, but not found on later visits.

It is again impossible to comment on general trends, but the population was estimated at 60-80 pairs in 1950-60 and D. Nethersole-Thompson (1973, *The Dotterel*) put it at 56-74 pairs. The *Atlas* recorded confirmed

breeding in 26 squares and probable in six, concluding that in exceptional years up to 100 pairs may breed. The continued presence in counties outside the main range is most interesting (with breeding proved for the first time in one of them) and, in this connection, we note that one pair also bred successfully in Ireland in 1975 (*Irish Bird Rep.* 23: 3, 13). (See page 22 for 1974 additions.)

Turnstone *Arenaria interpres*

No proof of nesting, but territorial behaviour at three sites in June.

Orkney Display and song at two sites on 9th and 10th June.

Shetland Two birds alarm-calling on 1st June.

This species has never been proved to breed in Britain or Ireland, though it has long been regarded as a possibility and attempts have been suspected in Shetland and Down, as well as in northwest Ireland, and possibly elsewhere. There is no firm evidence that those in Orkney and Shetland in 1975 were other than late migrants, but, like the Sanderlings *Calidris alba* in 1973-74, it seems well worth putting them on record.

Black-tailed Godwit *Limosa limosa*

Reported from only six sites and data clearly incomplete; about 60 pairs nested at these, but only some 20 pairs fledged young.

Cambridge/Norfolk One site, with breeding proved: (1) up to 55 pairs nested in the area of the Ouse Washes, 21 of them on adjacent farmland, but only about 20 pairs fledged young.

Lincoln/south Humberside One site: (1) one pair, breeding suspected.

Orkney Two sites, both with breeding proved: (1) one pair seen from 21st June and large young on 17th August; (2) one pair with one young just able to fly on 23rd July.

County B One site, with nesting proved: (1) two pairs nested, but both failed and left the area.

County D One site, but no evidence of nesting: (1) one pair stayed late in spring and displayed, but then left.

No information was received from more or less regular sites in Cumbria, Kent and Somerset, but it seems likely that the total population was similar to those in 1973-74. The confirmed breeding in Orkney is noteworthy. The *Atlas* recorded confirmed breeding in 15 squares and probable in 14. (See page 23 for 1974 addition.)

Wood Sandpiper *Tringa glareola*

At least two pairs nested.

Caithness Two sites, with nesting proved at one: (1) one pair and nest with four eggs on 24th June, but no sign of birds in July; (2) only one bird seen, but song-fighting in early June and still present in mid July.

Inverness One site, with breeding proved: (1) one pair certainly nested and three young were seen on 22nd June; two other birds present from 22nd May to 26th June and sometimes a third.

Sutherland Two sites, but no proof of nesting: (1) single bird on 31st May; (2) two birds on 13th June.

These records suggest a slight increase in activity over the two previous years, and it is encouraging that two pairs were proved nesting (none in 1973, one in 1974), but the total is still well below the seven or eight pairs of 1972 (five pairs proved breeding). On the other hand, in that year there was intensive fieldwork in remote parts of Scotland for the *Atlas*, which altogether recorded confirmed breeding in five squares and probable in nine.

Spotted Sandpiper *Tringa macularia*

One pair nested and four eggs were laid, but were later deserted.

County A One site: (1) one bird first seen on 15th June, and a pair with a nest and four eggs on 27th June, deserted by 7th July, perhaps because of trampling by cattle or heavy rain; eggs sent to the Royal Scottish Museum, Edinburgh, where two were found to contain partly developed embryos.

This remarkable record, the first of nesting by an American species in Europe, has already been fully documented (Gordon E. Wilson, *Brit. Birds* 69: 288-292).

Temminck's Stint *Calidris temminckii*

Birds summered at only one site and no evidence of nesting.

Grampian Against a background of only two previous published records, the high total of seven single birds in May and July-August at two or three localities indicated unusual movements, even though there was not the slightest suggestion of nesting.

County B One site, but no evidence of breeding: (1) three birds, two of them possibly first-year, from mid May to at least mid June in the 1974 locality.

For the first year since 1969, none was seen at the locality in county A where breeding was proved in 1971, but it is encouraging that the site in county B has now been occupied in two successive years. The *Atlas* recorded confirmed breeding in one square and probable in one.

Sanderling *Calidris alba*

No records received. There is no evidence that this species has ever nested in Britain, but single pairs were seen on mountains in two counties in 1973-74.

Ruff *Philomachus pugnax*

Three sites, with evidence of nesting by at least 17 females at two.

Cambridge/Norfolk One site, with evidence of nesting: (1) at least 12 females probably nested on the Ouse Washes, but success unknown.

Lancashire One site, with breeding proved: (1) of seven females which stayed at Martin Mere after the males left, five were seen coming urgently to feed at dawn and in the late afternoons, and it was believed that they were incubating; later, several behaved as if with young and two were seen with flightless young from early June.

County A One site: (1) one male and one female on 6th-7th June and one male on 16th June, but no evidence of nesting other than disappearance of female.

The number of Reeves on the Ouse Washes was about the same as in 1974, more than the eight in 1973, but still apparently well below the peak of up to 21 in 1971. The confirmed breeding in Lancashire is encouraging corroboration of the westward spread suggested by the *Atlas*, which recorded confirmed breeding in six squares and probable in two.

Avocet *Recurvirostra avosetta*

About 158 pairs nested at six sites and reared at least 142-149 young.

Essex One site, with successful breeding: (1) one pair reared two young. The first proof of breeding in the county since at least 1953.

Suffolk Two sites, with successful breeding at both: (1) 107 pairs nested on Havergate Island, of which 86 pairs reared 79-80 young; (2) 41 pairs nested at Minsmere, rearing 60-64 young.

County A Three sites, with successful breeding at at least two: (1) at least four pairs nested, and one pair seen with young, but success unknown; (2) two pairs nested, each probably rearing one young, and a third pair also reported; (3) three pairs, but success unknown.

The total of breeding pairs was probably a few more than in any previous year (149 in 1973, 125 in 1974) and the number of young reared was far better than in 1974, when only 64 were recorded. The population at Minsmere was the highest ever and the spread to Essex is encouraging also. The *Atlas* recorded confirmed breeding in five squares and probable in two.

Red-necked Phalarope *Phalaropus lobatus*

At least 19 pairs, possibly 24 or more, reported from seven sites, and at least 18 pairs nested, but data incomplete.

Orkney One site, but no proof of nesting: (1) one pair reported in early summer and a female on several occasions in mid July.

Outer Hebrides About four sites, with nesting proved at two: (1) one pair nested, but failed; (2) three pairs nested, but success not known; (3) (4) birds seen, but did not apparently nest.

Shetland Two sites, with nesting proved at both: (1) at least 13 pairs, possibly 18, nested at main site, but no details of success; (2) one pair nested on another island.

County A None recorded at two sites where breeding proved in recent years.

The data are inadequate to assess trends. The *Atlas* recorded confirmed breeding in 17 squares (at least one in the Republic of Ireland) and probable in three. M. J. Everett (*Brit. Birds* 64: 293-302) put the British and Irish population at 54-65 pairs in 1968, 28-41 pairs in 1969, and about 45 pairs in 1970. It seems likely that the numbers are continuing to fluctuate within similar limits, or possibly a little lower.

Stone Curlew *Burhinus oedienemus*

Only 30-45 pairs reported in five counties, and data very incomplete.

Dorset One to three sites: (1) one pair with nest and two eggs, but success not known; (2) (3) perhaps two other pairs.

Essex Two sites, but no proof of breeding: (1) two birds on several dates in the summer; (2) one bird on 17th May.

Norfolk General comment only: 'No survey undertaken, but known to be present at a number of localities.'

Norfolk/Suffolk Of 19 pairs in Breckland, ten were successful, five failed and four were not followed up. (Note considerable overlap to unknown extent with separate Norfolk and Suffolk entries.)

Oxford Three sites: (1) one pair bred successfully; (2) juveniles seen in summer; (3) one pair possibly nested.

Suffolk Probably seven pairs in coastal belt and 15-20 pairs in Breckland, but no details of success.

With no reports from Berkshire, Cambridge, Hampshire, Sussex and Wiltshire, it is impossible to assess the current situation. The *Atlas* recorded confirmed breeding in 63 squares and probable in 19, estimating the total population at 'probably not less than 300 pairs, and may exceed 500'.

Glaucous Gull *Larus hyperboreus*

One adult bred with a Herring Gull.

Shetland An adult paired with a Herring Gull *L. argentatus* and successfully reared young.

Single Glaucous Gulls have occasionally summered in Britain, but this is the first record of one nesting, even though it was a hybrid pairing.

Hybridisation has previously been reported elsewhere between these two species, and also of Glaucous with Iceland *L. glaucoides*, Lesser Black-backed *L. fuscus* (presumed) and, at least in captivity, Great Black-backed *L. marinus* (Annie P. Gray, 1958, *Bird Hybrids*).

Mediterranean Gull *Larus melanocephalus*

No records received. One pair bred in Hampshire in 1968 and mixed pairs of Mediterranean and Black-headed Gulls *L. ridibundus* then and in subsequent years. Immatures are now regularly seen in summer in one or two other areas.

Little Gull *Larus minutus*

One pair nested unsuccessfully.

Cambridge/Norfolk One site: (1) one pair nested on the Ouse Washes among Black-headed Gulls *L. ridibundus*, but the eggs were taken by a predator.

Little Gulls have increased enormously as passage migrants and summer visitors in Britain and Ireland over the last 25 years and possible breeding was suspected in three cases during the *Atlas* years, but this is the first confirmed nesting record.

Black Tern *Chlidonias niger*

One pair nested unsuccessfully.

Cambridge/Norfolk One site: (1) one pair nested on the Ouse Washes, but did not hatch any young.

Apart from a pair in Ireland in 1967 and another elsewhere in East Anglia in 1970, the only accepted previous nesting records during the present century of this formerly regular breeding species were also on the Ouse Washes in 1966 (several nests, two with eggs, three young reared) and 1969 (seven nests, young hatched in five, but probably only one fledged). This latest record confirms that, if only the right conditions could be guaranteed, the Ouse Washes would probably become a regular nesting site. One pair attempted to breed in Ireland in 1975, but the nest and eggs were destroyed and the site was abandoned (*Irish Bird Rep.* 23: 20).

Snowy Owl *Nyctea scandiaca*

Two nests, and a pair at a second site, but only one pair bred successfully.

Shetland One male with two females on Fetlar: (1) female laid six eggs, of which four hatched, and reared four young; (2) female laid three eggs, but abandoned them.

County A Pair present during summer, but did not nest.

As in 1973 and 1974, the male on Fetlar was paired with two females which both laid eggs, but again one nest failed. Nevertheless, the four young reared at the other nest was the highest number since 1967. There have been several records of individuals summering elsewhere in Scotland in recent years and the pair in county A was an encouraging sign, even though nesting did not result.

Hoopoe *Upupa epops*

No record of breeding, but one bird summered.

Herefordshire One seen for several weeks, but no evidence of second bird or nesting.

This species nests in Britain only casually and intermittently: the most recent records were in Cornwall in 1968-69 and Sussex in 1971.

Wryneck *Jynx torquilla*

Eight birds holding territory or singing at six sites in five counties, and one pair bred successfully.

Aberdeen One site: (1) one bird singing on 9th June.

Inverness Two sites, with successful breeding at one: (1) one pair located on 12th June and later found nesting in a birch stump near a road, then five young near the nest and one being fed inside the hole on 17th July; (2) two birds singing about 100 m apart on 13th June.

Perth One site: (1) one bird considered to be holding territory, but not located on subsequent visit.

Ross One site: (1) one bird singing on 1st June.

Suffolk One site: (1) one stayed in a garden for some weeks during May-June.

Apart from a second-hand observation of one near Sevenoaks, Kent, in late May, the Suffolk record was the only report of this species in England in the breeding season, but the continued resurgence in Scotland is encouraging. The nest in Inverness was the first successful breeding recorded in that county since three out of five pairs were successful in 1969. The *Atlas* recorded confirmed breeding in 14 squares and probable in 12, but 12 and four of those were in southern England where Wrynecks have all but disappeared and we have no nesting record since 1973.

Shore Lark *Eremophila alpestris*

One bird reported in mid summer.

Grampian One on one date in June, but habitat considered unsuitable for nesting.

It still seems possible that this species may colonise Scotland. In 1972, a male was found singing in the Scottish Highlands; in 1973, a male was again singing about 1 km from the 1972 site and a pair was seen regularly at a third site another 1 km distant between 10th July and 18th August, behaving as if they had young and also carrying food.

Golden Oriole *Oriolus oriolus*

Reported in summer from three counties and at least two pairs nested.

Gwent One site, but no evidence of nesting: (1) one male seen in breeding season.

Hampshire One site, pair summering but no proof of nesting: (1) one pair present from May to at least end July, the male singing regularly early on and twice seen displaying.

Suffolk One site, with breeding proved: (1) at least two pairs bred, two nests found both being successful, and probably two further pairs.

There was also an unconfirmed report from a fourth county. The *Atlas* recorded confirmed breeding in five squares and probable in one. The above records, although possibly incomplete, support the general trend of recent years towards regular breeding.

Fieldfare *Turdus pilaris*

Reported from six sites in two counties, but only one pair proved breeding.

Grampian Four sites, but no evidence of breeding: (1) one bird scolding observer on 29th June, but not found later: (2) (3) (4) single birds on 21st June and 1st and 3rd July.

Staffordshire Two sites, with breeding proved at one: (1) one pair nested little more than a metre from the 1974 site, but no details of success: (2) one pair probably bred, as in 1974.

After the first nest in Orkney in 1967, the *Atlas* recorded confirmed breeding in 15 squares and probable in three, although not more than half a dozen pairs were found nesting in any year. The above records are fewer than in 1974 and again it seems likely that some have not been reported to us, though without the intensive *Atlas* fieldwork in Scotland it may well be that a higher proportion is being overlooked.

Redwing *Turdus iliacus*

A total of 20 sites in six counties, with eight pairs proved breeding and at least 19 other singing males.

Aberdeen Two sites, with breeding proved at both: (1) one pair hatched five young which failed, and similar empty nest nearby; (2) one pair reared three young, and third adult seolding nearby. The first proved breeding in the county.

Inverness Five sites, with breeding proved at two: (1) one pair carrying food into plantation on 22nd May, and another male singing not far away on 6th June; (2) adult carrying food into wood on 25th May; (3) (4) (5) single males singing on 26th-28th May (with a second on 26th), 1st June, and 17th and 30th June.

Orkney Two sites, with breeding proved at one: (1) one pair nested and reared young; (2) one pair sang and held territory, but no proof of nesting. The former is the first proved breeding in the county.

Perth One site, but no evidence of nesting: (1) one male singing in early May.

Ross Five sites, with breeding proved at two: (1) six males singing during April-June; (2) one male singing about 1st June; (3) one alarm-calling on 16th June; (4) one pair feeding young in nest, also one addled egg, on 19th June; (5) two pairs both hatched young.

Sutherland Five sites, but no evidence of nesting: (1) to (5) at least one singing male at each.

The *Atlas* recorded confirmed breeding in 54 squares, probable in 25 and possible in 32 (mostly singing males), and suggested that the 1972 population was about 300 pairs. Even if every singing male represented a breeding pair, the 1973-75 totals were only 11, 26 and 27, but the first proved records in Aberdeen and Orkney are encouraging and it must be remembered that fieldwork in the final year of the *Atlas* was particularly intensive in Scotland. Clearly the species is now under-recorded. (See page 23 for 1974 addition.)

Black Redstart *Phoenicurus ochruros*

Some confusion between 'sites' and 'towns', but reported from at least 46 sites with 50-52 pairs, of which 33 proved breeding and 17-19 probable, as well as at least 22 other singing males.

Bedford Single birds at three localities on 4th and 28th April and 7th September, but no suggestion of nesting.

Buckingham One site, with breeding proved: (1) one pair reared four young seen with the female on 25th June.

Essex Eight sites, with breeding proved at four: (1) one pair reared young; (2) one pair reared at least four young in three nesting attempts; (3) one pair bred; (4) five pairs carrying food, and broods of four and three seen; (5) (6) single pairs, but no proof of breeding; (7) (8) single males singing.

Kent Two sites, with evidence of nesting at both: (1) two males and one female from late April to at least 20th July and, although breeding not confirmed, young reported by power station staff; (2) one male on 7th August when empty nest (containing two feathers of Black Redstart) also found, but no evidence that it had been used.

Middlesex At least seven sites, with breeding proved at two: (1) one male singing on 9th April and 30th-31st May, and female seen on 17th April, but no proof of breeding; (2) one

male singing at 1974 site from 11th April and nest with four eggs found in early May; (3) one male singing on 31st May; (4) one pair bred successfully; (5) one pair at 1974 site in June, but no evidence of breeding; (6) at least two pairs present; (7) one ringed on 22nd May. General comment: 'Several previous sites apparently not checked during the year and few observers endeavoured to prove breeding.'

Norfolk Sites in three towns, with breeding proved in two: (1) eight pairs, of which at least two bred; (2) one pair bred; (3) three singing males.

Northampton One site, but no evidence of nesting: (1) one male singing from 28th May to 3rd June. A pair at another locality on 15th May was not seen subsequently and was presumed to be on passage.

South Yorkshire At least four sites in one urban area: (1) one pair laid three eggs, which proved to be infertile; (2) one pair reared nine young in two broods; (3) (4) single males singing, and possibly a third elsewhere.

Suffolk Sites in four towns, with breeding proved in three: (1) eight pairs bred and other males singing; (2) two pairs, one of which certainly bred successfully; (3) two pairs, both of which bred successfully; (4) one or two pairs, but no further details.

Surrey Eight sites, with evidence of breeding at three or four: (1) (2) single females carrying food on 14th-16th May and 23rd May; (3) one or two males singing throughout May-June, one female seen feeding young on 4th June, up to eight birds present in late August, and it was concluded that one or possibly two pairs bred; (4) one male on 9th May; (5) (6) single males singing on 22nd May and 9th June; (7) one male on 13th July and nesting suspected nearby; (8) two males on 2nd August and four juveniles on 16th.

Sussex One site reported, with breeding proved: (1) one pair reared one young about 450 m from where nesting was unsuccessful in 1973.

Warwick One site, but breeding not proved: (1) one pair seen in May and July probably nested.

West Midlands Six sites, with breeding proved at one: (1) one pair with young in nest, and a second singing male; (2) one pair throughout most of June-July and probably nesting; (3) two singing males during April-June; (4) (5) (6) three single males singing, but (6) may have been the male from (2).

The *Atlas* recorded confirmed breeding in 36 squares, probable in 16 and possible in 16 (mostly singing males). The records reported to us are doubtless not yet complete (particularly for Kent and Sussex), bearing in mind that for 1973, with recent additions, we received information on 70 territories, while R. S. R. Fitter (*Brit. Birds* 69: 9-15), by waiting for the publication of all local reports, was able to amass 90 in what 'proved to be the outstanding Black Redstart year so far'. Nevertheless, the data are sufficient to suggest that this high population was maintained in 1974 and 1975. The reported total proved breeding in 1975 was less than in 1973 or 1974 (33 pairs, against 48 and 47), but the pairs probably breeding and the singing males resulted in a slightly higher grand total (at least 72, against 70 and 69). (See pages 21-22 for 1973 additions.)

Bluethroat *Luscinia svecica*

No records received. The female with a nest and eggs in Inverness in 1968 (J. J. D. Greenwood, *Brit. Birds* 61: 524-525) remains the only observation.

Cetti's Warbler *Cettia cetti*

Now established in at least three counties, with over 80 singing birds and eight pairs proved breeding.

Devon Three sites, with breeding proved at the only one occupied in summer: (1) one male singing regularly from 24th May to 19th July, and family party of two adults and at least two newly fledged juveniles seen on 21st June; (2) up to two singing from January to

13th April and one from late August, increasing to at least two singing in October and eight in late December; (3) four birds trapped and ringed in November and December.

Kent Many sites, with breeding proved: in the Stour Valley and adjacent parts, a minimum of 61 singing birds was recorded and at least 27 of them were paired, five pairs being proved to nest.

Norfolk Five sites, with a total of 13 pairs and breeding proved at one: (1) five pairs recorded and two nests found; (2) to (5) one, two, two and three pairs and breeding strongly suspected in some cases, though not proved.

The *Atlas* recorded confirmed breeding in only one square, probable in three and possible in two, which gives some indication of how much this new colonist has entrenched itself since 1972. Single pairs were proved breeding in 1972 and 1973, and then from five in 1974 the number has now risen to eight in 1975. Moreover, the total of singing birds has jumped from 15 or 16 in 1973 and 1974 to over 80 in 1975 and the species, until 1971 a rare vagrant here with only seven records in all, is fast becoming firmly established. The spread in northwest Europe has recently been documented (P. F. Bonham and J. C. M. Robertson, *Brit. Birds* 68: 393-408) and a paper on the Kent population will shortly be appearing in this journal.

Savi's Warbler *Locustella luscinioides*

Only three singing males in two counties and only one pair proved breeding.

Kent Two sites, with breeding proved at one: (1) one pair reared four young, which left the nest on 31st May or 1st June; (2) apparently unmated male singing in site where two pairs were recorded in 1974.

Norfolk One site, but no evidence of breeding: (1) one singing on 31st July and 1st August in new area.

Suffolk None recorded, despite searches, at either of the two regular sites, the first year since 1968 that the species has not been found in the county.

The *Atlas* recorded confirmed breeding in four squares and probable in eight. There were 13 singing males in 1973, eight in 1974 and now only three in 1975, which was perhaps the most disappointing year since the species began to recolonise England in 1960 or earlier; the absence from Suffolk is particularly discouraging.

Marsh Warbler *Acrocephalus palustris*

Again 40-70 pairs estimated in the main area, and five singing males in two other counties.

Kent One site, but no evidence of breeding: (1) one singing from 10th to 28th May, when a second was heard briefly; three singing on 19th June, two on 6th July and only one again on 8th.

Warwick Two sites, but no suggestion of nesting: (1) one male singing from early June, and trapped and ringed in July; (2) one male singing for two days at the end of June.

Worcester No change in the main area from 1973-74, with 40-70 pairs probably breeding; intensively surveyed sites 'gave results slightly above average and dry summer allowed good breeding success'.

No reports were received from, for example, Gloucester or Sussex and the picture is incomplete. The total number of pairs seems likely still to be about the 50-80 level reported in the *Atlas*, which recorded confirmed breeding in 12 squares and probable in seven.

Dartford Warbler *Sylvia undata*

Data incomplete, but breeding in at least four counties and 250-300 pairs reported from one of the two main ones.

Devon Two main areas, with breeding proved in one where a pair reared two broods, the first county record since 1970; 16-25 birds estimated to be present in September and October.

Dorset No full count, but total probably 250-300 pairs; the cold spring hampered first broods and fires destroyed a lot of second ones, but in most areas it was considered a good breeding season and many pairs successfully reared one or two broods.

Hampshire No details received, but present in numbers.

Surrey Three sites, with evidence of breeding at each: (1) one pair again bred successfully where young were reared in 1973 and 1974; (2) two newly fledged young attended by an adult on 27th July; (3) probably one pair bred, and two juveniles seen on 7th August. General comment: 'Recolonisation of traditional sites has begun'.

No details were received from Hampshire, which holds nearly half the total numbers, or from the Isle of Wight and Sussex, nor was there a complete count in Dorset, but the data we have suggest that the population was probably at about the 1974 level of around 560 pairs. The increase from 11 pairs in 1963 (following the cold weather of the preceding two winters, which drastically reduced the species from about 460 pairs in 1961) may now have started to level off, though the consolidation in Surrey and the confirmation of breeding in Devon are highly satisfactory. The *Atlas* recorded confirmed breeding in 23 squares and probable in six.

Firecrest *Regulus ignicapillus*

Over 100 birds and at least 65 singing males recorded at 23 sites in ten counties in summer, but evidence of only 14-16 pairs and just two proved breeding.

Bedford One site: (1) one male singing for about ten days in early June.

Berkshire Eight sites, but no birds stayed and no evidence even of territories: (1) one on 13th May; (2) single birds on 13th May and 8th June; (3) five on 4th June; (4) one on 4th-6th June, joined by a second on 7th; (5) to (8) four single birds on single dates during 8th-29th June.

Buckingham Four sites, with breeding proved at one and 50 singing males in all: (1) 46 singing males at the main 1971-74 site, including 30 located on 10th June alone, at least 11 known to have mated and two young seen on 30th July, when the last song was also heard; (2) three males singing on 19th June; (3) one male singing on 19th June; (4) one bird on 13th June.

Essex Three sites: (1) single males, thought to be three different individuals, singing on 3rd May, 10th May, and 27th May-14th June, and what was probably a second on 14th June nearly 1 km away; (2) one male singing during 25th May-8th June; (3) two birds on 25th May, not seen subsequently.

Gwent: One site: (1) up to four birds, with a maximum of three singing males, between 6th May and 24th June.

Hampshire One site: (1) no full report from the New Forest, but one male singing on 23rd June and observer commented, 'Numbers seem to have declined in recent years, and my personal maximum was six males in late May 1970.'

Northampton Two sites: (1) one male singing from 29th May to 8th June; (2) one male singing from 6th June to 12th July, two birds seen on 10th-11th June and male ringed on 28th June, but no evidence of breeding though a juvenile male was ringed nearby on 21st November. These records followed an influx in late March and early April when single birds were recorded at five localities.

Suffolk One site: (1) one male singing in early summer.

Warwick One site: (1) at least one pair, with the male singing consistently, but details not reported either to the regional recorder or to us.

Worcester One site, with nesting proved: (1) three, possibly four, males singing and 'several' females seen; at least two, probably three, pairs reported to have nested, but the only evidence supplied to us related to a nest 15 m up in a larch *Larix*, which was later

destroyed, probably by grey squirrels *Sciurus carolinensis*. This was the first nesting record in the county.

Reports from more counties than in any previous year and the total of singing males was also much higher, owing particularly to a considerable increase at the main site in Buckinghamshire where, from 23, 11 and 24 during 1972-74, the number rose to 46. Proof of breeding, however, or even pairing, was obtained in few cases; in this connection, the *Atlas* recorded confirmed breeding in three squares, probable in ten and possible in seven (mostly singing males). Once again, we have little information from the original site in Hampshire, where singing males first appeared in 1961 and breeding was proved in 1965 and subsequently. (See pages 22 and 23 for 1973-74 additions.)

Red-backed Shrike *Lanius collurio*

A total of at least 49 pairs in five counties, almost all proved breeding and many successful, 37 of them rearing 79-80 young.

Bedford One site, with breeding proved: (1) one pair reared three young. This is the first breeding record in the county since 1968.

Essex Two sites, with evidence of breeding at one: (1) one pair from 31st May to 30th June, and a second male on 29th June, but nesting not proved; (2) one pair with three juveniles, presumably reared locally, for a week in late August.

Kent One site, with breeding proved: (1) one pair with two or three newly fledged young being fed on 21st July.

Norfolk A total of five pairs at four sites outside Breckland, with breeding proved in each case. Eight pairs proved breeding in the Norfolk part of Breckland, but it is not clear whether these are all covered by the Norfolk/Suffolk entry.

Norfolk/Suffolk A total of 25 pairs known to have bred successfully in Breckland, rearing at least 47 young.

Suffolk A total of 15 pairs nested in the coastal belt, of which nine were successful and reared 24 young; results of remaining six not known. About ten pairs reported in the Suffolk part of Breckland, but it is not clear whether these are all covered by the Norfolk/Suffolk entry.

The pattern is similar to those of 1973 and 1974, although the total number of pairs reported is a little higher, particularly as the Hampshire figures (three to six pairs in 1974) have not been supplied this time. The *Atlas* recorded confirmed breeding in 65 squares and probable in 22. The population of 172 known pairs in 1960 had fallen to about 81 by 1971, the year of the last census (C. J. Bibby, *Bird Study* 20: 103-110). Possibly the decline has now halted, at least temporarily, and Norfolk and Suffolk are now certainly the strongholds. The first breeding in Bedfordshire for seven years is encouraging.

Serim *Serinus serinus*

No records received. After the first breeding record in Dorset in 1967, the *Atlas* was able to record only one instance of confirmed breeding, in Sussex in 1969, and five of probable breeding during 1968-72, since when none has been reported apart from vagrants in spring, autumn and winter (see *Brit. Birds* 69: 355-356 for 1975 records).

Snow Bunting *Plectrophenax nivalis*

Evidence of 7-19 pairs at about 12 sites, and two to four pairs proved breeding, but data incomplete.

Aberdeen/Banff/Inverness Details from three or four sites: (1) at least one pair, and a female with five young in the nest, on 3rd July; (2) one pair located on 7th July and the female seen carrying food into an area of boulders; (3) one male feeding young on 3rd August, though possibly same area as (1); (4) one male singing in new site. General comments from this region: (a) 'Seemed rather scarce'; (b) 'Fewer'; (c) 'Breeding population and number of males both well down, and only one brood known to have been reared, possibly only one female present'—although the above records, of which (1) and (2) certainly relate to different sites, confute the last part.

Aberdeen/Perth One site: (1) one female on 25th July.

Inverness Four sites: (1) one bird in flight on 27th May; (2) one pair on 1st June, and eight birds on 14th July suggested successful breeding, though no information on composition of flock; (3) four males singing and two females on 6th June, but site not revisited and no proof of breeding; (4) one female in flight.

Inverness/Ross Three sites: (1) one male singing and displaying on 5th July; (2) at least three males singing and displaying with one female, plus two other males, on 9th July; (3) one male at another site near (2) on 9th July.

The *Atlas* recorded confirmed breeding in four squares and probable in three. The data are inadequate to comment on subsequent trends. (See page 23 for 1974 addition.)

Additions and corrections for 1973

(*cf Brit. Birds* 68: 5-23)

Scaup *Aythya marila*

Orkney One site: (1) one female with two young on 13th July.

This is the only record for 1973 and, indeed, the only one for 1972-75 (see page 5).

Goshawk *Accipiter gentilis*

Yorkshire One site: (1) one pair laid four eggs in regular area, but nest subsequently deserted and two of the eggs sent for analysis.

County D Details from two additional sites: (1) one female occupied territory until 16th March, a male seen with her on 3rd April, pair then left site and what were thought to be the same birds eventually reared young at the second site originally mentioned; (2) reported that one pair hatched four young, of which 'two taken by falconer and two reared successfully'.

Honey Buzzard *Pernis apivorus*

Hampshire One site: (1) one pair reared two young.

Montagu's Harrier *Circus pygargus*

Cornwall The species was recorded in the summer, but did not breed and we have no further details.

Hobby *Falco subbuteo*

Cornwall One site: (1) one pair reared at least one young.

This record raises the 1973 total to over 60 pairs, with 17 proved breeding and 12 rearing at least 24 young. We still have no details for Hampshire or Sussex.

Black Redstart *Phoenicurus ochruros*

Buckingham One site: (1) one pair laid two eggs, but nest was subsequently deserted and is now at the British Trust for Ornithology, Tring.

South Yorkshire One site: (1) one male singing in April and a dead young one later found squashed on road, in same urban area as breeding proved in 1975.

These records raise the 1973 totals to 19 counties, with 48 pairs confirmed breeding.

Firecrest *Regulus ignicapillus*

Hampshire Additional record: (1) two males singing on 7th July.

These two birds were the only ones reported in 1973 from the original area in the New Forest, except for a pair seen with three fledged young. Assuming them to be additional to that pair, they raise the total of males reported that year to 18.

Additions and corrections for 1974

(*cf Brit. Birds* 68: 489-503)

Slavonian Grebe *Podiceps auritus*

Aberdeen Additional site: (1) one pair with two young in August.

This record raises the number of pairs in Aberdeen in 1974 to two, and the totals to 25 sites and 58-63 pairs.

Pintail *Anas acuta*

Derry (CORRECTION) The nest recorded under Antrim/Derry was in the latter county.

Goshawk *Accipiter gentilis*

Yorkshire Two sites: (1) one pair rebuilt and decorated nest, and were thought to have laid eggs as the female began to sit, but on 4th May there was no sign of the adults and the tree had apparently been climbed; (2) one pair seen displaying over wood on 21st February and noted there until 4th May, but no evidence of nesting.

County D Details from four sites: (1) one pair with two eggs on 30th March and three on 2nd April, first young hatched on 8th May and three young left the nest on 16th June; (2) one pair successfully reared two young; (3) two pairs may have nested; (4) one pair successfully reared three young.

County K One site: (1) one pair reared two or, possibly, three young in new area.

These records raise the total in county D to at least six pairs at four sites, with three pairs rearing young, and the grand total to at least 16 pairs, of which at least six bred successfully. The birds in county K were not seen in 1975.

Montagu's Harrier *Circus pygargus*

Bedford Female seen in June, but no suggestion of nesting.

Cornwall The species was recorded in the summer, but did not breed and we have no further details.

Hobby *Falco subbuteo*

Cornwall One site: (1) one pair reared at least one young in 1973 site.

This record raises the 1974 total to over 90 sites, with at least 36 pairs proved breeding and at least 25 of them successful, rearing 49 or more young.

Dotterel *Eudromias morinellus*

Perth Site (1) under 1975 was also occupied in 1974.

County A One site: (1) one pair hatched at least two young.

These records raise the number of counties to six.

Black-tailed Godwit *Limosa limosa*

Orkney One site: (1) one pair defended a territory during the summer, but it seems certain that they did not nest.

This record raises the number of sites to ten.

Redwing *Turdus iliacus*

Inverness Additional site: (1) one pair, and one of the adults carrying food into a wood on 28th May.

This record raises the total to 26 sites, with about 20 pairs probably breeding.

Firecrest *Regulus ignicapillus*

Hampshire Two sites: (1) (2) single males singing on 22nd April and 24th June.

These two birds were the only ones reported to us in 1974 from the original area in the New Forest.

Snow Bunting *Plectrophenax nivalis*

Sutherland Additional site: (1) one female near mountain summit on 30th May.

Additions and corrections to this report, and also to those for 1973 and 1974, will be greatly welcomed by the panel: they should be sent to Dr J. T. R. Sharrock, 59 Curlew Crescent, Bedford MK41 7HY, and will form an addendum to the 1976 report. Records for 1976 should be submitted to the relevant county or regional recorder (see 'Brit. Birds' 69: 232-236), who will then pass on all his county's records on the panel's special forms.

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Studies of less familiar birds

181 Turnstone

Geoffrey Beven and M. D. England

The Turnstone has distinctive feeding behaviour and extensive migrations to and from its northern breeding grounds

The breeding range of the Turnstone *Arenaria interpres* is circumpolar Holarctic. The typical race *A. i. interpres* breeds on Ellesmere Island in Canada, in Greenland north to 83°N, in Spitsbergen, and from western Norway around the north coast of Scandinavia and the islands (including Novaya Zemlya) and coasts of northern Russia and Siberia right across to Anadyr and northwest Alaska; in Europe, it also nests south to 55° on

the Baltic islands and coastline of Estonia, Finland, Sweden and Denmark, extending into the Kattgat and Skaggerak, and inland by Lake Vänern in Sweden. The Turnstones breeding in the Baltic area are possibly relicts from early post-glacial times. Bergman (1946) estimated the Finnish population at 1,500-1,600 pairs. The numbers seem to be decreasing in the Baltic, however, possibly because of climatic amelioration, and the species has not nested on the north coast of Germany, for instance, since 1916 (Voous 1960). There is no evidence that Turnstones now breed in Iceland, though they used to do so until the beginning of the 20th century. An allied race *A. i. morinella* breeds in arctic America, from Alaska to Southampton Island and west Baffin Land. This species is replaced by the Black Turnstone *A. melanocephala* on the rocky coasts and islands of the southern Bering Sea.

Turnstones make prodigious journeys. Those breeding in North America winter in Chile and south Brazil, while others from arctic Eurasia reach southern Africa, southern Asia, Australia, New Zealand and the Pacific islands (Witherby *et al.* 1940, Bannerman 1961). One of us (MDE) has seen individuals flying over the sea 1,600 km from Africa, passing within 50 km of the Seychelles and heading southeast towards Australia or the Antarctic, over 5,000 km away. On passage, they have visited most of the coastal areas in between and a few may wander inland to feed by fresh-water lakes. Even in central Africa, they have been reported from Lake Victoria and Lake Chad, and a small but regular autumn passage has been noted in Zambia (Moreau 1972). Many non-breeders remain in intermediate coastal regions throughout the year. Some of these actually

1. Turnstones *Arenaria interpres*, Suffolk, July 1962; males are often paler than females, especially on the head, and these two birds may be a pair, female on left, male on right
(Eric Hosking)



assume full breeding plumage, but specimens collected from the African interior were found to have underdeveloped gonads (Bannerman 1961), and it seems that Turnstones do not breed until they are two years old.

In Britain and Ireland, non-breeders may be seen throughout the year. Many arrive between late July and October and pass on farther south, returning between mid March and early June. Nesting has been suspected, but not proved, on Unst, Shetland (Saxby 1874) and on islands off north-west and northeast Ireland (Kennedy *et al.* 1954); alarm-calling, song and display have been noted on the Northern Isles as recently as 1975 (Ferguson-Lees *et al.* 1977). Ringing evidence confirms the passage of Turnstones in Britain to and from arctic Canada (Ellesmere Island), Greenland (even Peary Land), Iceland, Norway, Finland, Denmark, the Netherlands, Poland, Greece, and Guinea-Bissau in West Africa. One was shown to have flown 810 km, from Heligoland, West Germany, to the department of Manche, France, in 24 hours (Gräfe 1968). An example of the North American race was collected in Kent on 30th June 1971 (Harrison and Harrison 1971).

Breeding Turnstones frequent barren, stony or rocky ground with poor or low vegetation, usually near the shore and especially on islands. In the far north, they also nest in the tundra or on stony heaths, often near water but sometimes up to 8 km inland or at a considerable altitude. They prefer the coast on passage and while wintering, being found not only on rocky shores (especially if wrack-strewn) but also on sand and mud, particularly near beds of mussels (Mytilidae) and cockles (Cardiidae). Occasionally, they visit Scottish lochs, inland lakes, reservoirs, rivers and even African coral reefs.

Small parties of these attractive, rather tame birds are found running over rocks, where, especially when in winter plumage, they tend to merge with the seaweed and pebbles. Even the brilliant orange-red legs may not show among yellow seaweed. They sometimes use upright posts as perches and, when disturbed, they fly off low over the water, turning from side to side.

They not only swim well but can alight on the water, and may perhaps rest on a calm sea during their long migrations. They fly high and swiftly when migrating, often in immense flocks (A. C. Bent, in Bannerman 1961). On the Wash, up to 1,000 may roost together at high tide (Minton 1970). They associate with Sanderlings *Calidris alba* on sandy coasts, and with Purple Sandpipers *C. maritima* on rocky shores.

When feeding, these busy birds are always on the move, constantly turning over seaweed at the tide edge, running up and back with each advancing wave and often fluttering to reach dry land. They turn objects vigorously, legs bent and bill inserted under a stone, slab of cracked dried mud, or mussel or cockle shell (see *Brit. Birds* 69: plate 38c). These objects are then thrown over with a jerk, sometimes tossed a short distance to fall with a plop, the bird immediately snapping up small sandhoppers (e.g. *Talitrus saltator* and *Orchestia gammarella*), insects or molluscs. With larger objects, they push the upturned edge with their breasts. They also often pick up food in a similar manner to other waders, pry into nooks or

crannies, or probe through patches of mud for invertebrates such as the amphipod *Corophium volutator*.

On the tidal mudflats in the Friesian Islands, there are sheets of matted strands of the green frond alga *Enteromorpha*. Turnstones swiftly roll up this 'carpet' to catch the amphipod *Gammarus locusta* wriggling beneath, pushing the carpet with beak, nape and perhaps shoulders. These rolled carpets are easily recognised as the work of Turnstones; Knots *Calidris canutus* catch the amphipods by boring holes in the carpet with the bill, and do not use the rolling technique (Swennen and van der Baan 1959). On arrival at their feeding grounds in arctic Canada, Turnstones find the temperature still very low and food scarce. At this time, they regularly turn over dried crusts of fine silt to feed on insect larvae below, by inserting the bill in a crack between the plates. Turnstones are thus able to tap a readily available source of food without competition from other species (MacDonald and Parmelee 1962). Where gulls regularly roost on coastal buildings, Turnstones probe into silt in the gutters and search crevices in the roof (King 1964).

A wide variety of food is taken. On mussel beds at Morecambe Bay, wintering Turnstones concentrated on shore crabs *Carcinus maenas* (67% by volume), common mussels *Mytilus edulis* (16%) and *Gammarus* (10%), whereas on the stony scar nearby they took acorn barnacles *Balanus* (63%), shore crabs (11%) andperiwinkles *Littorina* (10%) (Prater 1972). Food taken in the Wash varied similarly (Jones 1975). On the breeding grounds, the food consists largely of insects, larvae of butterflies and moths (Lepidoptera), beetles (Coleoptera), bees and wasps (Hymenoptera) and flies (Diptera), but also spiders, mites, crustaceans and molluscs. Even fish fry and seeds are eaten. Several birds working together have attempted to overturn a large dead fish, after digging sand from one side (Witherby *et al.* 1940). On Laysan Island, in the Hawaiian group, Turnstones have destroyed a great many eggs of Sooty Terns *Sterna fuscata* and Grey-backed Terns *S. lunata* when these were disturbed, especially from outlying nests. Two Turnstones even dragged an egg from beneath a sitting Grey-backed Tern and ate it within 15 cm of the nest (Alexander Wetmore, in Bannerman 1961).

Carrion is also eaten. There are records of Turnstones pecking at various dead mammals, a sheep *Ovis*, a cat *Felis*, an arctic wolf *Canis lupus* and even a human corpse (MacDonald and Parmelee 1962, Selway and Kendall 1965, Mercer 1966). They feed on dead mussels and cockles washed up along the tide-line by storms or those damaged by cocklefishers' rakes (Jones 1975) and they quickly remove meat remnants from cockleshells opened by Oystercatchers *Haematopus ostralegus* (Campbell 1966). A large variety of food supplied by man is acceptable, including bread, meat, dog food, household scraps, potato peel and oatmeal (MacDonald and Parmelee 1962).

On the breeding grounds, the male Turnstone perches on a prominent rock or post to declare his territory. During the noisy sexual chase, the male flies close behind the female about the shingle, turning and swinging out over the water, calling excitedly; occasionally they alight and run or



2. Turnstone *Arenaria interpres* at nest with eggs. Denmark. June 1956 (M. D. England)

flutter over the shore. Sometimes there are bitter struggles between males competing for females (Bannerman 1961). Bold and aggressive in defence of territory, the owner fiercely attacks skuas *Stercorarius* and Common Gulls *Larus canus* near the nest and, having driven them off, does an aerial half-somersault before planing down to the ground.

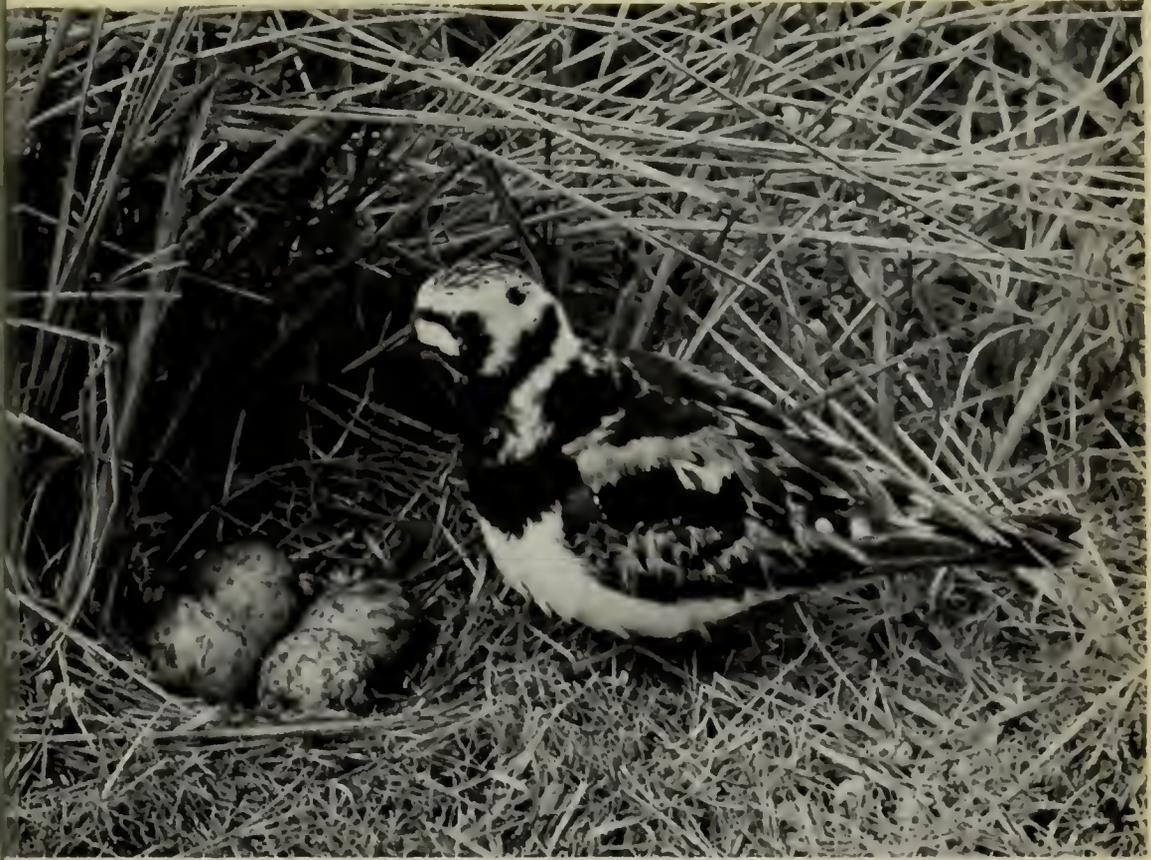
When disturbed, Turnstones fly off with a short, trilling or twittering, metallic 'kit-it-it'. A soft, clear 'kee-oo' is often uttered and seems to attract others. On their breeding grounds, both sexes have a loud, querulous song, the notes rising and falling in a rippling quaver, ending in a metallic rattle 'quitta-quitta-quitta-quit-it-it', a scolding or aggressive challenge uttered from a large stone. The voice of the female is the weaker. (Data from Witherby *et al.* 1940, Bannerman 1961, MacDonald and Parmelee 1962.)



3. Turnstone *Arenaria interpres* at nest with eggs, Denmark, June 1956; the paler head than that of bird in plate 4 (at the same nest) suggests that this is female (M. D. England)

Turnstones may all arrive on their nesting grounds within 24 hours, often already paired (H. M. S. Blair, in Bannerman 1961; Nettleship 1973). Nests are sometimes quite close together, perhaps within a few metres of each other. In the high north, they are often fully exposed in bare and windswept places, while farther south they are found on barren rocky islands, shingle or stony ground, perhaps among saxifrages *Saxifraga* and mountain avens *Dryas octopetala*. Sometimes they are practically hidden by dwarf willow *Salix*, birch *Betula*, juniper *Juniperus*, crowberry *Empetrum nigrum* or milk-vetches *Astragalus*, or completely hidden under a rock, in the burrow of a Puffin *Fratercula arctica* or in the old nest of a Norway lemming *Lemmus lemmus* under moss. One pair was found among great grass tussocks 1½ m high. (See also *Brit. Birds* 45: plates 39-41.)

Many nests are almost bare scrapes, with only a few grasses or fragments of crowberry, heather *Calluna vulgaris* or juniper leaves. Others are neatly lined with grasses, perhaps mixed with peat up to 4-5 cm thick, or have a layer of hair from reindeers *Rangifer tarandus*. Sheltered nests are given a more elaborate pad of crowberry shoots, birch leaves, dry grass or lichens. The usual clutch is four eggs, which have strong, rather glossy shells, greenish streaked and blotched with brown. Laying occurs in mid May in the south of the range, but, in the far north, fresh eggs have been found in June and July, and even on 1st August. Southern nesters may lay repeat clutches if the first is lost (Vuolanto 1968).



4. Turnstone *Arenaria interpres* approaching nest with four eggs, Denmark, June 1956
(M. D. England)

Of the four nests that we found in 1956, on the island of Laeso in the Kattegat (57°N), two were on the main island and two on a small adjacent islet. One of the main island nests was quite hidden under marram *Ammophila arenaria* on sand dunes and lined with grasses; it contained four eggs on 7th June. The other, found with four eggs on 10th June, was in short turf among a patch of sea wormwood *Artemisia maritima* and half roofed over by grass. The other two nests were on a low, sandy islet, pink with flowering thrift *Armeria maritima*. Here, in addition to nesting Avocets *Recurvirostra avosetta*, Oystercatchers, Arctic Terns *Sterna paradisaea*, Dunlins *Calidris alpina* and Common Gulls, there were five pairs of Turnstones. One nest contained four eggs on 6th June and the other one egg on that date and three on 10th June, the eggs being laid at intervals of two days. Incubation began with the first egg, but was intermittent until the second was laid. These nests were merely scrapes on the ground in grassy areas, one covered over by tall marram (plates 3 and 4) and the other with a little sea-lavender *Limonium* alongside (plate 2). At our approach to the nest, the non-sitting bird often displayed, flying in a wide circle with loud whickering, then perched conspicuously. Nevertheless, the birds gave surprisingly little indication that they were breeding, not appearing worried, even though we were quite near their nests, with the result that these were very difficult to find. In fact, our experienced Scandinavian advisers expected only non-breeding birds where subsequently we found



5. Turnstone *Arenaria interpres* on rock placed on route to nest, Denmark, June 1956
(M. D. England)

nests and this is perhaps significant in the context of the frequent suspicion, but not proof, of nesting in Britain. One nervous bird left her nest as we drew near, before an Arctic Tern and a Common Gull flew off nearby. Although they seemed quite fearless of the hide, the Turnstones often appeared reluctant to return to their nests and would regularly perch on a fence post 4 m away before coming on to the eggs, which were sometimes left for an hour for no obvious reason.

Both sexes incubate, the female regularly but the male only sporadically (Nettleship 1973), though we found the male the more assiduous at one nest. The relieving bird walks to the nest or flies there, sometimes alighting almost on its mate. One of us (MDE) was anxious to photograph the bird away from the nest, preferably standing on some prominence, and

advantage was taken of the remarkably constant approach route to the nest to obtain the photograph on plate 5: a rock was placed on flat ground directly in the normal pathway of the bird when it left the nest, to see whether it would walk over it or round it; the latter seemed to us much the easier course, since there were no obstructions to right or left. Without hesitation, however, on practically every occasion, the Turnstone climbed up one side and down the other, in a direct line. Unfortunately for the photographer, it rarely paused on the top, and movement marred most of the photographs. The sitting bird usually receives warning of danger from the watching partner. Incubation lasts 22-23 days and the young are tended by both parents, chiefly the male. They leave the nest on the day after hatching and follow an adult but feed themselves (Harrison 1975), the anxious parents then seeming to lose all caution (Bannerman 1961). The female leaves long before the young have fledged and the male directly after fledging, which takes about 19 days; the early departure of half of the adult population reduces competition for food (Nettleship 1973). There is normally only one brood.

Ringling returns have suggested that as many as one third of the adults may die each year, and about half of those that fledge survive the first year (Boyd 1962). Little has been recorded on predation of the Turnstone, but one has been observed being killed by a Kestrel *Falco tinnunculus* (McCulloch 1960) and both chicks and fledged young were taken by Long-tailed Skuas *S. longicaudus* on Ellesmere Island (Nettleship 1973).

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Personalities

1 P. J. Grant

In this new, regular feature, the aim is to put a face and a personality to well-known British and Irish ornithologists who may be only names to many readers

Peter James Grant—Peter to his birdwatching friends, Jimmy to his family—is an ornithological product of the mid-1950s, when a mass of competent, schoolboy birdwatchers appeared on the London scene. This ornithological mass is now widely scattered throughout the world, but Peter is still very much a southeast England birdwatcher. Early in his ornithological career, he was not satisfied that others could identify a distant flock of Starlings whereas he could not—the most immediate discovery was his need to wear spectacles, and then followed a growing interest in identification problems. Surprisingly, during these early years, he was rather scornful of the written word (I think he possessed only one field guide and subscribed to no journals) and was certainly not a traveller—his birdwatching habitat developing from Beddington sewage farm to reach the dizzy heights of Greenwich Park and Dungeness. The results of his Greenwich Park studies have appeared in the *London Bird Report* (31: 64-92), a journal which he subsequently edited for three years (1969-71).

His recent appointment as chairman of the Rarities Committee is a natural extension of his love of identification problems, exemplified by his papers published in this journal (see *Brit. Birds* 69: 414-415). His first assessment of a rarity was when he doubted a radio disc jockey who claimed to have seen an albatross on the flagpole outside his studio window in London. In addition to Peter's letter, however, there were others (from less well-qualified listeners) supporting the identification—and over the radio waves came the suggestion that Mr Grant should put that in his pipe and smoke it!

It was on one of Peter's regular Dungeness visits that he met Denise, the girl whom he was to marry; they settled at Ashford in Kent, where the family now includes their daughter, Suzanne. From this Kent base, he

follows his career as a highly successful representative for Johnson Wax Ltd, a position which creates the freedom and mobility that he loves, allowing time to maintain close ties with Dungeness Bird Observatory and the Kent Ornithological Society.

Since 1969, he has taken to travelling—a further extension of his desire to study and identify an ever increasing number of species likely to be seen in Britain. Birdwatching has taken him to four continents, including several trips to the United States, and his ability as a field man is tremendous. His natural tendency is to birdwatch alone, a habit which lends itself to his ability for quick field sketches, which he refers to as his 'ornithological shorthand'. His eye rarely lets him down; many times on Dungeness Point a bird has flown rapidly past and out has come Peter's notebook, resulting in a lightning sketch and the comment 'Did you notice how . . .?'

Among Peter's recent studies, he has found time over the past six years for detailed observations on the River Thames. He is a member of the Port of London Authority's committee on Thames conservation and has recently published (jointly with Dr J. G. Harrison) *The Thames Transformed* (1976), the story of the cleaning-up of the river and the dramatic return of wildlife that has followed.

R. E. SCOTT

6. P. J. Grant (*Pamela Harrison*)



Mystery photographs

1 Lanceolated Warbler *Locustella lanceolata*, Fair Isle, Shetland, 11th October 1975. Though the bird in the photograph (*Brit. Birds* 69: plate 52b) has an appearance somewhat resembling a Dunnock *Prunella modularis*, or even a Meadow Pipit *Anthus pratensis*, the pointed head, which exaggerates the apparent length of the bill, and the plumage pattern clearly belong to a *Locustella* or *Acrocephalus* warbler. No *Acrocephalus*, however, has such streaked underparts, and the combination of rather dark, streaked upperparts, inconspicuous supercilium, whitish chin and closely striated upper breast, forming a gorget, are sufficient to establish the identity. The Lanceolated is smaller than the other members of the genus, being about the same length as a Willow Warbler *Phylloscopus trochilus*, but this is difficult to judge from a photograph of one in the hand. Fair Isle observations suggest that, at least in the case of vagrants, this species' habits of creeping on the ground like a mouse and of 'vanishing' in minimal cover, such as a grass tuft, are so typical as to be almost diagnostic. Lanceolated Warblers breed from central Russia to Japan and winter in southern Asia, from India to Indo-China. They are rare vagrants to Britain and a few have been reported from other west European countries: Denmark, the Netherlands, Sweden and West Germany. Of the 22 British records up to 1976, 20 have been on Fair Isle (one May, the rest September-November); the two others were in Orkney in October and Lincolnshire in November; none has been seen in Ireland. As recently noted (*Brit. Birds* 69: 109-110), records have occurred in small spates, perhaps reflecting periods of high population levels. The skulking behaviour, however, probably leads to most that occur being overlooked. JTRS



7. Mystery photograph 2. What is this species? Answer next month. (K. J. Carlson)

Notes



Behaviour of Manx Shearwaters Previous letters on the behaviour of the Manx Shearwater *Puffinus puffinus* (*Brit. Birds* 67: 77; 68: 119-120) prompt me to record an incident that I witnessed on 15th June 1974 off Fetlar, Shetland. At about 00.30 hours GMT, our party heard shearwaters calling and we saw about 20 flying low over the water near the cliff. Sometimes they landed on the water, still calling, but we were unable to make out any details of their activity. At about 01.30 hours, we left the island and immediately saw a party of five shearwaters on the sea, about 50 m offshore. They were in a tight group, facing inwards, and were cackling and posturing at each other with open beaks, usually pointing downwards and reminiscent of Fulmars *Fulmarus glacialis*. Periodically, one rushed at another opposite and a short chase with flapping wings and pattering feet ensued; the rest of the group then usually fluttered in pursuit. At intervals, the entire party flew around for a minute or so, fluttering, gliding and calling in flight, and then suddenly dived in unison into the sea for five to ten seconds. Sometimes, on surfacing, two emerged together, one chasing the other over the surface or on the wing, suggesting that chases continued under water; at other times they preened apart from one another.

I can find no reference to this behaviour by Manx Shearwaters, but Dr M. P. Harris (*in litt.*) has observed similar activities by Audubon's Shearwaters *P. (assimilis) lherminieri*.

R. J. TULLOCH
Mid Yell, Shetland

Gannet swallowing brass welding rod Following the record of a Gannet *Sula bassana* swallowing a 43-cm splinter (*Brit. Birds* 57: 301), a similar incident may be of interest. On 25th July 1974, an adult Gannet was found in a sugar beet field at Brightwell, Suffolk, approximately 9½ km from the coast. It was able to walk, but, although apparently having no broken bones, was reluctant to fly. It was cared for, but refused to eat. The next morning it was dead and a post mortem examination revealed the presence of a brass welding rod, 44 cm long and about 2 mm thick with a hook at one end, in its otherwise empty crop and gullet. The rod had not penetrated the gullet.

R. F. SNOOK
5 Manor Road, Ipswich, Suffolk

The earlier incident concerning a piece of wood, which of course floats, was more explicable, and some unkind human agency should not be discounted in this instance. EDs

Food piracy by Kestrel There have been several notes concerning one predator robbing another (e.g. *Brit. Birds* 64: 317-318; 66: 227). On 11th May 1975, I was watching a male Sparrowhawk *Accipiter nisus* flying over

marshland at Berrow, Somerset, carrying a small mammal. Suddenly, a Kestrel *Falco tinnunculus* rose up from nearby dunes and vigorously attacked the Sparrowhawk, forcing it to release its prey. The Kestrel then dropped down to the marsh, retrieved the mammal and flew off.

BRIAN E. SLADE

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Oystercatcher hatching Lapwing's eggs On 16th May 1975, on a small coastal heath in Galloway, I found the nest of an Oystercatcher *Haematopus ostralegus* containing one Oystercatcher's egg and two eggs of a Lapwing *Vanellus vanellus*. At 12.15 hours on 24th May, one of the Lapwing's eggs had hatched and the other had chipped. At 17.30 hours, the second Lapwing's egg had hatched and both young were crouching just outside the nest scrape. One of the adult Oystercatchers landed beside them and, after some hesitation, went to the scrape and brooded the remaining egg. The young Lapwings soon ran towards it and, as far as I could see, were brooded. On 25th and 26th, both Oystercatchers appeared to be tending the Lapwings, while the Oystercatchers' own egg had apparently been abandoned. On 31st, an adult Oystercatcher was seen sitting on the heath, but I did not disturb it. Visits were made on 9th, 17th and 24th June but, although adult Oystercatchers were present on or in the vicinity of the heath, none was seen tending young Lapwings.

R. C. DICKSON

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Starling imitating Cetti's Warbler On the evening of 26th May 1975, at a site about 2½ km east of Canterbury, Kent, Daniel Osorio and I heard what we thought was a Cetti's Warbler *Cettia cetti*. The song, which was coming from the direction of a small tree some distance from any water, stopped and we then immediately heard a Starling *Sturnus vulgaris* singing from the same tree. During the previous two days we had heard many Cetti's Warblers at known breeding haunts, and the imitation had the same basic outline but was less melodious.

STEPHEN MOSS

10 Milton Drive, Shepperton, Surrey TW17 0JJ

This is a good example of mimicry by Starlings, and serves as a salutary warning to incautious observers. Eds

Reviews

Rare Birds in Britain and Ireland. By J. T. R. Sharrock and E. M. Sharrock. T. & A. D. Poyser, Berkhamsted, 1976. 336 pages; 221 vignettes; many maps and diagrams. £6.00.

This is a companion book to Dr J. T. R. Sharrock's *Scarce Migrant Birds in Britain and Ireland* (1974), but, whereas that book displayed and discussed at length the record patterns of some 24 species, the present work

analyses more than 8,000 records of over 220 species. The authors have presented a very complete picture of the occurrence of rare birds in Britain and Ireland, particularly for the 15-year period 1958-72, which is dealt with in great detail, and provide ready information to answer questions of the 'When?', 'Where?' and 'How many?' variety.

The species dealt with are those considered by the *British Birds* Rarities Committee, with the addition of Pectoral Sandpiper and the exception of Long-tailed Skua. Category D species—those, such as Baikal Teal and Chestnut Bunting, which may have escaped from captivity—are included, but are relegated to an appendix. Each species account starts with a brief statement of breeding distribution, but regrettably there is no information on non-breeding range or even a mention of whether or not the species is normally migratory or sedentary. A summary of the main field-characters is given and also, in all but a few cases, a useful reference to important field identification papers. These potted field-characters are generally both accurate and helpful, and certainly more than adequate for a work of this nature. Each account is accompanied by a line-drawing by one of five artists: Robert Gillmor, P. J. Grant, R. A. Richardson, D. I. M. Wallace and Ian Willis. Many of these vignettes are excellent, being both an aid to identification and delightfully evocative, and a good many have the additional merit of portraying the bird in rather different attitudes from the usual stereotyped field guide poses.

The meat of each account consists of an analysis of the records of the species. Those before 1958 are summarised or listed, but the records for the 15 years 1958-72 are analysed in considerable detail and, in the case of extreme rarities, those up to 31st December 1975 are also listed. When there are three or more records, the basic treatment for those in the 15-year period is to display the patterns of occurrence by means of maps and diagrams. The records have generally been split into spring and autumn, taking the end of June as a break-point, and a typical species account includes three histograms and two maps. Usually, one histogram shows the 15-year total of records in each seven-day period, the other two the number of records in spring and in autumn for each of the 15 years, and the maps show the pattern of spring and autumn occurrences on a county basis using different sizes of dots to indicate the number of records per county. This approach clearly succeeds in visually conveying all the significant information about the pattern of records. I found one error—the very first species account omits from the county distribution map a particularly important record that is included in the appropriate histogram (White-billed Diver, Marazion, Cornwall, 10th-26th April 1967).

The records of all American waders and American landbirds that occurred in Britain and Ireland during the 15-year period are combined in two separate analyses. There is a list of species on the British and Irish list that have not been recorded since 1957 and also an excellent summary, dealing with short and long term trends.

The standard of presentation is good, but one or two minor features, such as the apparent necessity in the make-up of the book to include some species out of sequence, tend to mar the general effect and doubtless some

readers will jib at the inclusion of a few species, such as Slender-billed Curlew and Red-necked Stint, which are still under review, even though this is always stated.

In short, this is a book that will be of considerable interest to any bird-watcher for whom rarities hold either a fascination or merely a passing interest. Although some readers will be disappointed at the relative lack of discussion within the species accounts, the book is far more than simply a form-book for 'twitchers' and, above all, is something to dip into and enjoy. Any minor disappointments will be more than compensated for by such delights as the Lanceolated Warbler vignette and the splendidly apt quotation given as an epigraph.

R. J. JOHNS

The Web of Adaptation. By David W. Snow. Collins, London, 1976. xiii + 176 pages; several line-drawings. £4.50.

Bird books continue to proliferate, despite economic difficulties, but it is still rare to find one that is original and significant in content, yet fascinating to read and lucidly written. Dr David Snow's account of the studies he made, with his wife Barbara, of some fruit-eating birds of the American tropics is one of these rare exceptions. Fruits, which, unlike insects, have evolved to be eaten in order to spread their seeds, form an excellent basic diet, but they are available in quantity all the year round only in tropical rain forests, where birdwatching presents special challenges. These forests are dense, hard to penetrate and often gloomy, with the thinly scattered birds mostly hidden in tall trees or thick cover; there are many snakes, some of them highly poisonous (fortunately, active mainly at night), and far more biting insects (which seem to lack inactive periods). The fruit-eating birds that the Snows studied (including cotingas, manakins and the Oilbird) have access to a rich, easily obtainable food, leaving them much free time, so that the males have evolved elaborate courtship displays, of which many have rarely been observed and all were little understood previously, while the females alone undertake nesting duties. The first main task of this indefatigable team was to find the display grounds and then elucidate the precise nature of these curious and puzzling antics. The second was to discover the nests; these were often astonishingly difficult to find, for the first nest of any bellbird was not reported until 1954 and those of the other three species are still unknown. The third was to study, with the same patience and industry, the precise fruits taken by each species; over 100,000 seeds collected from the Oilbirds' cave were identified, resulting in the discovery of three species of trees new to Trinidad and one hitherto undescribed.

The details of this arduous and exciting fieldwork form the main part of the book. The results are summed up in an absorbing chapter describing the complex web of adaptations affecting feeding habits, social behaviour, nesting, and even plumage colours. It is impossible to summarise the intricacy of these adaptations, for Dr Snow's chapter is already a masterpiece of compression, free, like the rest of the book, from the daunting jargon of so many other professional ornithologists. He stresses that these forest

species face predatory pressures when nesting far higher than most land-birds in temperate regions, yet, when adult, seem to live much longer. This has an important bearing on the long-standing argument about the reasons for smaller clutches in the tropics and the even thornier problem of the chain of cause and effect between mortality rates and reproduction rates. He ends with a fine chapter on the threats to the tropical forests of the New World, with major destruction already in Colombia (once with 1,556 bird species, but now diminished to an unknown extent), Central America and eastern Brazil, and growing rapidly in Amazonia as roads are built and farming encouraged; unless urgent measures are taken, we may well lose many of these fascinating species before they are even fully appreciated, still less studied in detail.

At first sight, this book may seem to be of rather limited interest for the British birdwatcher. David Snow, however, makes two points which are of the utmost relevance to anyone who wishes to study the lives of birds anywhere—the value of sitting still and watching carefully rather than actively searching, and the importance of noting and investigating the fine details, for, until these are known, the complex adaptations in any species can never be understood. Indeed, the whole of this delightful book can serve as a guide and inspiration to all who wish to go beyond simply identifying birds—and, as he remarks, we still do not thoroughly understand the social organisation of even such a common species as the Dunnoek. Above all, perhaps, the book is exciting, absorbing and a pleasure to read.

STANLEY CRAMP

Also received

- Avian Psychology*. Edited by P. D. Sturkie. Springer-Verlag, New York and Berlin, 1976. 3rd edition. \$24.00.
- Behaviour and Ecology of the American Kestrel (Falco sparverius) in the Sierra Nevada of California*. By Thomas G. Balgooyen. University of California Press, 1976. \$6.50.
- Birds of the Countryside*. By John Taverton. Lutterworth Press, Guildford and London, 1976. 35p.
- Bird Diseases*. By L. Arnall and I. F. Keymer. Baillière Tindall, London, 1975. No price given.
- Birds of Prey*. By Philip Brown. White Line Publishers List, London, 1976. 2nd edition. £3.95.
- Birds of Siberia*. By Henry Seebohm. Alan Sutton, Dursley, 1976. Reprint. £8.00.
- Field and Moor*. By John Burton. Kingsmead Press, Bath, 1976. £2.50.
- Golden Days*. By the Zoological Society of London. Duckworth, London, 1976. £4.95.
- Lindude Ränne*. By Erik Kumari. Valgus, Tallinn, 1975. Rbl. 1.73.
- Looking At Birds*. Work-cards. Maemillan, London, 1976. £3.50.
- My Home is a Zoo*. By Charles Trevisiek. Stanley Paul, London, 1976. £3.95.
- Owned by an Eagle*. By Gerald Summer. Collins, London, 1976. £3.95.
- Population Ecology of Mallard*, vol. V. By D. R. Anderson. US Department of Interior, Fish and Wildlife Service, Resource Publication 125, Washington, 1975. No price given.
- Vogelwelt Schleswig-Holsteins*, vol. I. By Rolf K. Berndt and Detler Drenehahn. Ornithologische Arbeitsgemeinschaft für Schleswig-Holstein und Hamburg E.V., Hamburg, 1974. DM23.80.
- Wild and Tame*. By Erik Sietholt. Duckworth, London, 1975. £3.95.
- The World Atlas of Birds*. Mitchell Beazley Publishers Ltd, London, 1976. Paperback. £3.95.
- The World of a Stream*. By Heather Angel. Faber and Faber, London, 1976. £2.95.

Letter

Storks wing-spreading while feeding By referring only to the highly specialised wing-spreading feeding technique of the Black Egret *Egretta ardesiaca*, when commenting on M. D. England's note on Black Storks *Ciconia nigra* (*Brit. Birds* 67: 236-237), the editors implied that this habit was unrecorded for other storks. Both the Yellow-billed Stork *Mycteria ibis* and the Marabou Stork *Leptoptilos crumeniferus* use it when hunting frogs or fish; in addition, the Yellow-billed Stork and its close American and Asian relatives, *M. americana* and *M. leucocephalus*, use a 'wing-flashing' technique (raising one wing vertically), either combined with foot-stirring (M. P. Kahl, *Ibis* 114: 15-29) or while squatting on the tarsi (personal observations of the Yellow-billed Stork). Like M. D. England, I have not noticed any consistent relationship between wing-spreading in its various forms and either the direction or brightness of the light.

J. F. REYNOLDS

P.O. Box 40584, Nairobi, Kenya

Requests for information

The Birds of the Western Palearctic Volume 1 is now at an advanced stage, with page proofs expected shortly. It will be published by the Oxford University Press, it is hoped in May 1977 at £25, under the double title *Handbook of the Birds of Europe, the Middle East, and North Africa—The Birds of the Western Palearctic*.

Volume 2, covering birds of prey to bustards, is now under active preparation. A number of the species to be included are found only in countries on the edges of the western Palearctic, especially in North Africa and the Middle East, and many of these are relatively poorly covered in the literature. Any unpublished information on distribution, behaviour, breeding, habitat and food will be greatly welcomed by the editors and fully acknowledged; it should be sent to **Stanley Cramp, 32 Queen Court, London WC1N 3BB**.

Birds of Afghanistan Information is being collected for a book or check-list on the distribution of birds in Afghanistan. All records are needed (those relating to breeding will be particularly valuable) and should be sent to **S. C. Madge, 2 Springholme, Caudle Hill, Fairburn, Knottingley, West Yorkshire WF11 9JQ**.

Movements of seabirds in autumn 1976 Following the finest summer since records began, exceptional numbers of certain seabirds, especially Cory's *Calonectris diomedea*, Great Puffin *gravis* and Sooty Shearwaters *P. griseus*, and Long-tailed Skuas *Stercorarius longicaudus*, were seen in the North Sea in autumn 1976. D. I. M. Wallace and Dr W. R. P. Bourne are undertaking an analysis of these events and would welcome details of any observations, both in the North Sea and elsewhere in western Europe in 1976, and also in other years for comparative purposes. Details should be sent to **D. I. M. Wallace, 9 Woodhill Rise, Heads Lane, Hessle, Hull, North Humberside HU13 0HZ**.

Diary dates

As a service to subscribers and to national and regional societies, we shall henceforth be listing the major meetings and conferences at six-monthly intervals. This first list covers those events that have been notified to us as taking place during January to December 1977. The next list, covering July 1977 to June 1978, will appear in the July issue. We welcome the submission of details of events for possible inclusion.

7th-9th January BRITISH TRUST FOR ORNITHOLOGY RINGING AND MIGRATION CONFERENCE. Hayes Conference Centre, Swanwick, Derbyshire.

28th-30th January SCOTTISH ORNITHOLOGISTS' CLUB ANNUAL CONFERENCE. University of Stirling. Applications to SOC, 21 Regent Terrace, Edinburgh EH1 5HT.

18th-20th February BTO CONFERENCE: BIRDS OF THE COAST. Hayes Conference Centre, Swanwick, Derbyshire. Applications to BTO, Beech Grove, Tring, Hertfordshire HP23 5NR.

4th-6th March ALL-IRELAND CONFERENCE ON BIRD PROTECTION: UPLANDS. Jointly organised by the Royal Society for the Protection of Birds and the Irish Wildbird Conservancy. Slieve Donard Hotel, Newcastle, Co. Down. Applications to RSPB, 58 High Street, Newtownards, Co. Down, Northern Ireland.

26th-28th March THE CHANGING SEA-BIRD POPULATIONS OF THE NORTH ATLANTIC. International Conference organised jointly by British Ornithologists' Union, BTO,

RSPB, Wildfowl Trust, SOC and Seabird Group. Zoology Department, University of Aberdeen. Accommodation limited (cost not exceeding £35); applications to Dr Amicia Melland, BOU Office, c/o Zoological Society of London, Regent's Park, London NW1 4RY.

19th April BOU ANNUAL GENERAL MEETING, to be followed at 8.30 p.m. by talk (open to the public) by M. W. Pienkowski on 'Feeding by plovers—cunning rather than brute force'. Linnean Society of London, Burlington House, Piccadilly. Buffet supper 7.30 p.m. (£2.50) can be booked (see address for 26th-28th March entry above).

22nd-24th April RSPB ANNUAL MEMBERS' WEEKEND. University of Nottingham. Basic cost £23 (extra for Friday lunch and Sunday excursion). Applications to Conference Secretary, RSPB, The Lodge, Sandy, Bedfordshire SG19 2DL.

2nd-4th December BTO ANNUAL CONFERENCE. Hayes Conference Centre, Swanwick, Derbyshire.

News and comment

Peter Conder

'Just a few duck and God knows what else' So said a Shetland Islands councillor about one of Shetland's best known wetlands. Indeed, the latest threat to Shetland's birdlife comes not from oil, but from the bulk of the island's councillors. Despite objections from the Nature Conservancy Council, the Royal Society for the Protection of Birds, the Shetland Bird Club and the Shetland Anglers' Association, and against the recommendations of its own planning department, the Council has decided to dump peat, stripped from Sullom Voe's new harbour authority site at Sella

Ness, into the Houb of Scatsta. The Houb, the best local wader area after the Pool of Virkie, has already been identified as a key site for monitoring the long-term biological effects of the adjacent oil complex. The Council originally made arrangements to dump all peat stripped in the course of construction in a banded site at nearby Orka Voe, where there is ample room. Worries about the cost of trucking were dismissed by the Council's own finance director, who said that the oil industry had agreed to pay the cost. No one, however, had reckoned with the ignorance on environmental

matters of some Shetland councillors: one of them failed to see why waders could not feed there with nearly a metre of peat over the site, and another did not understand why peat should interfere with the monitoring of the marine life. Despite pleas from the more enlightened councillors, the Council again voted to stand by the decision to fill the tidal pool with peat.

Although not a single reason emerged for using the Houb rather than Orka Voe, Shetland is faced with this needless loss of habitat. Meanwhile, the matter has been referred to the Secretary of State for Scotland and we await his decision. Anyone with an interest in the birdlife of Shetland should write to both the Shetland Islands Council, Lerwick, Shetland, and the Secretary of State for Scotland, St Andrews House, Edinburgh, in support of the Houb.

The European atlas The European Ornithological Atlas Committee, at its third meeting, held at Szymbark, near Gorlice, Poland, on 20th October 1976, discussed plans for Europe-wide mapping of breeding bird distributions on a 50 × 50 km grid during 1985-88. A total of 18 countries is now represented by delegates on EOAC (Belgium, Bulgaria, Czechoslovakia, Denmark, the Estonian SSR, Finland, France, the German Federal Republic, the Republic of Ireland, Italy, the Netherlands, Poland, Spain, Sweden, Switzerland, Turkey, the United Kingdom and Yugoslavia) and the hope was expressed that all European nations would be represented before long. The delegates elected Dr J. T. R. Sharrock (UK) as chairman, Dr Z. Bogucki (Institute of Biology, Adam Mickiewicz University, Fredry 10, 61-701 Poznan, Poland) and L. Yeatman (69 rue Claude Bernard, Paris 75005, France) as joint secretaries, and Dr P. Devillers (Belgium) as treasurer.

The Wildfowl Trust at Arundel The seventh Wildfowl Trust Centre was opened on 6th November 1976, in grounds about 1 km north of Arundel, Sussex, between Swanbourne Lake and the River Arun. The centre contains a number of attractively landscaped stretches of water, the main feature being Swan Lake, sited opposite the entrance building. Special attractions, among the thousand or so wildfowl, include a colony of Black Swans from Australia and many diving and sea ducks. One of the

observation hides overlooks some reed-beds and a wader scrape.

New RSPB reserves The RSPB has announced the acquisition of two new reserves and an extension to an existing one, all in Scotland. The first is at Marwick Head, Mainland, Orkney, where the sandstone cliffs rise to about 90 m. The numbers of breeding seabirds are notoriously difficult to census accurately, but the Operation Seafarer counts during 1969-70 gave 'order 5' (10,000-100,000 pairs) for both Kittiwakes and Guillemots at Marwick Head, as well as 1,000 pairs of Razorbills, 40 pairs of Puffins and 350 pairs of Fulmars. The RSPB has purchased over 1½ km of cliff and clifftop, thanks to the generosity of three of its members who specifically earmarked their donation to the 'Save a place for birds' appeal for this purpose. The second reserve is an important estuarine site at Skinflats, between Grangemouth and Kineardine Bridge, where the RSPB has leased 344 ha of Crown foreshore. The extension has been at the Loch of Strathbeg, where the leasing of an extra 150 ha brings the total area covered by this reserve to 770 ha; last winter it held 26,000 wildfowl.

The RSPB now manages 68 reserves, covering almost 19,030 ha—34 in England (10,450 ha), five in Wales (1,154 ha), 23 in Scotland (7,085 ha) and six in Northern Ireland (324 ha). Of these, 25 are wholly owned and a further ten partially so. The total area owned is roughly equal to that leased, held by licence or with management agreements. The distribution of the main types of habitat on the reserves is as follows, together with (in brackets) the number of reserves in which each habitat is significantly represented: seabird cliffs and stacks (13) 32 km; low tern islands (7) 35 ha; coastal flats and marshes (11) 7,280 ha; deciduous woodland (17) 1,010 ha; pine forest (1) 610 ha; lowland heath (4) 810 ha; wildfowl lakes and lochs (5) 530 ha; fen, marsh and wet meadow (12) 1,900 ha; machair (1) 650 ha; moorland (8) 3,890 ha; and miscellaneous, mainly farmland, conifer plantation and coast, 2,350 ha.

Wintering in the east By the time that this note appears in print, I shall be in Pakistan on behalf of the World Wildlife Fund (International) and the International

Waterfowl Research Bureau. I shall be helping the Sind Wildlife Management Board to prepare management plans for sites of special importance for wintering waterfowl and a model plan for their ad-

ministration. I shall be returning in April. During my absence, all contributions for this feature should be sent to **Michael J. Everett, 3 Gunnings Way, Hemmingford Grey, Huntingdon PE18 9EE.**

Opinions expressed in this feature are not necessarily those of the editors of British Birds

Recent reports

K. Allsopp

These are largely unchecked reports, not authenticated records

This report covers October and the first part of November. Except where otherwise stated, all dates refer to October.

The special location of the British Isles in the northern hemisphere is responsible for the great variety of the weather systems arriving here, with air masses coming from different directions within a few days of each other. The way that migrant birds manage successfully to navigate through these systems is an astonishing feat, but the incredible variety of vagrants seen here is evidence that many do not. Radar has shown that passerine migration is largely on a broad front, taking place in settled air masses in which the birds can benefit from (or compensate for) the wind direction. Most fall conditions occur at the edges of these air masses and give rise to a rather confusing picture on the ground, not necessarily reflecting what is taking place aloft. An additional factor misleading to our understanding is that the weather conditions on the ground may not be representative of those at higher levels.

Birds from the west

This autumn, no particular air mass has dominated the weather picture for very long and, under such conditions, 'tick fever' has become rampant among bird-watchers, as the rarities have flown in from far and wide. The most remarkable happenings have been the occurrences of Nearctic passerines, especially in the southwest. For the first time, certain species have arrived in numbers. The current count of **Black-poll Warblers** *Dendroica striata* reported is eight, which includes an additional bird on Bardsey (Gwynedd) on 8th, not mentioned last month. Before these arrivals, only four had been recorded since the first

in 1968. This species is known to fly out over the Atlantic seaboard on its autumn migration to South America, and might be expected to become influenced by adverse weather conditions. A further addition to last month's reports was a second **Myrtle Warbler** *D. coronata*, a first for the Calf of Man on 26th; the one reported from Cape Clear Island (Co. Cork) on 9th was unfortunately killed by a Sparrowhawk *Accipiter nisus*: hardly an appropriate end after such a flight. The Isles of Scilly were favoured with an invasion of **Grey-checked Thrushes** *Hylocichla minima*, occurring around 15th October and involving at least four and probably five



records, and there was another at Porthgarra (Cornwall). This species had not been observed in Britain or Ireland since 1968 and all seven previous records had been from the northern half of Britain. Two **Rose-breasted Grosbeaks** *Phœnicurus Indovicianus* also featured in the same movement: both were on the Isles of Scilly. Later, an **Olive-backed Thrush** *H. ustulata* was found at Sandwich Bay (Kent) on 27th.

In order to make an unassisted trans-atlantic flight, these birds must have encountered very favourable conditions, with strong westerly winds, and had the ability to direct their flight down wind. The evidence this year suggests that, to be found in such numbers, they must have arrived in a narrow band. The normal synoptic weather charts give a rather coarse picture of conditions at sea level, and important smaller scale wind fields at higher altitudes cannot be represented, only inferred. The occurrence of low-level jet streams in the warm air ahead of cold fronts is one such phenomenon that was probably present during the period of the birds' flight. These jet streams extend for two or three thousand kilometres, are quite narrow and occur at altitudes where birds are known to fly regularly. They consist of fast-moving tongues of warm, moist air, with convective updraughts—conditions which the birds might find to their advantage. These may provide the conveyor belts necessary to explain the successful landfall of such vagrants.

A new species from the east

Those species that have occurred as accidentals nearby on the Continent, but not here, present a challenge to bird-watchers: surely such birds should be on the British and Irish list? A small bunting, which for a while defied identification on Fair Isle, was finally proved to be one such species: a **Pallas's Reed Bunting** *Emberiza pallasi*. It had been present from 29th September, but was not identified until 5th October. This small bunting, about the size of a Twite *Acanthis flavirostris*, was a female in moult, which perhaps explains the identification difficulties experienced. This species replaces the Reed Bunting *Emberiza schoeniclus* in eastern Siberia and migrates to its wintering grounds in eastern China. The previous European records have been from Russia and Denmark. Such a nondescript bird may have been easily overlooked in the past, but may be recorded at intervals in the future, now that observers have become aware of the possibility of vagrancy and have learnt the species' field characters.

Other birds from the east

The air flow across eastern Europe was predominantly anticyclonic easterly throughout October. On many days, this

flow extended across the North Sea, bringing in further Siberian passerine vagrants. Fair Isle's third **Lanceolated Warbler** *Locustella lanceolata* of the autumn occurred on 6th. A total of 11 **Pallas's Warblers** *Phylloscopus proregulus* has been reported so far: the first was very early, at Grutness (Shetland) on 27th September; later, two were seen at Spurn Point (Humberside) during 23rd-25th, one at Helendale (Shetland) on 24th-25th, two at Saltfleet (Lincolnshire) on 26th and 29th, three in Norfolk (at Holkham, Cley and Sheringham) from 29th and singles at Donna Nook (Lincolnshire) on 2nd November and at Kilnsea (Humberside) on 7th-8th November. **Yellow-browed Warblers** *P. inornatus*, on the other hand, were very scarce in October: there were, for instance, only two records in Shetland (Fair Isle and Out Skerries, both on 1st). The less dynamic and dingier **Dusky Warbler** *P. fuscatus*, which is often heard before it is seen, was reported on St Agnes (Isles of Scilly) on 11th-15th and at Grain Moat (Kent) on 23rd, following an earlier occurrence at Flamborough Head (Humberside) on 26th September. The first of four **Radde's Warblers** *P. schwarzi* was also on 26th September, at Waxham (Norfolk); the others were on Whalsay (Shetland) on 3rd-4th, at St Aldhelm's Head (Dorset) (not at Portland Bill as reported in the November LATEST NEWS) on 10th and at Marsden (Tyne and Wear) on 19th. Finally, three **Olive-backed Pipits** *Anthus hodgsoni* were identified, on Fair Isle on 13th-22nd, on Treseo (Isles of Scilly) from 20th and at Wells (Norfolk) from 31st into November.

Latest news

December is often a fairly quiet month for ornithologists, but December 1976 was even less eventful than usual. There were only a few reports of small numbers of **Little Auks** *Plautus alle* and **Waxwings** *Bombycilla garrulus*, with none at many of the 'regular' sites. **Rough-legged Buzzards** *Buteo lagopus* and **Great Grey Shrikes** *Lanius excubitor* were also scarce, with only a handful reported from East Anglia and southeastern England, for instance. The mildness of the winter so far, however, was reflected in the records of **Cetti's Warblers** *Cettia cetti* from several new localities, especially in the southwest (Devon, Dorset and Somerset), and up to ten singing in one area of Norfolk.

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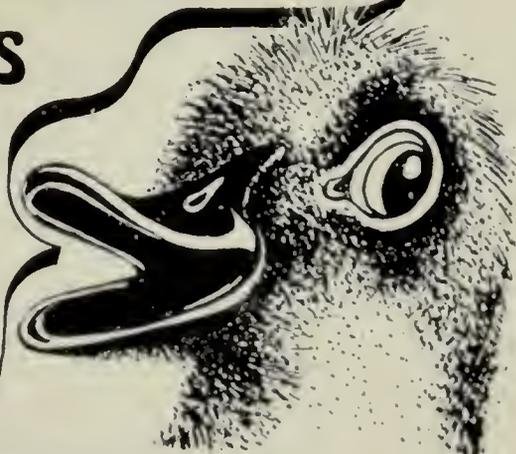
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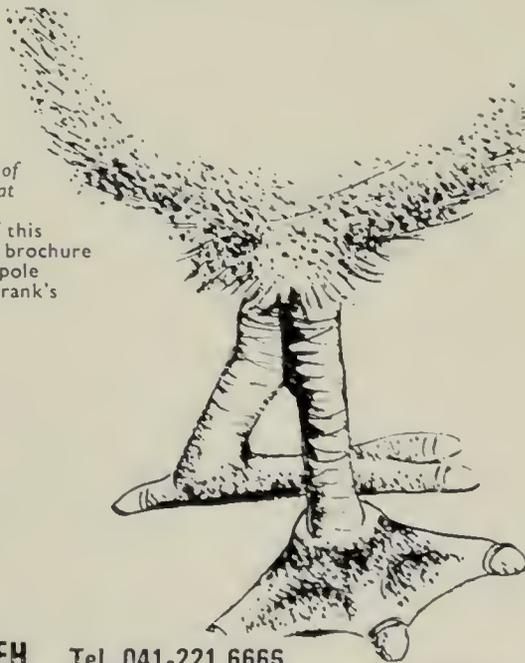
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Trumpeter Finches

Puffins on St Kilda

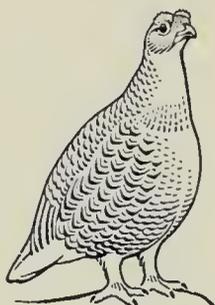
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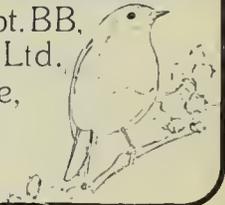
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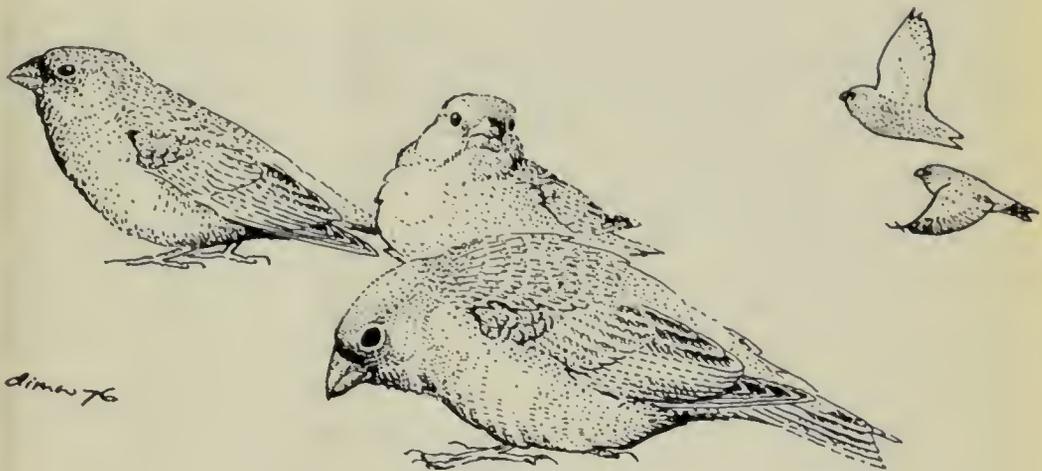
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British Birds

VOLUME 70 NUMBER 2 FEBRUARY 1977

Trumpeter Finches: new to Britain and Ireland

D. I. M. Wallace, F. K. Cobb and C. R. Tubbs



There can be few European birds more associated with arid habitats and hot climates than the Trumpeter Finch *Rhodopechys githaginea*. It had never been expected in Britain or Ireland and when, in late spring 1971, reports were heard of one in Suffolk and another in Sutherland, most listeners shared the initial incredulity of the observers: surely the birds had escaped from captivity? The submission, however, of both records to the Rarities Committee and the Records Committee of the British Ornithologists' Union encouraged research into the status of the Trumpeter Finch in Iberia and elsewhere. It became apparent that this species had successfully crossed the Mediterranean from northwest Africa and was showing signs of unusual dispersal. Eventually, in January 1974, it was accepted for category A of the British and Irish list. This paper publishes the details of the two British records and summarises the background to them. It also describes the first record for the Channel Islands in October 1973.

The British records in Suffolk and Sutherland

At about 10.00 hours on 30th May 1971, FKC and Mrs A. E. Cobb were birdwatching among the sand dunes about $1\frac{1}{2}$ km south of Minsmere cliff, Suffolk. AEC spotted a small, dull passerine feeding on bare ground behind the dunes. When she drew FKC's attention to it, he recognised it immediately as a Trumpeter Finch, a species which he had previously seen in Morocco. Joined by Miss A. J. Towns, FKC and AEC observed the bird for four to five minutes, obtained brief notes on it and then watched it seemingly suddenly disappear, as the species so often does. Although FKC was not aware of any caged Trumpeter Finches, the unlikelihood of a natural origin caused him to dismiss the bird as an escapee.

News of the record spread, discussion of the bird's origin waxed and interest grew dramatically when it reappeared on the sand dunes at Minsmere about ten days later. On 12th June, it was found there independently and closely observed by D. J. Holman and R. E. Turley. On 15th June it was rediscovered, on the cliff top to the north, by R. J. Johns and other observers. The following description of its habits and appearance is based on DJH's full notes of 12th June:

Dumpy finch with heavy bill; large, round head and plump body; rather larger than accompanying Linnets *Acanthis cannabina* on the ground and recalling a Hawfinch *Coccothraustes coccothraustes*, both in flight silhouette and action; stance on ground upright; gait a rather springy, bouncing hop. Noticeably short, rounded wings and short tail, both contributing to the dumpy appearance. Plumage pale sandy-brown (but pinker to RET), except for duller, less sandy, plainer brown flight feathers and tail and noticeably bright pink rump, similar in tone to that of male Twite *A. flavirostris*. Underparts perhaps slightly greyer than upperparts. No sign of wear on wings or tail. Bill large and stumpy, with more gently rounded tip than that of Hawfinch, and strikingly bright pinkish-red; legs pale pink; eyes rather small and dark brown. Kept exclusively to bare, stony and sandy cliff top or shore path, ignoring nearby grass fields. Approachable to 10 m; escape flight sudden and high.

Relating the brief notes by FKC and AJT to DJH's description is difficult. To FKC, the bird appeared generally 'pinkish-buff' and its bill (in a brief glimpse) 'yellowish'; to AJT, the chest was 'rosy-pink', this colour indicating a male. The most marked discrepancy is in bill colour and this has led FKC to suggest that there may have been two birds. DJH, however, feels that only one was involved in the various reports. The most economical explanation of the differences is that the bird was a male, probably in its first summer, and still in the process of developing its bare part colours. Just how long this Trumpeter Finch stayed at Minsmere is not known, but, though reports continued into July, the last confirmed sighting was by J. Doewra on 19th June.

Meanwhile, 800 km to the northwest of Minsmere, a second bird appeared. At about 11.00 hours on 8th June, CRT and Mrs J. M. Tubbs found a dull, ground-feeding finch in an area of eroded shell-sand dune on Handa Island, Sutherland. They were unable to identify it immediately, but, since it remained on the island until 18.00 hours on the 9th, they were able to write notes from which the following description is culled:

Small, rather dumpy finch, with conically shaped bill and short tail, approximately size of accompanying Twite and with flight silhouette and action recalling Woodlark

Lullula arborea; gait hopping; habitual posture a crouch. Plumage unstreaked sandy buff, paler below, with dusky-brown around bill base and eye (visible only at close range) and dark (perhaps black) primaries and tail feathers; some secondaries also showing black with pale edges. Bill pinky-orange; legs flesh. Approachable to 5-10 m. Silent.

The problems of the reviewing committees did not stem from the process of identification. Descriptions of uniformly coloured birds are necessarily brief, but there was no doubt about either of the birds. What had to be explained was their origin. As is usual in these cases, M. D. England pursued the question of escapes and concluded that, as the only three known captives in Britain were secure in their cages, the two records should be regarded as referring to wild birds. His expert opinion satisfied most committee members, but it was felt necessary to explore the status of Trumpeter Finches in southern Europe in the hope of finding other records indicative of northward vagrancy.

The invasion into Spain

Vagrant Trumpeter Finches are known to have been reaching southern Spain since the end of the 19th century and, in April 1961, April 1964 and November 1964, single ones appeared in the vicinity of San Luear de Barrameda and La Talona, in the province of Cadiz (Hidalgo 1961, 1965). Meanwhile, there had been a single observation in the province of Almeria in 1963, and in that area records then mounted rapidly from 1968. In February 1969, no less than 60 were netted from a flock at a drinking pool at La Canada (Cano 1968) and, following exploration in the same year of the whole wasteland between the city of Almeria, Sierra Alhamilla and Cabo de Gata, Cano (1971) concluded that the species was abundant there. These birds had also become a prime target for trappers. Breeding was first presumed in 1968 (George 1969), such comment being repeated in 1969 and 1970 (Dorka, Pfau and Spacter 1970, Cano 1971) and finally proved in 1971, the year of the British records (Cano and König 1971, Rodriguez 1972); the last reference includes photographic proof of a nest with five chicks. The province of Almeria contains much desolate and arid terrain, with rock slopes and ravines interspersed with scrub-covered or bare levels, and offers the Trumpeter Finch a biotope virtually identical to that occupied by it in parts of North Africa (George 1969). There is no doubt that by 1971 the Trumpeter Finch had become a potentially numerous breeding resident in southeast Spain. It is sad that it was greeted by large-scale trapping. The race involved is presumed to be *zedlitzi* (northwest Africa and the Sahara), to which the one caught in April 1961 was ascribed by the British Museum (Natural History) (Hidalgo 1961).

Other records relevant to vagrancy

In addition to the mounting records for mainland Spain, others have been found in Mallorca, again significantly in spring 1971 (per P. J. Grant), but details are lacking. Even so, there was no indication of any further striking northward movements over western Europe until 1973, when on

29th October one was discovered by M. J. Lee on Alderney, Channel Islands, feeding in open fields with House Sparrows *Passer domesticus* and three other finch species. The details of this record follow:

Short, stubby finch, with bill like that of Bullfinch *Pyrrhula pyrrhula*; about the size of accompanying House Sparrows. Plumage generally pink-buff, with pinkish-red face mask like that of a Goldfinch *Carduelis carduelis*, slightly darker crown, grey nape and wings, paler rump and pale cream undertail-coverts; primaries darker grey than rest of wing; outer tail feathers pale. Bill thick and heavy, pinkish-red; legs as bill. Approachable to under 20 m; when flushed in alarm, perched high. Silent.

Once again, no doubt arises about the identification of this bird (it was clearly a male), which provides a connecting link with the two British records.

Biology of the species

The Trumpeter Finch, first described from upper Egypt in 1823, is the commonest and most widespread of four species in the genus *Rhodopechys*, which Vaurie (1959) placed after *Leucosticte* (rosy finches), between *Acanthis* (linnets) and *Carpodacus* (rosefinches). In addition to the nominate form from Egypt and Sudan, there are three others: *amantum*, an island race from the Canaries; *zedlitzi*, a mainland race discontinuous in northwest Africa and the central and southern Sahara; and *crassirostris*, another mainland race widespread in southwest Asia, from Sinai to Sind. The Trumpeter Finch is everywhere essentially a resident species, but the upland populations of the Asian form move down to nearby plains in winter. Clearly, the northwest African form has recently exhibited a pronounced pattern of northward movement, but whether this is in response to climatic change, population pressure or some other cause is not known. Throughout its range, the Trumpeter Finch lives in small parties, inhabiting the most desolate arid ravines, rocky slopes and lava flows and also foraging on stony upland levels and in marginal cultivation.

The general character of the Trumpeter Finch has already been indicated. The adult male in full breeding condition also shows at close range a pearl-grey head and a beautiful rosy wash on the face and underbody and, faintly, on the back. His black flight and tail feathers are broadly tinged with rose when fresh, and crimson shows on the wing-coverts too. The adult female lacks the greyness on the head and has no more than a hint of the rosy wash. Juveniles are drabber still. The stout bill is orange-red or cornelian in breeding males (looking like a blob of sealing wax), orange-brown in winter males and females, and yellowish-brown in immatures. With its pale and, in certain habitats, cryptic plumage, the Trumpeter Finch has a strange, almost ghostly quality as it flits and creeps about rocks and around small shrubs. It is given to sudden, high escape flights, but its normal action is fast, direct and slightly undulating. It flies considerable distances to water at dusk.

The species nests under rocks, in rock or wall crevices and in the shelter of shrubs, using dry grass as its main material and lining the bowl with wool, hair and feathers. The clutch is four to six eggs, which are like those

of the Bullfinch, being pale blue, with a sparse sprinkling of small black or purplish-black irregular marks, and fine minute specks at the larger end. In northwest Africa, eggs are laid from March to May, with most clutches completed in April. Incubation lasts 13-14 days; the young leave the nest after about 14 days and are independent about 11 days later.

The Trumpeter Finch gets its name from its brief but far-carrying, very nasal and buzzing flight call, described by Meinertzhagen (1954) as 'a rather poor effort on a child's trumpet'. The note is often repeated and it is quite usual to hear the bird before seeing it. The information in this section is derived mainly from Meinertzhagen (1954), Vaurie (1959), Etchécopar and Hüe (1967) and Harrison (1975).

Acknowledgements

We are grateful to M. D. England and the BOU Records Committee for a considerable piece of ornithological sleuthing. We also thank D. J. Holman for his comments on the Wiltshire record.

Summary

In May and early June 1971, single Trumpeter Finches *Rhodopechys githaginea* appeared in Suffolk and Sutherland. In October 1973, another was seen on Alderney, Channel Islands. Given the rarity of the species in captivity in Britain and the full evidence of its arrival as a potentially numerous breeding bird in southern Spain, all three records have been accepted as referring to wild vagrants. Details of each of the records are given, together with a summary of the Spanish immigration, which apparently stems from northwest Africa, and other vagrants in Mallorca are mentioned. The biology of the species is briefly summarised.

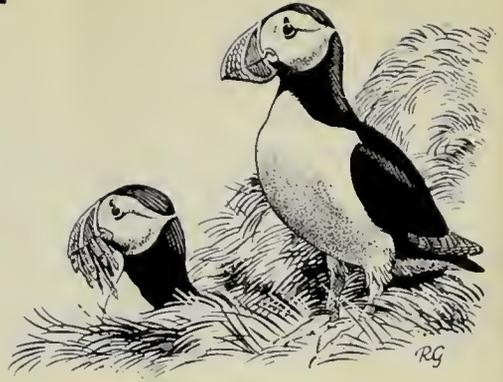
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Puffins on St Kilda

M. P. Harris and S. Murray

The time when the Puffins on St Kilda could be compared to swarms of locusts has passed—some census work in the 1960s suggested a great decline. What is the situation now?



St Kilda, Outer Hebrides, probably once had one of the world's largest colonies of Puffins *Fratercula arctica*, but, by the time of the first detailed survey in 1969, it had greatly diminished (Flegg 1972). Research aimed at monitoring this decline and determining possible causes began in 1973. One or both of us was on St Kilda for the whole of the 1974, 1975 and 1976 breeding seasons and this paper reports on our survey of the Puffin colonies. We spent most time on Dun (see fig. 1), where Flegg (1972) suggested that the decline was continuing. Most previous visitors to Dun had been hampered by the difficulties of landing by boat, so we installed a cable-link with Hirta, which allowed us unlimited access. We also surveyed the colonies on Hirta and made some observations on Soay and Boreray.

Historical account

No attempt is made to include all the numerous references to Puffins on St Kilda, but all those which seem relevant to change in status are included.

1758-59 'Incredible flight of these puffins . . . and sometimes while on the wing, involve everything below them in darkness, like a small cloud of locusts [*Locusta migratoria*] in another country' (Maeaulay 1764).

1829-43 'It is by far the most numerous of all the birds which frequent these islands. There is not a suitable spot anywhere which does not swarm with them. Everywhere you see them in thousands, while at the same time the air is full of them coming and going. I estimate that there cannot be fewer of them than three millions' (Macenzie 1905 from memoranda made by his father in 1840).

June 1894 'By far the largest colonies of this bird are on Borrera and Soa, where they are said to be on the increase. They have destroyed the greater part of the pasture of these islands by burrowing and killing the grass around, owing to their immense numbers. They also breed in countless thousands

on St. Kilda [= Hirta] and Doon as well. The factors receive about 200 stone [over 2,000 kg] (24 lbs = one St. Kildian stone) of feathers from these islands yearly. It takes about 450 Puffins to make a stone of feathers. The feathers of other birds are mixed with them, but Puffins are by far the greatest producers' (Elliott 1895).

June 1876 to February 1877 Sands (1878) calculated that 89,000 Puffins were killed on the islands in 1876.

1898 There were countless numbers on Dun but infinitely more on Boreray and even more on Soay. The slopes of Dun were honeycombed with burrows (Heatheote 1900).

5th-21st June 1902 'It is difficult, without seeming exaggeration to describe the immense multitudes of these birds . . . Plentiful as they are on the main island, it is only when one visits the subsidiary islands that the full wealth of Puffin life becomes manifest.

They occur in countless thousands on Dun, but on Boreray and Soay the vast hordes of birds baffle description. . . . There seems no doubt that of late years they have considerably increased in numbers due to the fact that they are no longer secured for the sake of their feathers' (Wiglesworth 1903).

1920s Puffins were abundant around much of the coast of Hirta with the largest colonies at Carn Mor, where they nested in large numbers both in the boulders and turf, and at the 'back of Conachair'. There were also

flourishing colonies on the Cambir, including the slope above Soay Sound, the slopes of Oiseval, and boulders inland on the western part of Gleann Mor (where they were still snared for food during about 1910-15). Up to 14 were killed with a single shot just south of the village, a place where it was rare to see more than the odd Puffin in 1974-76. Puffins were all over Dun, including the south-facing slopes, but there were rather fewer on the flatter areas down on the western end and probably none in the lazybed area. (N. Ferguson in conversation in 1975.)

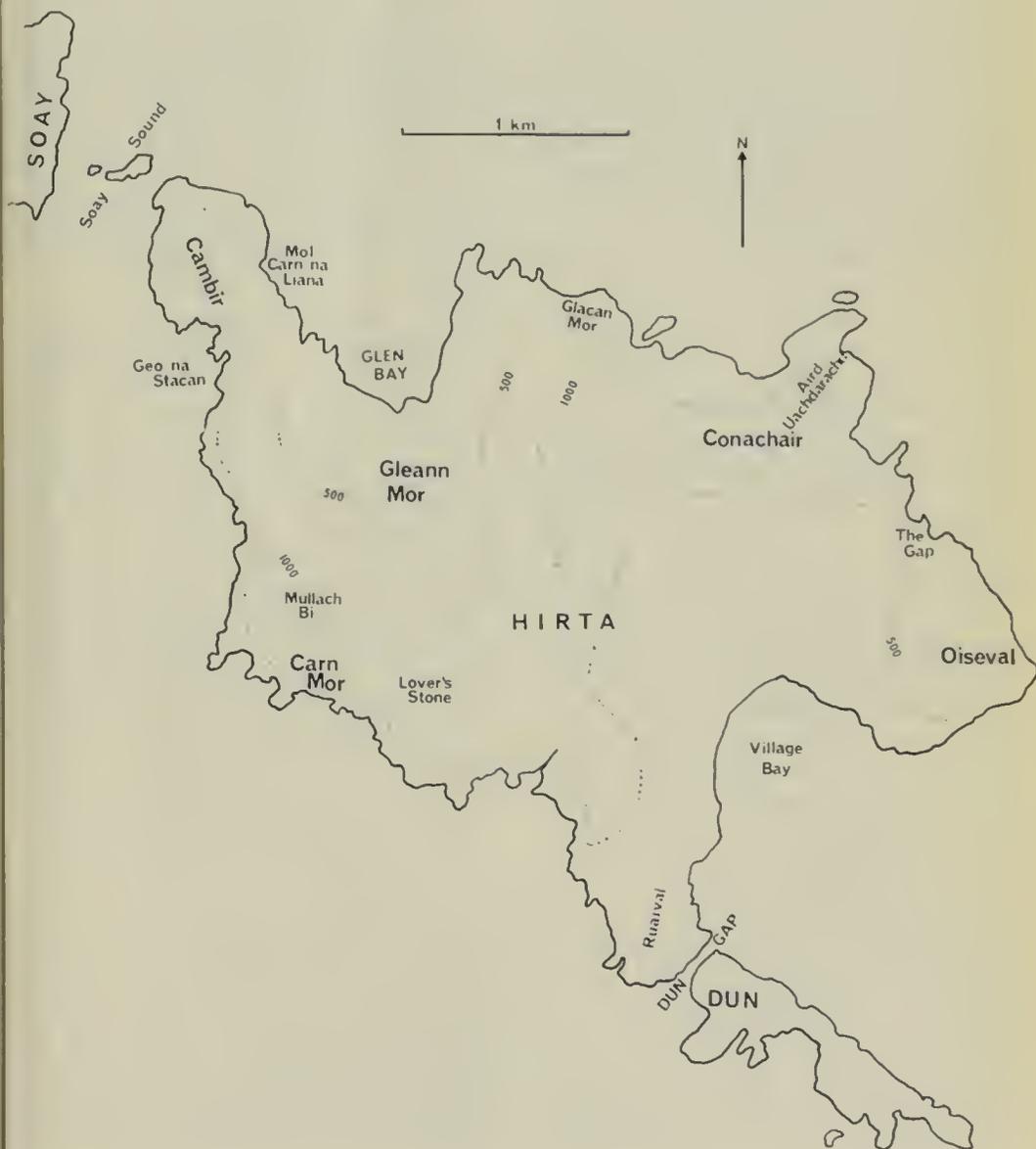


Fig. 1. The islands of Hirta and Dun, St Kilda, Outer Hebrides, showing places mentioned in the text. The 500 ft and 1,000 ft (152.5 m and 305 m) contours are also shown

25th July to 14th August 1931 'By far the commonest bird on the island, nesting everywhere on the upper parts of the cliffs, and also on the more inland slope forming the west side of Glen Bay [= Gleann Mor]' (Harrison and Lack 1934). Petch (1933) showed (his map 1) a very large inland 'puffin area' on the northwestern slope of Gleann Mor, another area on the north-eastern face of Mullach Bi and mentioned a colony under the Lover's Stone.

'The numbers of Puffins on Hirta had left us totally unprepared for the simply incredible numbers of the species here (on Dun). The whole of the Bay side of the island was covered with the birds, the burrows being about a yard apart throughout an area half a mile long and about 200 feet broad.' The north side of Conachair was covered in Puffins and the top of the Cambir had considerable numbers as the groans of Puffins could be heard underfoot. On Soay, the Puffin burrows were as dense as on Dun. (Lack 1931.)

31st May to 2nd June 1939 'Undoubtedly the most numerous bird on the group. . . . Numbers may be safely estimated at above 100,000 pairs, and the actual total may be very much larger. Enormous numbers are concentrated on Boreray and Dun, but even without these the total scattered along the cliffs from near sea-level to above 1,200 feet must be very substantial' (Nicholson and Fisher 1940).

10th-19th June 1947 'I judged each of the following six puffin-slopes of St. Kilda to contain (in 1947) more burrows than any colony I had seen elsewhere in Britain (even more than Garbh Eilean of the Shiant Isles, which we had explored in the previous week):—the north face of Conachair, the highest cliff in Britain, on the north side of Hirta; the island of Dun; the Carn Mor on Hirta's south-west aspect; the sides of the Cambir of Hirta; the island of Soay; the island of Boreray' (Fisher 1947).

10th-20th July 1948 'During the day the air above Dun continued to be a whirling, twisting mass of these birds—uncountable thousands. . . . On visit to Dun, the entire grassy slope was found to be one mass of burrows, seemingly one every foot or two in all directions. . . . Adults flying round overhead and over the sea in hundreds and thousands, all forming one huge, unbroken circle. . . . [Also] present in enormous numbers on the Oiseval-Conachair slopes. . . . The main Puffin slopes of Dun and Cona-

chair can obviously be joined by the Carn Mor in the south-west and by the sides of the Cambir. . . . where obviously many hundreds breed. . . . also a large number of pairs in the rocks on the west side of Gleann Mor. . . .' (Ferguson-Lees 1948).

'These slopes [of Dun] are so riddled by Puffin burrows that it is impossible to walk more than a few steps without raising a protesting groan from the inmate of some burrow, whose roof has been broken in' (Poore and Robertson 1949).

19th June to 3rd July 1956 Major colonies of probably over 100,000 pairs were seen on the northeastern slopes of Dun, eastern face of Soay from Pursan a'Chaim to the Altar, on southwestern slopes of Boreray and Sunadal of Boreray, and others (probably much smaller) on Carn Mor, Aird Uachdarachd and Gleann Mor between Abhainn Alttan and the Cambir isthmus, with still smaller colonies (less than 1,000 pairs) present elsewhere (Boyd *et al.* 1957).

14th-29th July 1957 There were still good numbers in the boulders of the western side of Gleann Mor (C. K. Mylne *in litt.*).

1958-59 On Hirta, the main colony was at Carn Mor where, on a good day, the density of birds exceeded even that on Dun. Areas immediately east and west of this had relatively few—density of perhaps only a hundredth. The densest area on Aird Uachdarachd was on the talus slope facing southeast and there was none on the relatively flat slopes high up. There were some sparse colonies from there south to the northern point of Oiseval, except for the rock falls at the Gap. There were no concentrations noted at the Cambir, few Puffins on Ruaival and none at all on most of Oiseval. Puffins were widespread on Dun, with dense concentrations high up on the western slopes and below the main summit. The flat western part had few and the lazy-bed area none (Dr D. G. Boddington *in litt.*).

1960 'The decline here was first noticed by Donald Baird in 1960, who pointed out that birds were deserting the mainland slopes overlooking Village Bay on Hirta. The numbers in the other colonies there were also by no means so large, and the birds had begun to leave the centre of the landward end of Dun though vast numbers could still be seen visiting the far end and the slopes of Soay in the distance' (Cramp *et al.* 1974).

May 1961 to September 1962 The largest colony on Hirta was at Carn Mor, which

may have held half the Puffins on the island. The remaining Puffins were concentrated mainly in four areas. These were, in probable order of decreasing size: the Cambir, especially around Geo na Stacan; the northeast coast between the Gap and Lonachair, including numbers on lower slopes such as both cliff faces of Aird Fachdarachd; the east side of Oiseval (but not more than a score at any one place); and along the west side of Village Bay right up to the sandy beach. Puffins stretched from one end of Dun to the other. (Dr E. Waters *in litt.*).

1965-67 The main colonies on Hirta were at Carn Mor, Geo na Stacan, the eastern side of the Cambir around Mol Carn na Iana and on the west of Gleann Mor. There were also smaller numbers on most seaward slopes. On Dun, they were numerous on the eastern part and sparse on the west, except around the periphery (D. C. Wynne *in litt.*).

23rd-25th July 1968 A group from Aberdeen University produced a map of the

seabird colonies on Hirta and Dun (Dott *et al.* 1969).

3rd-9th July 1969 Approximately 7,500 and 33,800 pairs were thought to have nested on Hirta and Dun respectively (Birnie 1972).

June and July 1969, 1970 and 1971 Most Puffins on Hirta were at Carn Mor, with lesser numbers scattered along most of the west coast and a southern slope of Ruaival. In 1971, there were no more than 15,000 pairs on Hirta. Between 1969 and 1971, the numbers on Dun appeared to decline dramatically and in the latter year the population was estimated at between 7,000 and 20,000 pairs (Flegg 1972).

12th-19th July 1971 There were about 77,000 occupied Puffin burrows on both Boreray and Soay (Brooke 1972b).

21st July to 3rd August 1972 There was no evidence of a further decline and several areas appeared to have been recolonised since 1971 (Schofield 1975).

Studies on Dun

Methods

The aim was to detect annual changes in the numbers of Puffin burrows on Dun. To achieve this, 12 permanently staked belt transects were placed along the 1.4 km length of the island (fig. 2). Ten transects were 30 m wide and the other two, containing few burrows, were 6 m wide; all ran from the top of the ridge down the 30-50° slope to the top of the sea cliffs on the northern edge (see plate 8). The transects covered all the main vegetation types, whether or not Puffins were present. Occupied burrows (those having droppings in the entrance or signs of fresh excavation) were counted in late April or early May, when virtually all Puffins

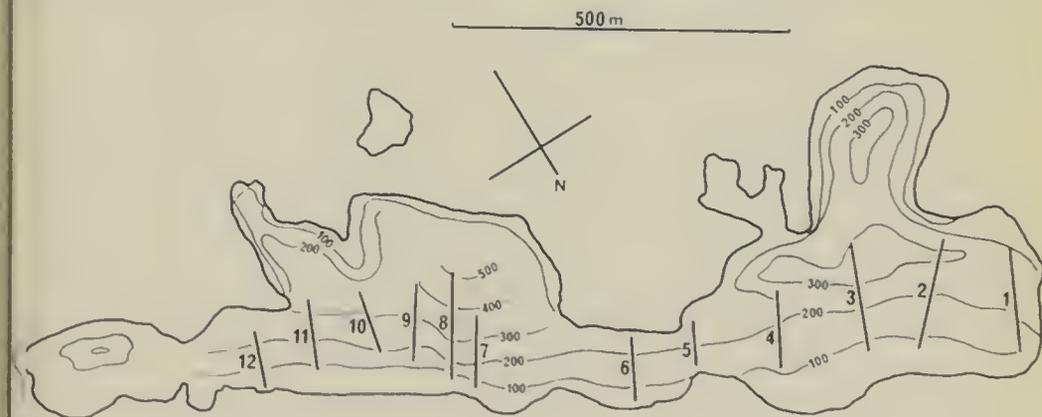


Fig. 2. Locations of transects on Dun, St Kilda, Outer Hebrides. The 100 ft (30.5 m) contours are also shown



8. The middle and western parts of Dun, Dun Gap and (extreme right) the edge of Ruaival, Hirta, St Kilda, Outer Hebrides, viewed from the north. At the left, the middle section includes the waist of Dun (area K) and the dense colonies of Puffins *Fratercula arctica* (areas E and H) under the summit of the island; transects 4 to 8 spanned these areas. At the right are included areas A and C (from the top of the ridge to about half-way down), area O (from the ridges of the old lazybeds to Dun Gap) and area J (the remainder of the low area); transects 1 to 3 spanned these areas (*M. P. Harris*)

had taken up burrows and cleaned out or re-excavated them ready for egg-laying in May. Previous workers on Dun have counted burrows in June and July but, at that time of year, the dense vegetation and the large number of nesting Fulmars *Fulmarus glacialis* make counting more difficult, more time-consuming and, probably, less accurate. In 1975 and 1976, the numbers of unoccupied burrows (those apparently deep enough for a Puffin to nest in, but showing no signs of regular use) were also noted.

In 1975, the extents of the main Puffin colonies were marked on a 1 : 5,280 aerial photograph (redrawn as a map, fig. 3). The rest of Dun is mainly solid rock or very eroded, bare, earth slopes tenanted by Fulmars and unsuitable for Puffins. The density of occupied burrows in each colony was sampled by the transects or, in colonics not crossed by transects, by additional measurements of burrow densities. The area of each colony was either measured directly in the field or calculated from the map, allowing for the slope of the land. The total number of burrows in each area was then extrapolated. As the places where measurements of burrow densities were made were not randomly distributed, it is not possible to put confidence limits on the population estimates. Some burrows in area J and the lower part of D (see fig. 3) were occupied by Manx Shearwaters *Puffinus*



puffinus: the actual proportion is unknown, but there were very few burrows in these areas, so only a few hundred pairs can have been involved.

Results

There was an annual increase of 6-7% in the numbers of occupied burrows in the transects (table 1). Although the general trend is clear, there were marked annual fluctuations within any one transect. Proportionally, the greatest differences in burrow density and percentage burrow occupancy occurred in the areas of lowest burrow density, where the moving of a boundary by even 0.5 m, or the misallocation of a burrow, could radically alter the results. The top part of transect 7 included a belt transect with

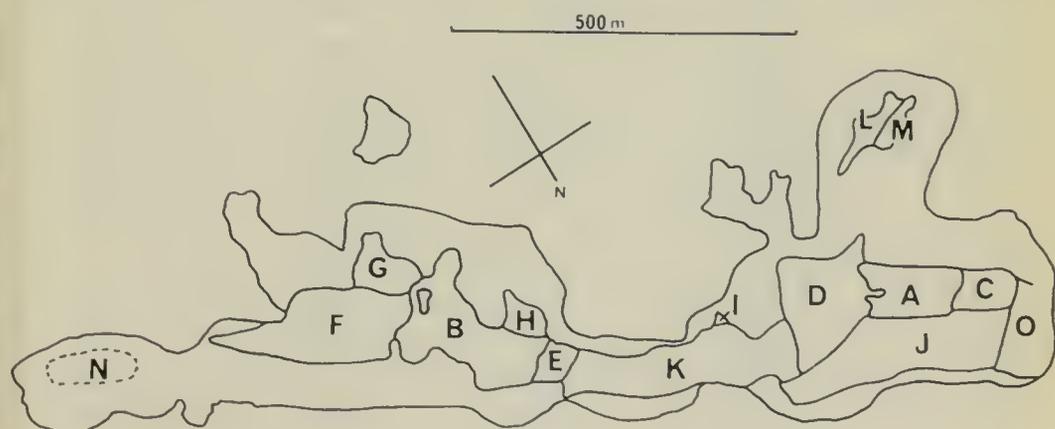


Fig. 3. The main areas with Puffins *Fratercula arctica* on Dun, St Kilda, Outer Hebrides, in 1975. Densities of burrows and population estimates are given in table 2

Table 1. Counts of burrows of Puffins *Fratercula arctica* in belt transects on Dun, St Kilda, Outer Hebrides, in 1974, 1975 and 1976

Transect numbers refer to positions shown in fig. 2. Transects 3 and 4 were 6 m wide, the remainder were 3 m wide. Unoccupied burrows were not counted in 1974

Transect number	Total area (m ²)	Number of occupied burrows			Density of all burrows (per m ²)		Burrow occupancy (%)	
		1974	1975	1976	1975	1976	1975	1976
1	90	6	5	15	0.12	0.26	45	65
2	495	90	87	104	0.25	0.32	71	66
3	1,044	64	133	155	0.16	0.19	78	76
4	666	14	14	24	0.03	0.06	61	63
5	144	14	4	9	0.07	0.08	40	82
6	225	17	15	29	0.11	0.20	63	64
7	405	245	272	239	0.97	0.85	69	69
8	585	295	353	394	0.76	0.80	79	84
9	405	277	216	232	0.73	0.67	73	85
10	315	91	106	96	0.50	0.47	67	64
11	414	184	205	187	0.64	0.64	78	71
12	153	70	50	67	0.44	0.54	75	81
TOTALS	4,941	1,367	1,460	1,551	0.40	0.41	74	76

Table 2. Estimates of the numbers of occupied burrows of Puffins *Fratercula arctica* on Dun, St Kilda, Outer Hebrides, in 1975

Area letters refer to fig. 3. The density for area J is misleading as virtually all burrows were on the very edge of the cliff; the total includes the cliff edge in area O. Densities were not measured in areas E and G, but were estimated by comparison with other areas of known density. Area N is a talus slope and the 'burrows' total is little more than a guess. Area O was a long disused lazybed. The totals for areas G, I, J, L and N are approximate

Area letter	Ground area (m ²)	Area sampled (m ²)	Density of occupied burrows (per m ²)	Total number of burrows
A	7,926	765	0.26	2,100
B	24,683	840	0.60	14,859
C	4,337	729	0.20	867
D	14,804	1,152	0.11	1,628
E	2,688	0	(0.20)	440
F	21,832	882	0.41	8,929
G	8,075	0	(0.40)	3,000
H	576	576	0.89	513
I	?	0	?	200
J	24,807	846	(0.03)	300
K	24,973	369	0.005	125
L	?	0	?	500
M	4,800	288	1.07	5,136
N	?	0	?	1,500
O	?	500	0.00	0

APPROXIMATE TOTAL

40,097

9. View from below the summit of Dun, St Kilda, Outer Hebrides: the mid-part of transect 7, showing the predominant vegetation of common sorrel *Rumex acetosa* and scentless mayweed *Tripleurospermum maritimum*; this area had a density of about one burrow per m² in 1975 (M. P. Harris)



an area of 270 m² set up by E. K. Dunn in June 1971, when there were 208 occupied and 109 unoccupied burrows; later counts showed 188 occupied in 1974, 200 occupied and 105 unoccupied in 1975, and 177 occupied and 87 unoccupied in 1976: no obvious change.

The estimate of the total population in 1975 (table 2) was about 40,000 occupied burrows in approximately 150,000 m² of suitable habitat. If our calculation of 78% occupation of study burrows was representative, there would have been an additional 11,000 unoccupied burrows.

In 1975, 444 juvenile Puffins were caught after fledging and included eight out of 858 young ringed that season on Dun. Nesting success was about 80% that year. Extrapolation from these figures suggests a population of 55,000-60,000 breeding pairs. In 1976, 422 fledglings were caught, including three out of 226 young ringed on Dun. Nesting success was 67%, so it is possible to deduce that about 47,000 eggs had been laid. In addition, there must have been occupied burrows in which no eggs were laid. We have no way of determining the accuracy of these estimates, but the population was probably within the range of 40,000 to 60,000 pairs.

Comparison with past surveys

In 1969, Flegg (1972) measured burrow density by randomly placing 400 1×1 m quadrats throughout his calculated colony area of 250,000 m². He suggested that there were 500,000-750,000 burrows, with occupancy rates ranging from 30% to 80% over the eastern third of the island and 10% to 20% elsewhere. A few weeks later, Birnie (1972) estimated there were 33,800 occupied burrows on Dun, basing this on a mean density of 0.18 occupied burrows per square metre (in four 20×20 m quadrats) and a colony area of 188,000 m². In 1971, Puffins appeared to be restricted to the eastern 20% of the island, and fringes elsewhere; Flegg (1972) estimated the population at 7,000-20,000 pairs. In 1972, Schofield (1975) found an average of 1.20 occupied and 0.40 unoccupied burrows per square metre in 50 randomly placed 1×1 m quadrats, and calculated a maximum of 200,000 occupied burrows.

These conclusions are confused, since various workers have used different areas for the extent of the colony, but the main factor causing these different estimates is a change in burrow density. Burrow density apparently declined dramatically after June 1969 (Flegg 1972), but the densities of 0.21-0.24 occupied burrows per square metre found by Birnie (1972) in the most densely burrowed areas in July 1969 were lower than those found in both June 1969 (one to three total burrows per square metre) and May 1975 (0.41 occupied plus 0.14 unoccupied burrows per square metre). Also, there has been no such decline in that part of transect 7 which has been monitored since 1971.

In 1971-73, Flegg (1972) and Schofield (1975) examined a line of 3×3 m quadrats and there was an inexplicable drop in burrow density between 1972 and 1973 (table 3). Our transect 11 was close to those quadrats, and the density of burrows remained more or less constant during 1974-76. The most obvious possible reason for these discrepancies is a different definition of a burrow. Schofield's 1972 density, of up to four burrows per square metre, far exceeds previous values, including our highest of two per square metre, except for a generalised statement of three to four per square metre by Fridriksson (1975) for the Westmann Islands (Harris

Table 3. Counts of burrows of Puffins *Fratercula arctica* in quadrats placed on a fixed line in the eastern part on Dun, St Kilda, Outer Hebrides

The 1971-73 quadrats were on Flegg's (1972) A-A transect, the 1974-76 ones were part of our transect 11. The two lines are close to each other, but are probably not identical

Year	Area counted (m ²)	Density of burrows (per m ²)		Burrow occupancy (%)	Source
		occupied	unoccupied		
1971	270	0.77	0.40	66	Flegg (1972)
1972	108	1.40	0.60	70	Schofield (1975)
1973	135	0.11	0.24	31	J. J. M. Flegg (<i>in litt.</i>)
1974	153	0.46	?	?	this study
1975	153	0.33	0.10	75	this study
1976	153	0.43	0.10	76	this study

1976). The differences, however, between years and within 1969, appear to be too large to be explained by this. Even if there had been a serious decline in Puffin numbers between July 1972 and April 1974, the remains of the burrows should still have been evident early in the last of these seasons, before the annual vegetation had grown, since there are no animals larger than St Kilda long-tailed field mice *Apodemus sylvaticus hirtensis* to cause the burrows to cave in.

Although no attempt had been made to map the distribution of the Puffins accurately before 1975, there are several sets of generalised observations with which to compare our map. The statements that Puffins covered Dun from one end to the other must be viewed with some distrust, since, even in the 1920s, before there was any suggestion of a decline in numbers, Puffins were scarce on or absent from the old lazybed areas (area O) and at a lower density than elsewhere low down on the north-western part (area J) (N. Ferguson in conversation). In 1931, the colony was reported to be half a mile long and 200 ft broad (800 × 60 m), with a burrow about every yard (Laek 1931). In 1959, it was possible to distinguish between dense areas (our areas A to H) and the one sparse area (area K); there were probably slightly more occupied burrows in area J than now, but the few photographs taken near the junction of A, D and J show about the same numbers of Puffins as in 1974-76 (Dr D. G. Boddington *in litt.*). The most noticeable concentration of burrows in 1965-67 was on the eastern part of the island, with the west and the neck of Dun sparsely populated except for the periphery (D. C. Gwynne *in litt.*).

Flegg (1972) suggested that tall common sorrel *Rumex acetosa* increased between 1969 and 1971, especially on the eastern part of Dun. He noted that the burrows in the sorrel area were almost invariably deserted and thought that the spread of the sorrel could be used to map the decline in the Puffin colony. A vegetation map of Dun, however, made by Dr P. Wathern in 1976, agrees well with similar maps made during 1948-72 (Poore and Robertson 1949, McVean 1961, A Currie *in litt.*, Gwynne and Milner 1974, Dr D. G. Boddington *in litt.*), which suggests that Flegg was mistaken in thinking that there had been a recent spread of sorrel, possibly because his 1971 observations were made almost a month later in the year than those in 1969.

The areas of highest Puffin density are, as is to be expected, where the peat is deep and coherent enough for burrowing. Elsewhere on Dun, the soil shows no signs of having been burrowed by birds: certainly not for 30 years and probably not for much longer, since the effects of human activity in the lazybed area are still noticeable at least 100 years after their last cultivation (Dr M. Hornung *in litt.*).

The bulk of the evidence points to there having been no recent decline in the numbers of Puffins on Dun.

Studies on Hirta

The numbers of occupied burrows in one belt transect (3 m × 54 m) above Mol Carn na Liana increased by 59% between 1974 and 1976, after having remained fairly constant between 1971 and 1974 (table 4).

Table 4. Counts of burrows of Puffins *Fratercula arctica* in a permanently staked belt transect (162 m²) on Hirta, St Kilda, Outer Hebrides

Date	Number of burrows			Burrow occupancy (%)	Source
	occupied	unoccupied	total		
July 1971	36	39	75	48	E. K. Dunn (<i>in litt.</i>)
June 1973	32	18	50	64	J. J. M. Flegg (<i>in litt.</i>)
May 1974	34	18	52	65	this study
August 1974	30	19	49	61	this study
May 1975	57	9	66	86	this study
May 1976	54	6	60	90	this study

Elsewhere on Hirta, notes were made whenever Puffins were seen, and burrows were counted where this was feasible. At the colonies in boulder fields, on inaccessible slopes or where the burrows were scattered at very low densities, however, we made estimates of the numbers of pairs by comparing the maximum numbers of Puffins seen with other maxima at accurately counted colonies. Such estimates of colony size are partly subjective, but are the best that can be made in many areas. The results are presented in fig. 4 and table 5.

The biggest colony was, and has apparently always been, in the Carn Mor boulder field. Comparison of the maximum numbers seen flying there and at areas with known populations on Dun suggest that there were about

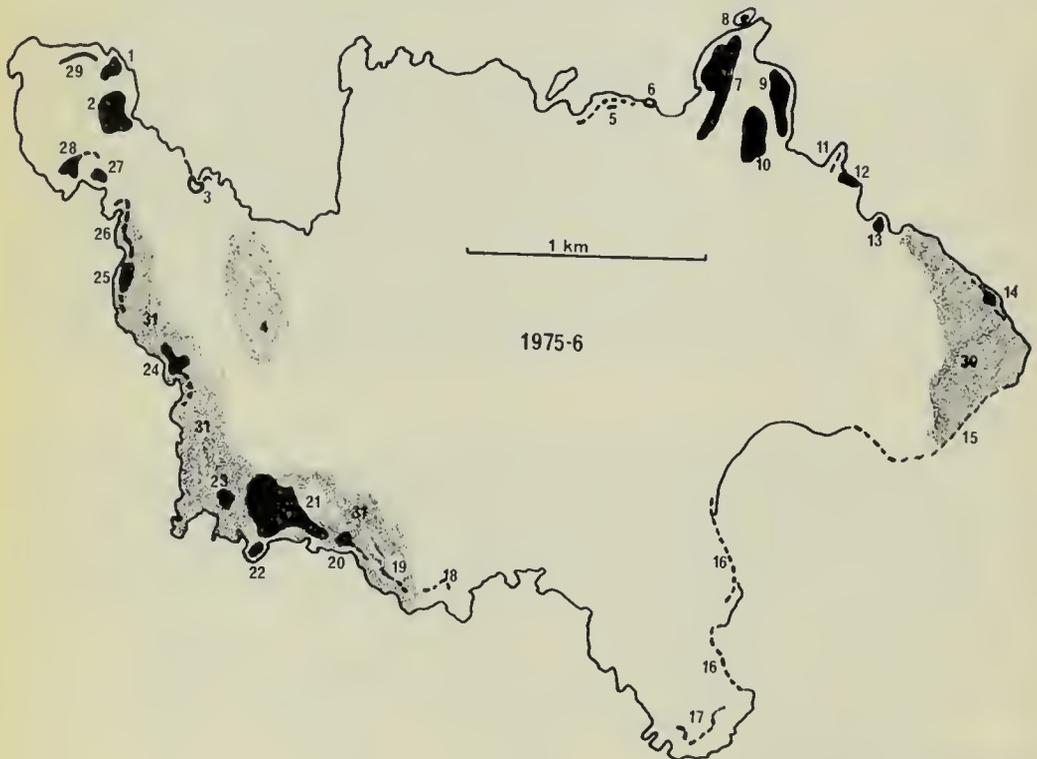


Fig. 4. Distribution of Puffins *Fratercula arctica* on Hirta, St Kilda, Outer Hebrides, in 1975-76. Solid black areas indicate fairly well-defined colonies, stippled areas where burrows occurred at very low density, and dotted lines where burrows were in a narrow band at the tops of cliffs. Figures refer to the colonies listed in table 5

Table 5. Estimates of the size of colonies of Puffins *Fratercula arctica* on Hirta, St Kilda, Outer Hebrides in 1975-76 compared with those made by Birnie (1972) in 1969

Colony numbers refer to fig. 4. Burrows were counted wherever possible; elsewhere, Birnie counted birds on land and in flight and divided the total by two to give an estimate of pairs, while we compared the maximum numbers of birds seen at a place with maximum numbers at colonies of known size: these estimates are placed in brackets. More details of how individual counts were made are deposited with the Nature Conservancy Council in Inverness

Colony number	Estimated number of pairs		Colony number	Estimated number of pairs	
	1969	1975-76		1969	1975-76
1	217	60-80	17	0	less than 100
2	298	300+	18	0	(70-100)
3	76	100+	19	50	20-40
4	124	(150)	20	30	50-60
5	} (20)	50	21	5,770	(5,000-10,000)
6		(30)	22	?	(20+)
7	(8)	(few hundred)	23	15	80-100
8	?	(50-100)	24	25	(100-200)
9	(6)	(300)	25	186	200
10	277	(200)	26	(25)	100
11	} (6)	(60-100)	27	(3)	(100)
12 & 13		(300)	28	216	(150-300)
14		40-60	29	21	(40)
15	(31)	100	30	2	(100)
16	39	300	31	33+	(1,000)
APPROXIMATE TOTALS			7,500	9,500-15,000	

5,000-10,000 pairs at Carn Mor in 1975-76. Previous estimates or counts have been about 5,800 'sites' in 1969 (Birnie 1972), a maximum count of 7,500 individuals in 1969-71, no more than 1,000 pairs in 1971 (Flegg 1972) and 3,000-3,350 individuals in 1972 (Schofield 1975). Elsewhere in 1975-76, there were about 3,500 pairs in fairly discrete colonies, plus many pairs scattered at very low density, from ridge-top to cliff-edge, along slopes of the western part of the island, from the Lover's Stone to Geo na Staeon. A figure of about 1,000 pairs is tentatively assigned to this area. None was seen on the long slopes of Glacan Mor, but this area is difficult to observe and small numbers could have been overlooked. Away from Carn Mor, we had the subjective impression that slightly more Puffins were present in 1976 than in 1974, but this could have been due to our greater knowledge of the island. There was nothing to suggest a recent extension in the areas occupied by Puffins. Previous total island counts have been about 7,500 occupied sites in 1969 (Birnie 1972) and less than 15,000 pairs in 1971 and 1972 (Flegg 1972, Schofield 1975), compared with 10,000-15,000 pairs in 1975-76. There is reasonable agreement between our figures and those recorded for similar areas in 1969 (Birnie 1972) (table 5), the differences being attributable to the short time available for the earlier survey.

The older accounts (see 'Historical account') leave no doubt that there were once many more Puffins on Hirta. Very large numbers certainly

occurred up to the late 1940s, but had gone by 1958. The critical reference is that of Fisher (1947), who remarked that there were more Puffins on the north face of Conachair than on Garbh Eilean in the Shiant Islands. Even in 1973, following its marked decline (Brooke 1972a), we found that the numbers of Puffins at the Garbh Eilean colony were as spectacular as anything we have seen since on St Kilda. The Conachair colony is now a mere shadow of what it must have been, having lost many, if not most, of its Puffins by 1956 (Boyd *et al.* 1957), and virtually all by 1958. Nothing that we have read or been told convinces us of any large change in Puffin numbers on Hirta since 1957, and the situation today is almost identical to that in 1968-69 (Dott *et al.* 1969, Birnie 1972).

Studies on Soay

In 1971, Brooke (1972b) estimated that the main colony on the southern and eastern slopes of Soay contained a maximum of 77,000 pairs (based on an area of 440,000 m², with a density of 39 occupied burrows in 222 1 × 1 m quadrats, plus another 18 quadrats which fell on scree where burrows could not be counted). In addition, there were 2.9 unoccupied burrows to every occupied one. Our visit on 13th July 1975 was hampered by thick mist, but we found that the colony did not extend as high up the slope of the Altar as Brooke had shown (fig. 5). The extent of this colony is over-estimated by the maps in Flegg (1972) and Schofield (1975), probably due to their small scale. All other estimates of the numbers of Soay Puffins have been made from the end of the Cambir, about 500-1,500 m away. For two seasons, while frustrated in attempts to land on Soay, we also watched the colonies from Hirta, and, during three boat trips around the island, we convinced ourselves that there must have been a serious decline since Brooke's estimate. Our 1975 visit, however, revealed tens of thousands of Puffins sitting on the grass and boulders, quickly dispelling these impressions and bringing home to us the futility of comparing counts made from

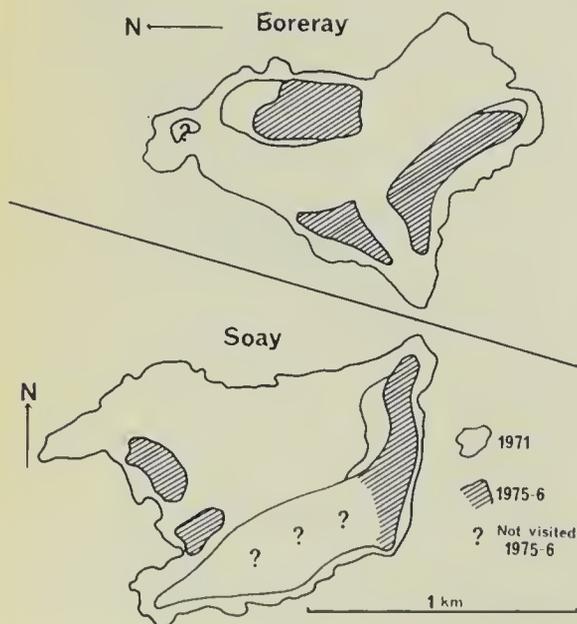


Fig. 5. The main colonies of Puffins *Fratercula arctica* on Boreray and Soay, St Kilda, Outer Hebrides, in 1971 and 1975-76. The 1971 distribution is taken from Brooke (1972b)

Hirta or from the sea with those made on the spot. We also noted smaller, apparently less dense, colonies on the western slopes and agree that Brooke's estimate is reasonable, although it may have been too small.

Studies on Boreray

The island was visited on 29th May 1974, 5th July 1975, 3rd July and 18th-19th August 1976, and inspected from the sea on eight occasions during 1973-76.

There were three large colonies, on the lower half of the southwest slope between the cleit village and Clagan na Rusknochan, on the slopes of Sunadal, and in the steep gully west of Tigh Staller. In July 1971, Brooke (1972b) estimated 41,000 occupied burrows in the first colony, 17,000 in the second and perhaps 19,000 elsewhere on the island. Our very rough mapping of the colonies agrees with that of Brooke (see fig. 5).

In 1975, most burrows near the cleit village were occupied: of 124 examined, 64 contained a young Puffin or a hatched eggshell, 11 contained an adult Puffin, five were being excavated, 16 were empty, but showed signs of use, and 28 had their entrances overgrown. In this area, the colony did not extend much farther up the slope than the cleits. A photograph taken there on 5th July 1975 shows a similar number of Puffins to that which can be seen in a photograph taken from virtually the same place in June 1905 (Kearton 1906).

No Puffins nested on Levenish in July 1975; the soil there is too sparse for Puffins, but there were a few burrows of Leach's Petrels *Oceanodroma leucorhoa*. We have seen few Puffins around Stac an Armin.

Conclusions

Mackenzie (1905) was an acute observer of the habits of St Kildan birds, but it would be impossible to fit his calculated 50,000 Guillemots *Uria aalge* on to Stac Biorach, so there must be doubts about the accuracy of his estimates of 3,000,000 Puffins and 1,000,000 Guillemots on the islands. There must, however, have been far more Puffins on Hirta in the 19th and early 20th centuries than there now are. There may also have been more on Dun, though Lack's diaries suggest that the colony was about the same size in 1931; the previous extent of the colonies on Soay and Boreray will never be known. We conclude that the numbers on Hirta decreased sometime between 1947 and 1957-60. The situation on Dun is confusing, due to the conflicting data on burrow densities. There may have been a reduction in numbers between 1969 and 1974, even though Birnie's results do not support this, but we doubt whether it approached the level suggested by Flegg (1972).

Harris (1976) has shown, from a survey of data for most British Puffin colonies, that the recent general decline has stopped, at least temporarily. The results of our study of the St Kilda colonies supports this.

The future

Even though British seabirds have been studied as much as those anywhere, we still know little of the normal fluctuations in numbers. The regular

counting of British seabirds, started in 1969-70 (Cramp *et al.* 1974), will supply data for most species, but not for Puffins. Counting them on land or at sea is of little use for accurately assessing the number breeding in an area. Counts and estimates made at the colony between the village and Dun Gap (number 16 in fig. 4), which is visible from the place where we stayed, show the variation in counts, both between different observers and between years. In 1969, Birnie (1972) and Flegg (1972) estimated 39 and 200-300 pairs respectively. In 1971, Flegg thought that the population had declined to 20-30 pairs, yet D. Stewart (in conversation) reported that he had seen more birds there that season than in 1970. In 1972, Schofield (1975) counted 196 Puffins in the northern part of the colony, but none in the south. Since 1973, the colony has remained more or less unchanged, at about 300 pairs (R. Brant personal communication; this study). These differing estimates probably reflect nothing more than differing observer efforts, variations in the time spent in the field and the low chance of an observer having been at any colony when all the birds were visible.

The easiest method of detecting population changes is to count the numbers of occupied burrows in fixed areas, provided that those sampled are fairly representative of the colonies as a whole. This method is capable of detecting changes on the edges of colonies if transects go completely across a colony, but allow neither total population estimates to be made nor accuracy to be assessed. To overcome these drawbacks, future monitoring will include a series of smaller quadrats spread through the colony. The number, size and dispersion (completely random or stratified) will be decided by field trials. Hopefully, future changes in Puffin numbers on St Kilda will be better documented than those which have occurred in the past.

Acknowledgements

Our thanks are due to the many people who helped with the fieldwork, to the previous visitors to the island (acknowledged in the text) who made their observations available to us and clarified many points in correspondence, and to Dr D. Jenkins for improving the manuscript with his criticisms. The work was supported by Nature Conservancy Council contract number F3/03/30.

Summary

In 1975, there were 40,000-60,000 pairs of Puffins *Fratercula arctica* on Dun and 10,000-15,000 pairs on Hirta, St Kilda, Outer Hebrides. Between 1974 and 1976, the numbers of occupied burrows in fixed belt transects on Dun increased by 6-7% per annum. There was also an increase in burrows in a single transect on Hirta. It is concluded that the numbers of Puffins breeding on Hirta declined in the period 1947-58, but it is doubtful if there has been a marked change since then: if there has been a recent decline, it has been far less marked on Dun than other authors have suggested.

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Special atlas reviews

The Atlas of Breeding Birds in Britain and Ireland. Compiled by J. T. R. Sharrock. T. & A. D. Poyser, Berkhamsted, 1976. 477 pages; over 250 maps and many line-drawings. £9.00. Optional set of 12 transparent overlays showing environmental factors, £1.50.

This magnificent book embodies the results of the largest co-operative effort by naturalists anywhere in the world, with over 10,000 observers taking part. Yet, as James Ferguson-Lees makes clear in his foreword, it was undertaken only after much anguished debate by the British Trust for Ornithology. Botanists led the way with their *Atlas of the British Flora* (1962), which mapped the distribution of some 2,000 species using the 10-km squares of the National Grid, but birds, though with far fewer species involved, clearly presented more intractable problems, largely because of their mobility and the difficulty of proving breeding. The Council

of, the BTO debated the matter anxiously for over two years, with the pessimists arguing that it would be impossible to persuade enough amateurs to undertake this daunting task, while even the optimists felt that coverage would be low in Wales and Scotland, and Ireland would be too difficult to attempt. Both groups failed completely to realise how many birdwatchers, even those who had been allergic in the past to co-operative enquiries, would find 'atlassing' an absorbing and exciting task, so that in the end every one of the 3,862 10-km squares in Britain and Ireland was surveyed, though inevitably some were covered in less detail than others.

The enthusiasm proved to be there, but it could not have been aroused without the energy, at his desk and in the field, of the full-time national organiser, Dr J. T. R. Sharrock, aided especially by David Scott in the Republic of Ireland and the team of regional organisers. Dr Sharrock outlines in detail the methods used (especially the criteria for deciding the three main categories of possible, probable, and confirmed breeding), the drive to cover blank squares in Scotland and Ireland in the closing days of the 1968-72 survey period, the co-operation with other surveys being made by the Wildfowl Trust, the Scabird Group and others, and the final attack on especially difficult species, using BBC radio appeals to enlist the help of the general public. He then outlines the enormous care taken in checking and cross-checking the data, the transference to punched paper tape and, finally, the preparation of the maps by the Biological Records Centre at Monks Wood Experimental Station.

The main part of the book contains maps and texts for 208 species, each occupying two large pages, with a double allocation for the Hooded/Carrion Crow. The maps are the essence of the project—they are clear and attractive, with red dots of diminishing size to represent confirmed breeding, probable breeding and possible breeding during 1968-72 on a black outline of Britain and Ireland, with an inset of the Channel Islands. They are the most complete and accurate distribution maps yet produced for these islands. The possible sources of bias are carefully pointed out—the less complete coverage in some remote areas, the species such as Cross-bill and Quail which vary widely in the extent of their distributions in some years, or those, like some ducks, whose sporadic nesting may give the mistaken impression of abundance when the results of five years are combined, and the few secretive and scattered species which are almost impossible to map fully. The main aim of the maps is to provide an accurate baseline to assess future changes in breeding distribution. They will also enable the birdwatcher to learn which nesting species he may encounter at home or on his journeys, though, in the case of the rare species, steps have been taken by various devices (always clearly detailed) to defeat those who may wish to use such information for illegal purposes. Thirdly, they provide a fascinating mass of data for those interested in the complexities of bird distribution, and there will be few, even among the experts, who will not find their knowledge greatly increased for many species. The factors affecting bird distribution are, as Dr Sharrock stresses, complex and usually not fully understood, but, to assist the reader to test his own hypotheses, a set of transparent overlays showing environmental factors

(altitude, temperature, rainfall, vapour pressure, lack of standing fresh water, lowland heath, moorland, sessile oakwood, chalk and limestone and river systems, together with the old and new county boundaries) can be obtained directly from the BTO. More important, the maps should provide a stimulus for more detailed enquiries on a species basis to test the factors involved, and here repeat atlas surveys will provide invaluable help by enabling changes in range to be compared precisely with those in climatic factors and habitats.

The maps are undoubtedly of primary importance, but the accompanying texts not only illuminate them, but provide much valuable information which will vastly increase the value of the book to every reader. These texts cover breeding habitats, problems of nest-finding, the known changes in ranges and population, often with suggestions of possible causes, and estimates (for all but a few species) of the total populations, together with subsidiary information such as the measures taken in mapping to safeguard rare species, the precise degree of coverage achieved, the species afforded special protection, and selected references. They also, for many of the rarer species, give details of changes since the *Atlas* fieldwork was completed, including, for example, the sharp decline of Bitterns in Broadland, the recent extinction of Montagu's Harriers and the striking increase in the numbers of Cetti's Warblers. Each account is headed by an attractive vignette, provided by a panel of distinguished artists. I find these texts not only readable, but thought-provoking, and warm congratulations are due to Dr Sharrock and his BTO colleagues who prepared them. The estimates of breeding populations vary from the almost precise for some rarer species to tentative estimates for the commoner ones, but these latter gain from being based, in many cases, on the densities found by the Common Birds Census in different habitats. They reveal a new candidate for the most numerous bird in Britain and Ireland—the Wren, which, aided by a succession of mild winters, is thought to have reached some 10 million pairs. Those old favourites, the Blackbird, Chaffinch, Starling and House Sparrow are believed to be near or below the 7 million mark, and the most widespread species of all, the Skylark, is thought to number 2-4 million pairs. Despite the wealth of seabirds in these islands, all 20 species numbering over 1 million pairs are landbirds, and all except the Woodpigeon are passerines. There follow brief accounts of 17 species (with eight smaller maps) on the British and Irish list for which some records were submitted, four species (with two maps) not on the official list, which may be in the process of establishing viable feral populations, and lists of former breeding species, and of escaped captive birds recorded. The book concludes with a valuable and fascinating collection of maps of the past distributions of 24 species, from Black-throated Diver to Gull Bunting.

To sum up, the book is a major triumph for the British Trust for Ornithology and the Irish Wildbird Conservancy and a fitting reward to the many thousands of fieldworkers who made its compilation possible. It is an indispensable source of up-to-date information, a pleasure to read, a spur to thought and further enquiry, and, by no means least, a most elegant example of book production, thanks to the professional skills of Trevor

Poyser. There appear to be few errors (apart from the obvious omission of breeding Rock Doves in Shetland and much of Orkney), but, with such a mass of data, the organisers are well aware that minor mistakes may have crept in. A reprint, with corrections, is already in hand, but, in case a second edition is called for (which I hope will be a certainty, for no keen birdwatcher can afford to be without this book), there is an appeal for any mistakes to be notified to the BTO.

What of the future? The *Atlas* scheme was envisaged as the prime means of assessing future changes in breeding birds, so repeat surveys are essential. Some people thought 25 years was a suitable interval, but already the BTO initiative has led to the publication of similar surveys in Denmark and France, and the formation of a European Ornithological Atlas Committee with 18 members so far. This committee is planning a European atlas project during 1985-88, using 50-km squares, but encouraging the use of smaller, convertible grids where possible. Despite the massive costs (offset for this pioneer survey by generous grants from the Leverhulme Trust and the Republic of Ireland's Department of Lands), plans should surely be made to ensure that from 1985 Britain and Ireland are again covered on a 10-km square basis? Finance will be a problem, but few can doubt the enthusiasm of birdwatchers, or the scientific value of an early repeat, when gross changes in bird distribution have been so marked in recent years, and minor variations often remain uncharted.

STANLEY CRAMP

De Danske Ynglefugles Udbredelse. By Tommy Dybbro. Dansk Ornithologisk Forening, Copenhagen, 1976. 293 pages. DKr 108.50.

The 'Danish Atlas' is as remarkable a *tour de force* as its British and Irish counterpart. Plainly, there has been co-operation and an exchange of ideas between the two authors: both volumes contain a map for each species, a pleasing illustration of the bird (helpful for foreigners trying to find their way about the book), indications of its world-wide distribution, its preferred habitat, its distribution history, the situation during the atlas survey and, often, an estimate of the total population within the country; finally, for each of the 189 Danish species, there is a table showing the number and percentage of squares in which it was recorded in the years 1971-74 as 'possibly breeding', 'probably breeding' or 'confirmed breeding'. The similarity of the lay-out in each of the two books will be most helpful to someone attempting to follow this one with the aid of a dictionary or a smattering of Danish. In any case, the maps are very clear and the symbols the same as those used by the British Trust for Ornithology/Irish Wildbird Conservancy (indeed, they are now recognised internationally by the European Ornithological Atlas Committee).

In two respects, the Danish volume is superior. First, mapping is by 5-km squares. This was possible because Denmark is a much smaller country (only about 14% of the area of Britain and Ireland), with a more even spread of human population. The finer mesh provided by the 2,160 5-km squares gives a more vivid impression of the distribution of a species.

Secondly, the Danes have eschewed our practice of showing some dots in the wrong place ('displaced') for scarce species, preferring either to dispense with the map altogether for one or two very rare ones or to show them placed within a larger area or square that does not betray the exact location. On the other hand, the Danes have not produced transparent overlays of climatic and habitat factors for their book, though there is a useful introduction, which discusses the influence of these on distribution.

As a study of breeding bird distribution in Denmark, it is marvellous: the coverage was very full, except for a few pockets in Jutland. The British bird-watcher will be struck by the species with a sharp east-west distribution—those that occur most commonly on the islands and in eastern Jutland, such as Red-necked Grebe (600-800 pairs), Greylag Goose (2,000 pairs), Honey Buzzard (200-300 pairs), Golden Oriole (200-400 pairs) and Thrush Nightingale, all of which have increased their range and density of occupation in recent years. Two other species from the northeast, the Green Sandpiper (about 40 pairs) and the Black Woodpecker (about 80 pairs), have recently settled in Sjaelland. Osprey, Bearded Tit, Fieldfare, Red-wing and Penduline Tit are also recent colonists, which will cause no surprise in this country. Other species have done less well. The population crash of the White Stork, from at least 4,000 pairs in 1890 to about 30 now, is the best known example, but the Wood Sandpiper, the Kentish Plover, and the Turnstone are under great pressure, partly because of disturbance of their nesting habitats. As in Britain, the Red-backed Shrike and the Woodlark have declined, though not to such critical levels: there are still 1,500-3,000 pairs of the former. The Barred Warbler, however, another southeastern species, is down to 15-30 pairs. Denmark is perhaps too small and densely settled to contain a large proportion of the European populations of most birds, but the Avocet is an exception: with 2,000-3,000 pairs, about a quarter of the northern European population now nests there; so, too, is the Mute Swan, whose 4,000 pairs represent about 20-25% of the European total.

In short, this is a mine of fascinating and important information, beautifully laid out and easy to follow. It will be warmly welcomed by all European birdwatchers. Those who wish to obtain a copy should write to Dansk Ornithologisk Forening, DOF-salg, Faelledvej 9, 2200 Copenhagen N, Denmark; the cost at current exchange rates is a little over £11.

T. C. SMOUT

Atlas des Oiseaux Nicheurs de France. Compiled by Laurent Yeatman. Société Ornithologique de France, Paris, 1976. xvi + 282 pages; 269 maps; 134 line-drawings. F70.

French ornithologists in general and Laurent Yeatman in particular are to be warmly congratulated on this survey of the distribution of the breeding birds of France. By publishing the results early in the autumn of 1976, little more than two years after completion of the main fieldwork, they achieved the distinction of producing the world's first national ornithological atlas.

The initial inspiration, and much of the working method too, came from the BTO/IWC scheme, the objective being to ascertain over a five-year period the species breeding in each square or rectangle formed by a grid available on the large-scale maps of the country concerned. The undertaking was more daunting in France than in Britain and Ireland, owing to the larger size of the country and the many fewer observers available, but these factors were compensated for by the use of a larger size of grid—rectangles of 20×27 km, about $5\frac{1}{2}$ times larger than 10-km squares. The five years of fieldwork spanned 1970-74, but a few areas which had been missed during this period were visited in 1975 and included in the results. The atlas covers Corsica as well as France and represents the efforts of about 500 observers, who supplied records from 99.2% of the total of 1,100 rectangles. Inevitably, coverage will have varied from one area to another, but, as a general indication of the thoroughness of effort, 75 or more species were recorded in 75% of the rectangles.

A total of 264 species was found breeding (about 23% more than in Britain and Ireland), and for each one there is a map and about 15-25 lines of text on the facing page. Two such entries appear on each double page spread, and on every page of text one of the two species treated is illustrated by a line-drawing. The text for each species includes the world distribution, the habitat preferences and whether it is sedentary or otherwise in France; finally, the distribution given by N. Mayaud in *Inventaire des Oiseaux de France* (1936) is quoted and compared with the 1970-74 map. Each map shows all of the rectangles in the French grid, those in which the species was recorded being indicated by solid dots of three sizes, corresponding with possible, probable and certain breeding. An estimate (within a factor of 10) is given of the number of breeding pairs of each species.

This assemblage of original data is most impressive and of great interest in itself; it also provides a mass of fascinating comparisons with our own information, even for a reader with no knowledge of the French language. When comparing the French atlas with ours, one finds that international atlas co-operation did not extend as far as uniformity of sequence of species; but who can blame the French for that, bearing in mind the British record of instability and internal dissension on taxonomic arrangement during the past quarter century, and the possibility of further change following publication of *The Birds of the Western Palearctic*? It goes without saying that no-one interested in the numbers and distribution of birds in France will want to be without this book, and many watchers primarily concerned with birds in this country can profitably examine it for information relating to such questions as: Is the Sahel effect evident on the Continent? Which of our diminishing species are suffering a general eastward withdrawal of range? Which recent immigrants are supported by a strong base across the Channel, and which potential new breeders are approaching the French coast? Which species are becoming increasingly dependent on British strongholds for the maintenance of their populations? We dare not regard ourselves as insulated from events outside our national boundaries.

P. A. D. HOLLAM

Personalities

2 David Scott

The efficiency and orderliness of Scots accountants is legendary. When one man combines that efficiency with a deep and well-regulated enthusiasm for ornithology, a broad background of walking, botany and ecology, and experience of intensive fieldwork on a species as complex and difficult as the Hen Harrier *Circus cyaneus*, that man is beyond price as a member of any wildlife organisation.



10. David Scott (Tom Keogh)

That much we knew of David Scott when he retired from the management of a large group of gas companies in Ireland, and became involved in the Irish Wildbird Conservancy. Other qualities became apparent only to the observant—and many ornithologists are not observant of their fellows. As *Atlas* organiser for the Republic of Ireland, and in a series of administrative roles, David brought an immense and unusual capacity to stimulate interest and high standards in others, using his insight, skill and

care in handling people to get everyone to do their best. Ornithologists are individualists (nowhere more so than in Ireland) and are sometimes petty and casual in relation to their hobby, which they would never allow themselves to be in their careers. Even when David's natural tact was swamped by the need for blunt criticism, his fairness enabled him to keep as friends even those whose inefficiency he would not tolerate or whom he felt it necessary to disagree with directly. More than most men of his age (he is now 67), he is regarded as a friend by young ornithologists. One of David's great contributions to the *Atlas* was to organise a team of observers who shared his caravan and, stimulated by his enthusiasm and determination, covered more squares more thoroughly than they would ever have done alone. His other contributions included a staggering volume of correspondence involved in the organisation of the entire *Atlas* for the Republic of Ireland and acting as regional organiser as well for most of it, and a total of 17 months' fieldwork, far more than any other observer. The *Atlas* in Ireland simply could not have been completed without both David's fieldwork (and the example that it set) and his organisation. The magnitude of the achievement which the *Atlas* represents for Ireland—in the Republic, primarily a personal achievement of David's—has yet to be fully appreciated. In Britain, it is not always realised that Irish ornithology as it is today owes its essence to two men: Major R. F. Ruttledge and David Scott.

Because David never says anything that he has not thoroughly thought out in advance and because of his insistence on total efficiency, he has been primarily an administrator in the IWC. This, combined with his hatred of personal publicity (he shuns conferences and refused the award of a high honour for his ornithological work), has meant that his contributions to the IWC have been concealed from view as effectively as his other aims have been carried out. He has worked harder and more accurately than anyone he has persuaded to help: nobody knows how much work he has done for the IWC over the last eight years. How fortunate we are that David, at the age of 52, took up ornithology seriously in 1961.

Like all good fieldmen, he is never happier than when tramping the country, preferably the heather and gorse clad hills frequented by his harriers, and exploring new areas. But his lasting contributions to Irish—and European—ornithology have been generated with his friends and colleagues round a map-littered table in his home: David's eyes sparkle as he leaps with infectious energy to consult a reference. He leads by example, as all the best leaders do. If his perfectionism ever allows him to publish his work on Hen Harriers, it will be worth reading.

JOHN TEMPLE LANG

Mystery photographs

2 Willow Tit *Parus montanus*, Norfolk, May 1976. The photograph (plate 7, page 34) was clearly of either a Willow or a Marsh Tit *P. palustris*, but this pair of sibling species presents the identification problem most frequently confronting British ornithologists. Unlike Reed *Acrocephalus scirpaceus* and Marsh Warblers *A. palustris* (another such pair of problem birds), Willow and Marsh Tits are almost equally likely to be seen in Britain (the *Atlas* suggested a ratio of about 7 : 10), and both are common throughout most of England and Wales. Given a good view in good light, however, the Willow Tit shows a dull crown, a pale wing panel formed by pale edgings to the secondaries, a relatively large bib, and buff flanks, whereas the Marsh Tit has a glossy, sleeker crown, no pale wing panel (or only a trace), a smaller, neater bib, and flanks not differing in tone from the belly. The first three of these differences were shown clearly in the mystery photograph. Willow Tits also often look big-headed and bull-

11. Mystery photograph 3 (*Dennis Green*). What is this species? Answer next month.



necked, due to greater areas of black on the crown and white on the cheeks, and looser texture of feathers, compared with sleeker Marsh Tits. Many views, however, involve glimpses of individuals moving through bushes or the lower canopy in a wood, perhaps with other tits, and often showing as mere silhouettes. At such times, calls are more important than plumage characters. Like other tits, both species have a variety of calls, but some are diagnostic: the distinctive, loud 'pitchou' and scolding 'chicka dee dee dee' of Marsh Tits, and the buzzing, nasal 'eez cez eez' of Willows. The vocabularies of both species include a similar, nasal call ('tchair' or 'chay'), often uttered in series, but preceded by differing calls: 'pitchou tchair tchair tchair' (Marsh) and 'chik chay chay chay' or 'zi-zi chay chay chay' (Willow). Willow Tits almost invariably excavate their own nest holes in rotten timber, but Marsh Tits usually occupy natural holes, though may enlarge the entrances and sometimes take over holes recently excavated by Willow Tits. To add to the confusion, juveniles of the two species are virtually indistinguishable in the field; cautious observers will never claim 100% success in identifying these two species. JTRS

Notes

Early nesting by Great Crested Grebes On 10th April 1975, at Yateley gravel pits, Hampshire, I observed for some 20 minutes, at ranges of 20-100 m, a pair of Great Crested Grebes *Podiceps cristatus* with four large young. Although the latter were still being fed by the adults, they were also regularly diving independently. According to Paul G eroulet (1965, *Water Birds with Webbed Feet*), young Great Crested Grebes do not dive until at least six weeks of age, an estimate which, taking into account their large size, seemed not unreasonable in this instance. Allowing for this age estimate and a 28-day incubation period, the eggs must have been laid no later than the last week of January, much earlier than the date given in *The Handbook* ('exceptionally . . . March'). Dr K. E. L. Simmons (in D. A. Bannerman, 1959, *The Birds of the British Isles*, vol. 8) gave an example of a pair raising three young from a clutch laid 'in the first half of February', and Dr Bruce Campbell and James Ferguson-Lees (1972, *A Field Guide to Birds' Nests*) stated 'few from second quarter Feb.' My observation clearly related to a remarkably early clutch, possibly a result of the mild conditions during the winter of 1974/75.



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Great Crested Grebes retaining nuptial plumes throughout the year From the beginning of January 1974, at Corsham Lake, Wiltshire, I kept a regular watch on a pair of Great Crested Grebes *Podiceps cristatus*, both birds of which had full nuptial plumes. They started nest-building in early March and were incubating soon after. There were two chicks on 9th April, which were reared successfully. During this whole period, the pair kept mostly to its own territory although involved in numerous territorial disputes with two other pairs which had taken up territories on the lake during February-March. At the end of July, the original pair began nest-building again, though incubation of the second-brood clutch did not start until towards the end of August. One chick hatched on 22nd September and was still present on 7th October, but had disappeared by 8th. At this time, the only other pair remaining on the lake was in winter plumage, but the adults of the study pair retained their nuptial plumes throughout November and December, though by the end of the latter month the tippets of one of the birds were looking slightly worn. At the beginning of January 1975, the grebes were again seen carrying nest-material and, although I did not locate the nest until 2nd February, the female was carrying a chick on her back by 13th February.

In February 1975, the adults' plumes were in obviously better condition than at the end of 1974, though I had not been aware that they had been moulted at any time. Though retention of the head-plumes throughout the year is well-established for the Ethiopian race *P. c. infuscatus*, it has apparently not been previously recorded for the Palearctic race, and certainly not in Britain and Ireland. The fairly late breeding in 1974 and early breeding in 1975, plus the mild winter, may have been governing factors.

JULIAN C. ROLLS

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As noted by Julian C. Rolls, the retention of the nuptial head-plumes throughout the year by Great Crested Grebes *Podiceps cristatus* of the nominate race is most unusual, though reported for some other races, including *P. c. infuscatus* of Ethiopian Africa. In my paper on the reproductive biology of the Great Crested Grebe (*Brit. Birds* 67: 413-437), I suggested that such retention may be correlated with non-seasonal, opportunistic breeding in more stable environmental conditions than those usually found in Britain and much of central and northern Eurasia—conditions which permit permanent pair-bonds and territory occupation. With a succession of mild winters, such conditions have lately prevailed in Britain. It is perhaps not surprising, therefore, that some Great Crested Grebes occasionally retain their nuptial plumes instead of assuming normal winter plumage, especially as the duration that the latter plumage is worn has become increasingly short in recent decades. The interesting point is that the moult of the nuptial plumes appears to be under the direct control of reproductive hormones rather than being genetically determined as one might have supposed. Incidentally, retention of the nuptial plumes does not imply that there is no moult of such plumes; instead of being shed and

replaced by the usual winter plumage in the post-breeding moult, they are shed and replaced gradually and inconspicuously in a single moult, in the same way as many other species with no distinctive winter (non-breeding) plumage.

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Melanistic Grey Heron During August and September 1967, unusually large assemblies of Grey Herons *Ardea cinerea* could be seen daily in one particular field at Sandwich Bay, Kent. They consisted of birds roosting after feeding on an exceptional localised supply of easily obtained food in nearby ditches, due to damming operations, as described by D. M. Batehelor (*Sandwich Bay Bird Obs. Rep.* 1967: 12). Since Bryan L. Sage, in his review of albinism and melanism in wild birds in Britain and Ireland (*Brit. Birds* 55: 201-225), knew of no instance of melanism in the Grey Heron, it is of interest to record a striking melanistic individual which first appeared in the Sandwich Bay flock on 29th August and stayed for about a week. Unfortunately, a full comparative description was never taken on the spot, but on 2nd September (when the flock size reached its maximum of 50) I was able to observe the bird in a satisfactory grey light at a distance of about 150 m, and make some notes shortly afterwards.

In its stance and behaviour, it was entirely like the normal birds, which showed no animosity towards it, and in general it suggested a Grey Heron that had been totally immersed in a dark brown, oily fluid. In the patterning of the neck, however, it varied somewhat from the others, the crown and back of the neck being a darker brown than the chin and foreneck, which were a dark ochre with a faint reddish tinge. The light/dark flight-pattern varied from a brownish-ochre tinge on the normally light area to a very dark tarry-brown on the primaries and broad trailing edges of the wings. The soft parts were almost normal, the bill being off-white and the legs brownish.

In view of the bird's brown coloration, the possibility was considered that it was a cross between a Grey Heron and a Purple Heron *A. purpurea*. The brown colour, however, extended over the whole bird, and the 'jizz' was that of a Grey Heron. A hybrid Purple \times Grey Heron in the Camargue has been described and illustrated by Drs J. G. and P. F. Harrison (*Bull. Brit. Orn. Cl.* 88: 1-4): this bird, possibly the only observed wild example, was predominantly grey and showed a distinctive intermediate head and neck pattern.

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Bryan L. Sage has commented: 'This is the first well documented record of melanism in this species that I have encountered.' Eds

Unusual feeding behaviour of Hobby On 27th June 1975, I watched a Hobby *Falco subbuteo* feeding over newly mown hayfields at Portland Bill, Dorset. During the period of observation, about 12 minutes, it repeatedly hovered over the fields at a height of about 20 m and dived down on to the grass, where it appeared to eat some small prey, probably insects. When

hovering, it did not rapidly fan its wings like a Kestrel *F. tinnunculus*, but hung in the light breeze with wings slightly folded and tail almost fanned. It would remain over one spot for a few moments, then move on several metres, presumably until it saw suitable prey, whereupon it would dive down into the field and then lower its head to touch its feet. I assumed that it was eating the prey on the ground. There were a number of Swallows *Hirundo rustica* in the area, which mobbed the Hobby at times, and also several Linnets *Acanthis cannabina* and Greenfinches *Carduelis chloris* along a nearby hedgerow, but at no time did it show any interest in them.

The Handbook states that Hobbies will sometimes hover for a few seconds, and also mentions Orthoptera (grasshoppers, etc.) under food for this species. I have seen Hobbies on migration on a number of occasions, but have never previously noticed this method of feeding.

IAIN S. ROBERTSON

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This behaviour was not noted by Leslie Brown and Dean Amadon (1968, *Eagles, Hawks and Falcons of the World*), nor by J. Walpole-Bond (1938, *A History of Sussex Birds*), who studied this species and devoted 1½ pages of his seven-page text on the Hobby to feeding techniques. EDS

Behaviour of Black Grouse on elevated perches In November 1973, on Islay, Strathelyde, together with G. J. Jackson and P. R. C. Marriott, we observed a male and a female Black Grouse *Lyrurus tetrix* perched close to one another on a telegraph wire at least 6 m above the ground. They were facing in the same direction and, perhaps to maintain their balance, were rhythmically bowing backwards and forwards. The performance lasted about three minutes, during which both birds kept up a quiet but continuous guttural cooing on an even pitch. They then flew to another high perch, the roof of a nearby house. In the vicinity were many other Black Grouse, mostly picking up edible items from the corn stooks or surrounding grassland. *The Handbook* mentions that Black Grouse will call when perched in trees, but the types of perches used by the Islay birds appear not previously to have been recorded. Desmond Nethersole-Thompson has informed BK (*in litt.*) that it is unusual for Black Grouse to display sexually in autumn, though the cocks return to the leks for a spell of aggressive display then.

BERNARD KING and M. PEGGY VISICK
Gull Cry, 9 Park Road, Newlyn, Penzance, Cornwall

Dispersion among feeding Ruffs On 3rd October 1967, I observed a flock of Ruffs *Philomachus pugnax* feeding at the sewage works near Lund, Sweden. They were feeding from a narrow concrete wall that rose a few centimetres out of the surrounding water, picking prey off the surface and sometimes from the wall itself. The most striking feature was the regularity with which the Ruffs were distributed, the birds keeping 1-3 m apart. Observation soon revealed that they both avoided each other and actively

kept individual distances through threat, as shown in fig. 1 and also depicted by von Frisch (1955) and Hogan-Warburg (1966). There were also occasional brief clashes, during which they fluttered into the air, face to face, after which one fled or both departed in opposite directions. Most threats were between individuals of similar size; the pronounced size dimorphism seemed to enable some males to maintain their individual distances without obvious signs of aggression. Each individual patrolled a certain length of the wall while foraging, and turned when it approached that of its neighbours. The Ruffs were, however, not defending fixed territories as described for the Pectoral Sandpiper *Calidris melanotos* (Hamilton 1959), because there were shifts in position along the wall from time to time. One area was clearly preferred, probably because food was most plentiful there. They were feeding on non-biting midges (Chironomidae), which were emerging in great numbers, by taking the pupae as they approached the surface or the imagines before they were able to fly off.

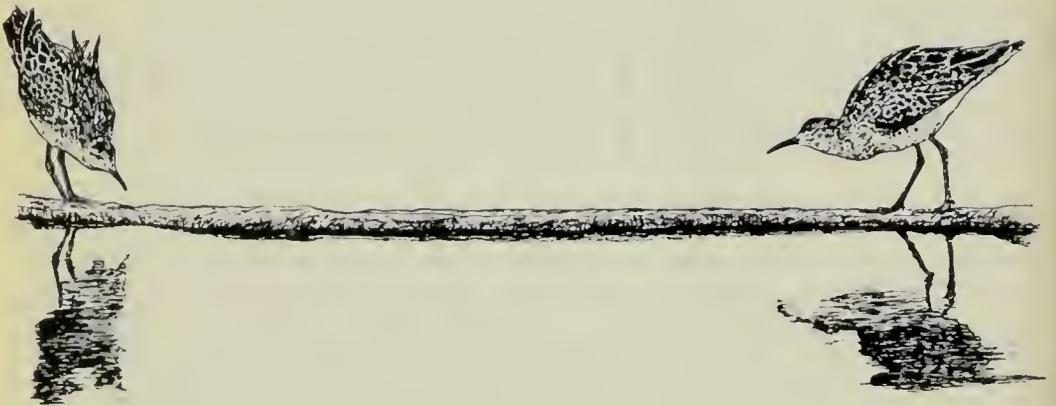


Fig. 1. Ruffs *Philomachus pugnax* mildly threatening each other while feeding on emerging midges (Chironomidae). Drawn from a photograph

This feeding dispersion of the Ruffs contrasts strongly with that normally found on muddy shores and in fields. Several observations of mine on Ruffs feeding in fields in autumn have shown that they allow each other to approach closely, and bodily contact may even occur without any sign of aggression. Two or three may walk calmly side by side while probing into the soil for earthworms (Lumbricidae). Thus, their dispersion is random or slightly clumped, rather than even.

It is, of course, well known that some birds may switch from one type of feeding dispersion to another. Gulls *Larus*, for instance, may work their way across a grassy field in a fairly dense, sickle-shaped flock, without obvious interactions, or they may disperse widely over a wet, harrowed field. They may also defend mobile territories when engaged in piracy on Lapwings *Vanellus vanellus* or Golden Plovers *Pluvialis apricaria* (Källander in press).

Various authors have made generalisations concerning correspondence between the dispersion of birds and of their food (e.g. Crook 1965, Lack

1968, Orians 1971). As convincingly shown by Goss-Custard (1970), any model of feeding dispersion must take the feeding method into account. He argued that birds detecting prey by sight are more susceptible to intraspecific interference in feeding than are those that detect their prey by touch. He also suggested that birds hunting by sight usually disperse themselves in a way that minimises interference, a prediction that was fully supported by his observations on feeding Redshanks *Tringa totanus* (Goss-Custard 1976). Redshanks feeding by sight, and taking mainly the amphipod crustacean *Corophium volutator*, occurred on small feeding territories or in loose groups, whereas those feeding by touch, predominantly on the ragworm *Nereis diversicolor* and the laver spire snail *Hydrobia ulvae*, fed in compact flocks. These observations agree with those presented here on the feeding dispersion of Ruffs, the birds keeping individual distances when feeding on midges, which were located by sight and picked up singly, but showing a random or clumped distribution when feeding on earthworms, located by touch through probing. Possibly, the simultaneous aiming for the same prey item would have reduced feeding efficiency during sight-feeding, had the Ruffs not maintained individual distances.

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The use by seabirds of human fishing activities In 1959, I spent four days on board a fishing vessel off the northwest coast of Scotland. My records of the feeding activities of the many attendant seabirds were summarised in a short paper (*Brit. Birds* 53: 212-215). As a sequel, this note records observations that I made from a two-man fishing vessel off the coast of Iceland on 25th June 1974. We were at sea for 14 hours, from 07.00 to 21.00 GMT. We sailed from Höfn on the southeast coast and were fishing from about 10.00 to 19.00, southeast of Ingólfshöfði, at approximately 63°40'N, 16°00'W.

Gutting operations did not start until about 17.00, but, from the time the vessel first hove to and brought the first of the catch aboard at 10.15,



12, 13 and 14. Great Skuas *Stercorarius skua* and Fulmars *Fulmarus glacialis* feeding on offal thrown overboard from fishing vessel off southeast Iceland, June 1974 (Jeffery Boswall)

here were birds waiting for the offal. For example, a count made at 10.30 showed 140 Fulmars *Fulmarus glacialis*, 15 Great Skuas *Stercorarius skua*, two Great Black-backed Gulls *Larus marinus* and one Lesser Black-backed Gull *L. fuscus*. Two other vessels seen briefly in the vicinity were similarly attended. At about 17.00, when the gut was first thrown overboard (by hand), birds came to within 2 m of the boat. Great Skuas, with their larger size and greater manoeuvrability, in particular their ability to take off and reach the food more quickly, seemed at an advantage over the Fulmars (see plates 12-14). The gulls took some food, and one Arctic Skua *A. parasiticus* flew off with some entrails. There seems to be no previously published record of an Arctic Skua attending a fishing vessel.

Although ornithologists have stayed on light-vessels and weather ships, and have published many notes on seabird behaviour made from these and from merchant and naval ships, very few appear to have been to sea with fishing vessels. The only other published observations of the use made by seabirds of the fishing activities in British or Irish waters that I have traced are those of H. L. and S. H. Saxby (1874, *The Birds of Shetland*), R. M. Lockley and S. Marchant (*Brit. Birds* 44: 373-383, plates 61-64) and J. P. Hillis (*Irish Nat. J.* 17: 129-132). This behaviour also seems to have been rarely photographed in the northern hemisphere, pictures of the exploitation by birds of antarctic whaling being much more familiar.

JEFFERY BOSWALL

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Alarms', 'dreads' and 'panics' at terneries It is a well-known phenomenon for an entire colony of terns *Sterna* suddenly and for no accountable reason to take flight in alarm with much noise and then, after a short period, to return to normal. Apart from possible disturbance by man or other animals, the behaviour is still in many ways a mystery. While wardening the colony of Common Terns *S. hirundo* at Chesil Beach, Abbotsbury, Dorset, during 1948-50, I found two possible explanations for behaviour which might in the past have been attributed to 'dreads' or 'panics'. On the occasions concerned, I was always sufficiently near the colony to be able to detect the presence or absence of predators.

Brown hares *Lepus capensis* bred regularly on Chesil Beach. Although I never saw them disturb the nests or eggs of the terns, whenever one hopped leisurely through the colony the terns left the ground in alarm and panic. Since the hares were well camouflaged and partly hidden by prostrate plants, they would have been extremely difficult to detect from a distance.

The second explanation was of a more subtle nature. During hot, sultry weather, especially in the afternoon when the heat had built up on Chesil Beach, sometimes and quite suddenly a curious, whining noise could be heard coming in from the sea. This was always accompanied by a gust of wind, which came in over the beach, passed inland and disappeared as

quickly as it had arrived. It lasted no longer than 15 seconds. A veritable hullabaloo followed these 'freak' winds and all the terns left the area for a while, before returning in small groups.

In October 1974 and May 1975 I visited the Meteorological Department of the Royal Naval Air Station, Portland, Dorset, in order to obtain information on these winds. I wish to express my sincere thanks to the Senior Meteorological Officer and his forecasting team for their help in drafting the following explanation. It is well known that if a thermal is released from the earth's surface it must be compensated by an inflow of air from all sides, which causes a temporary increase of surface wind towards the point of release of the thermal. Chesil Beach is possibly an ideal feature for the build-up of heat required for the formation of thermals, and each time that one is formed the surface wind will increase considerably for a very short period.

BERNARD KING

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Letters

Photographic quality and usefulness While browsing through a dozen recent volumes of the Swedish journal *Vår Fågelvärld*, I was impressed by the high proportion of photographs depicting birds in flight, even though not all of them were of very good quality. This led me to ponder whether the editorial policy of *British Birds* is too strict on occasions, demanding that only photographs of the highest quality be included. Even a 'bad' picture is worth more than quite a lot of words.

May I suggest that, in future, relevance, scientific importance, interest and originality be given equal weight to the other important criteria of form, exposure, composition and technical excellence? Photographic quality is clearly of supreme importance in cases such as 'The best recent work by British bird-photographers', but may we please have less severe restrictions when 'interesting'—ornithologically significant—photographs are available?

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The new format of *British Birds* allows us greater freedom in placing photographs within the text. We intend to take advantage of this by publishing a wider variety of illustrations, including some which might have been out of place in a formal photographic section. Eds

Recent European records of Sora Rail In my paper on the immature Sora Rail *Porzana carolina* on St Agnes, Isles of Scilly, in October 1973 (*Brit. Birds* 69: 443), I stated that it was the first record in Europe since 1920. I am indebted to H. O. Bunce and P. J. Sellar for pointing out that it was in fact the second. The first was a presumed adult calling in a marsh in southern Sweden from 14th to 17th June 1966. It was never seen by its finders, A. Gustafsson and L. Fritzson, but recordings of its calls were made

and the identification was confirmed by American and Canadian experts, following a complete analysis of sonagrams and level diagrams (*Vår Fågelv.* 26: 348-358). I apologise for the inaccuracy of my earlier comment.

D. I. M. WALLACE

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Identification of European treecreepers In their most interesting and justifiably disturbing paper on treecreepers *Certhia* (*Brit. Birds* 69: 117-131), C. J. Mead and D. I. M. Wallace wrote: 'No differences in the shape, actions and general behaviour of *brachydactyla* and *familiaris* are known . . .'

On 18th April 1955, I was one of a party from the British Trust for Ornithology visiting the beech area of Hulshorst Forest in the Netherlands. Our hosts showed us a Short-toed Treecreeper *C. brachydactyla*. I noted that it 'perched very upright and threw head up with bill open, uttering song phrase; also tapped lightly horizontally on branch', and I made a field sketch, from which D. I. M. Wallace has drawn fig 1.

I assumed that this was a normal singing posture of the Short-toed Treecreeper. So when, on 20th April 1962, at Montfaucon, Haute Loire, France, I saw a treecreeper sitting at the top of a conifer singing 'with head vertical and bill well open', I put it down as a Short-toed, despite the conifers, which are usually considered to be typical of the habitat of the Treecreeper *C. familiaris* on the Continent.

In years of watching treecreepers in Britain, admittedly not intensively, I cannot recall ever seeing one sing in this attitude; my observations agree with B. W. Tucker's laconic 'delivered while climbing, occasionally on wing' in *The Handbook*. I do not want to read undue significance into these two instances, but only to suggest that perhaps there may be behavioural differences between the two species, which deserve attention.

My only comment on the call is that a bird seen and heard on 7th August 1970, on Sark, in the Channel Islands, where the resident treecreepers are all Short-toed, uttered 'a sharp triple call' quite distinct from that used by British birds.

BRUCE CAMPBELL

West End Barn, Wootton, Woodstock, Oxfordshire OX7 1DL



Fig. 1. Short-toed Treecreeper *Certhia brachydactyla* singing in upright position

Age determination of autumn Tawny Pipits I noted with interest that, of three Tawny Pipits *Anthus campestris* seen on St Mary's, Isles of Scilly, last autumn, one was aged as an immature, one was aged as an adult and one was stated to be 'perhaps another adult' (*Brit. Birds* 69: 352).

As ringers will be aware, the ageing of pipits in autumn is notoriously difficult and, though immatures that have not completed their moult are always recognisable, the separation of adults from immatures after the completion of their respective moults hinges on a very subjective appraisal of whether the rectrices and remiges are unworn or very slightly worn.

Adults have a complete moult of body feathers, wing and tail feathers at the end of the breeding season. Witherby *et al.* (1940) gave the moulting period as August to November, but a more recent study suggested that the normal period is between late July and September (Stresemann and Stresemann 1968), though a few individuals have been recorded in suspended wing moult. On completion of body moult, which in many passerines ends before the completion of wing moult, the adult Tawny Pipit attains its winter plumage, which is a buffer cream than the summer plumage. Adult and first-winter birds both attain their paler summer plumage through a partial moult, involving body feathers during March and April (Witherby *et al.* 1940).

First-year Tawny Pipits are readily recognisable on leaving the nest, by the distinct spotting or streaking on the upper breast, but this is lost during their post-juvenile moult, which includes the body feathers, but not the wings or tail (Svensson 1975). On completion of this body moult, the first-year birds attain adult-type winter plumage and are then indistinguishable from adults (Grant 1972). Svensson stated that the post-juvenile moult is rather irregular in timing and, until late September or October, immatures can still be recognised by the prominent spotting on the breast.

Some immatures, however, will have attained 'adult-type' plumage before this time: personal observation suggests that, by mid-September, this is true for the majority of the Camargue population. Any Tawny Pipit in adult-type plumage after the end of August should perhaps be more correctly designated as 'full-grown'.

N. RIDDIFORD

Dungeness Bird Observatory, Romney Marsh, Kent

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House Sparrows feeding at suspended feeders I was interested in the comments made by Dr J. T. R. Sharrock concerning House Sparrows *Passer domesticus* acquiring a new feeding technique (*Brit. Birds* 67: 356). In the winter of 1973/74, I first observed House Sparrows successfully feeding at various types of suspended feeders in my garden in Barienrode, Lower Saxony, West Germany. In previous winters, from 1966/67 to 1972/73, I had frequently seen the species making unsuccessful attempts to feed on rings and mesh bags. Although some individuals had learned to

hover next to the feeders and pick peanuts and sunflower seeds from them, none succeeded in staying on the feeder long enough to take food.

After reading Dr Sharrock's note, I asked members of the Ornithologische Verein zu Hildesheim whether they had observed similar feeding habits by House Sparrows and, if so, when the birds first acquired the technique. Some reported that they had noted it as long ago as the late 1950s, while others had not observed it at all. Reiner Feldmann reported (*Orn. Mitt.* 19: 177-178) that House Sparrows had been able to feed from suspended feeders of all types 'for years'. In the Barienrode area, although this ability is widespread, it is by no means universal. This is shown, first, by the fact that, although nearly 20 years have passed since this feeding technique was acquired by House Sparrows in the area, those in my garden did not adopt it until the winter of 1973/74 and, secondly, by the differing reports of local observers.

The following questions arise. How did House Sparrows first acquire this technique? How and when did it spread to Britain? Where was it originally acquired? Why is it that, although the habit is geographically widespread, there are, within quite small areas, places where House Sparrows seem unable to feed from suspended feeders? ALISTAIR HILL
3201 Barienrode, Ahornweg 10, West Germany

Announcements

(Overseas subscriptions to 'British Birds')

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The best recent work by British bird-photographers

The 18th annual selection in this series will appear in a future issue of this volume. The closing date for entries is 1st March (not 31st January as stated in *Brit. Birds* 69: 218). As usual, we ask all photographers to put on each print his or her name and address and, in addition to the species, the county (or country if taken abroad) and the month and year. It is also of interest to note the make and size of camera, make and focal length of lens, type of film material, exposure, and approximate distance from the subject. Black-and-white prints submitted for 'The Bird Photograph of the Year' competition will automatically be considered and need not be resubmitted.

News and comment

M. J. Everett

Tylers released We were delighted to hear that Lindsay and Stephanie Tyler and their children, Robert and Sarah, were all released safely and unharmed in the Sudan on 6th January, after being held for almost eight months by guerrillas (*Brit. Birds* 69: 416).

'The Midland Birdwatcher' New bird magazines and journals are something of a rarity these days, so it is pleasing to welcome *The Midland Birdwatcher*, edited by Alan Richards and published by Aquila Photographics. The area covered, rather roughly interpreted as the Midlands, is Cheshire, Derbyshire, Nottinghamshire, Shropshire, Staffordshire, West Midlands, Leicestershire, Hereford and Worcester, Warwickshire, Northamptonshire, Gloucestershire, Oxfordshire and Buckinghamshire: it seems that the magazine's contents will deal mainly with this large region and activities within it.

Campbell Island Teal rediscovered The rediscovery of birds believed to be extinct seems to be a speciality of ornithologists from 'down under'. According to a letter which came to me recently from New Zealand, the latest is the Campbell Island Teal *Anas aucklandica nesiotis*, a subspecies whose nominate race is the Auckland Island Teal or Flightless Duck *A. a. aucklandica*. The find was made during 1976 by the New Zealand Wildlife Service. Campbell Island lies 600 km south of New Zealand and its race of this flightless teal was recognised as distinct only as recently as 1935: none had been seen since two were collected in 1944 and, despite an unconfirmed 1958 record, the bird was thought to have vanished.

New Scottish reserve The Scottish Wildlife Trust has acquired an important new reserve at St Abb's Head, Berwickshire, covering over 3 km of coastal cliffs,

the higher sections of which hold impressive numbers of breeding birds—5,000 Kittiwakes, 10,000 Guillemots and 500 Razorbills, as well as Shags, Fulmars and Eiders. The reserve also includes 97 ha of grassland inland from the cliffs and, quite apart from its bird interest, is important for its flora and archaeological sites. There is access for visitors. Details of this and of the Trust's many other valuable sites may be obtained from the Scottish Wildlife Trust, 8 Dublin Street, Edinburgh EH1 3PP.

'Seafarer' data Aberdeen University Science Library has agreed that the set of summarised data from 'Operation Seafarer' deposited there will now be available through the University Libraries Loan System—with the important exception of the data on terns, which may be consulted only with permission from an officer of the Seabird Group.

'Birds of the Western Isles' One of the long-standing moans that I remember from my years in Edinburgh was the difficulty of getting observers visiting Scotland to send their records to the appropriate recorders, or to contribute to various Scottish enquiries—so I make no excuse for drawing attention to the following. W. A. J. Cunningham (Aros, 10 Barony Square, Stornoway, Isle of Lewis PA87 2TQ) is compiling a book on the *Birds of the Western Isles* and would welcome any unpublished records. St Kilda is excluded, incidentally, since it is already the subject of a separate enquiry (see *Brit. Birds* 69: 517).

Address for contributions Until Peter Conder's return from his trip to Pakistan (*Brit. Birds* 70: 42-43) in April, contributions for this feature should be sent to **M. J. Everett, 3 Gunnings Way, Hemmingford Grey, Huntingdon PE18 9EE.**

Opinions expressed in this feature are not necessarily those of the editors of British Birds

Request

Corpses of Nuthatches and Treecreepers As part of a short-term study of Nuthatches *Sitta europaea* and Treecreepers *Certhia familiaris*, recently dead specimens are needed for gut content analysis. Any found dead should be sent, with details of date and locality, to G. P. May, Department of Zoology, University College of North Wales, Bangor, Gwynedd.

Recent reports

K. Allsopp

These are largely unchecked reports, not authenticated records

This report covers November and, except where otherwise stated, all dates refer to that month.

Winter thrushes

During most Novembers, the east coast is alive with **Fieldfares** *Turdus pilaris* and **Redwings** *T. iliacus*, demolishing the huckthorn berries: not so in 1976. A few small flocks arrived in October, but no massive invasion has occurred subsequently. Redwings were heard flying over at night across the country, perhaps towards the southwest, where the only substantial arrival reported was 10,000 on Sunday (Devon) on 31st October. The predominantly easterly air flow at the end of that month was replaced by a strong westerly flow on 1st, inhibiting any further arrivals. The weather throughout November was generally cold, wet and windy, with substantial cloud cover and very few days when small birds might have been induced to migrate. These conditions extended over much of western Europe, where temperatures were generally not low enough to cause hard-weather movements.

Late migrants

Several late summer visitors and passage migrants were reported: a **Yellow Wagtail** *Motacilla flava* at Sandwich Bay (Kent) on 1st, a dead **Wryneck** *Jynx torquilla* at Morphins (Grampian) on 4th, a **Swift** *Hirundo rustica* at Keele (Staffordshire) on 5th, a **Cuckoo** *Cuculus canorus* at Attenborough (Nottinghamshire), a **Pied Flycatcher**

Picedula hypoleuca at the Don (Grampian) and a **Red-backed Shrike** *Lanius collurio* at Newburgh (Grampian) on 7th, a **Redstart** *Phoenicurus phoenicurus* at Sandwich Bay on 9th, a **Garden Warbler** *Sylvia borin* at Sandwich Bay on 15th and, finally, a **Swallow** *Hirundo rustica* at Gibraltar Point (Lincolnshire) and a **Whinchat** *Saxicola rubetra* at Thatcham Marsh (Berkshire) on 27th. The **Wryneck**, **Whinchat**, **Pied Flycatcher** and **Red-backed Shrike** were the most unusual, and would have qualified for inclusion in the 15 latest records listed for each species by Robert Hudson (1973, *Early and Late Dates for Summer Migrants*).

Resident warblers

Now that **Cetti's Warbler** *Cettia cetti* is an established breeding bird in the south of Britain, post-breeding dispersal records are expected of this mainly sedentary species. Individuals were located at Minsmere (Suffolk) on 7th, Porthgwarra (Cornwall) on 13th and Bridgwater Bay (Somerset) on 23rd. Our other wintering warbler, the **Dartford** *Sylvia undata*, might also be expected to wander, after the extensive destruction of its habitat by heath fires last summer. One was reported near Maidenhead (Berkshire) from 14th, associating closely with a Stonechat *Saxicola torquata*.

Rarities

After the easterly blow at the end of October, a party of five **Cranes** *Grus grus* was reported near North Berwick (Lothian) on 1st, following four at Thurso/Loch



Calder (Caithness) on 24th October and two at Holkham (Norfolk) on 29th October. This constitutes the largest autumn influx for some years. A **Glossy Ibis** *Plegadis falcinellus* was seen at Faversham (Kent) on 1st, following one at Marazion Marsh and the Hayle Estuary (both Cornwall) from 26th October until 3rd. Other reports included a **Little Crake** *Porzana parva* at Attenborough on 6th, a **Blyth's Reed Warbler** *Acrocephalus dumetorum* at Huttoft Pits (Lincolnshire) on 3rd, a **Red-breasted Flycatcher** *Ficedula parva* at Walton-on-the-Naze (Essex) on 13th and a **Tawny Pipit** *Anthus campestris* at Bough Beech Reservoir (Kent) on 4th. The final 'twitchers' conference' of the autumn, 200 strong, was held at Pennington Marsh (Hampshire) on 7th, but the guest of honour, a **Yellow-billed Cuckoo** *Coccyzus americanus*, which had given a fine performance on the previous day, was not in evidence.

Geese and swans in the northwest

The size and speed of flight of these birds makes them less vulnerable to the vagaries of the weather than smaller birds, so their arrivals are usually more or less on time. The Lancashire fens have become one of their more important wintering areas and this year the **Pink-footed Geese** *Anser brachyrhynchus* have been conservatively estimated at 25,000. In this flock, a few vagrants have also been identified: a **Grey-lag Goose** *A. anser*, single individuals of both the Eurasian (*albifrons*) and Greenland (*flavirostris*) races of the **White-fronted Goose** *A. albifrons*, a **Lesser White-fronted Goose** *A. erythropus*, two **Bean**

Geese *A. fabalis*, three **Barnacle Geese** *Branta leucopsis* and a **Canada Goose** *B. canadensis* of one of the small, northern races. Farther north, 43 **Whooper Swans** *Cygnus cygnus* were reported in the Eden Valley (Cumbria) on 18th.

Latest news

The last few days of December 1976 and the first three weeks of January 1977 were rather more eventful than this period is usually. **Bewick's Swans** *C. bewickii* were much in evidence, with over 1,700 on the Ouse Washes (Cambridgeshire/Norfolk), some 500 more than had ever been recorded there before. Three **Lesser-White-fronted Geese**, two immatures and, later, an adult, occurred at Slimbridge (Gloucestershire) and there were more **Bean Geese** than usual in a number of eastern localities. There was quite a saga involving **Ring-necked Ducks** *Aythya collaris* at Chew Valley Lake (Avon). A hybrid, perhaps Ring-necked × Tufted Duck *A. fuligula*, from 19th December was joined on 26th by an immature male Ring-necked and then, from 29th December, by two adult males. There were also three **King-Eiders** *Somateria spectabilis*: at Loeh Ryan (Wigtownshire), Golspic (Sutherland) and in the Firth of Forth. Eastern thrushes stole the thunder, however, with reports of a male **Siberian Thrush** *Turdus sibiricus*, only the second ever (the first was on the Isle of May, Fife, in October 1954), at Alice Holt Forest (Hampshire) on 28th December and a **White's Thrush** *Zoothera dauma* at Pagham Harbour (West Sussex) on 13th January.

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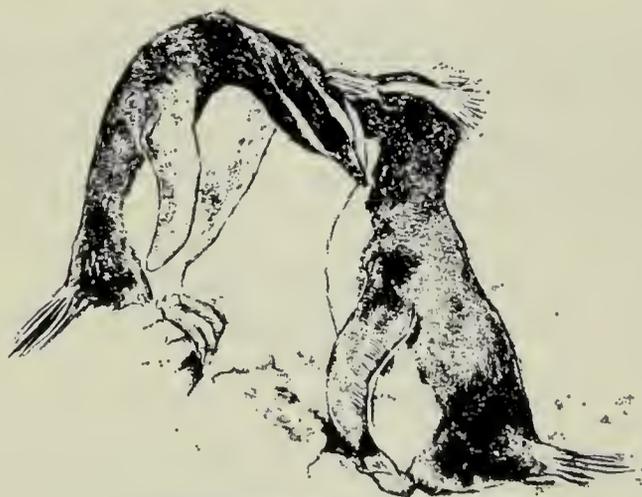
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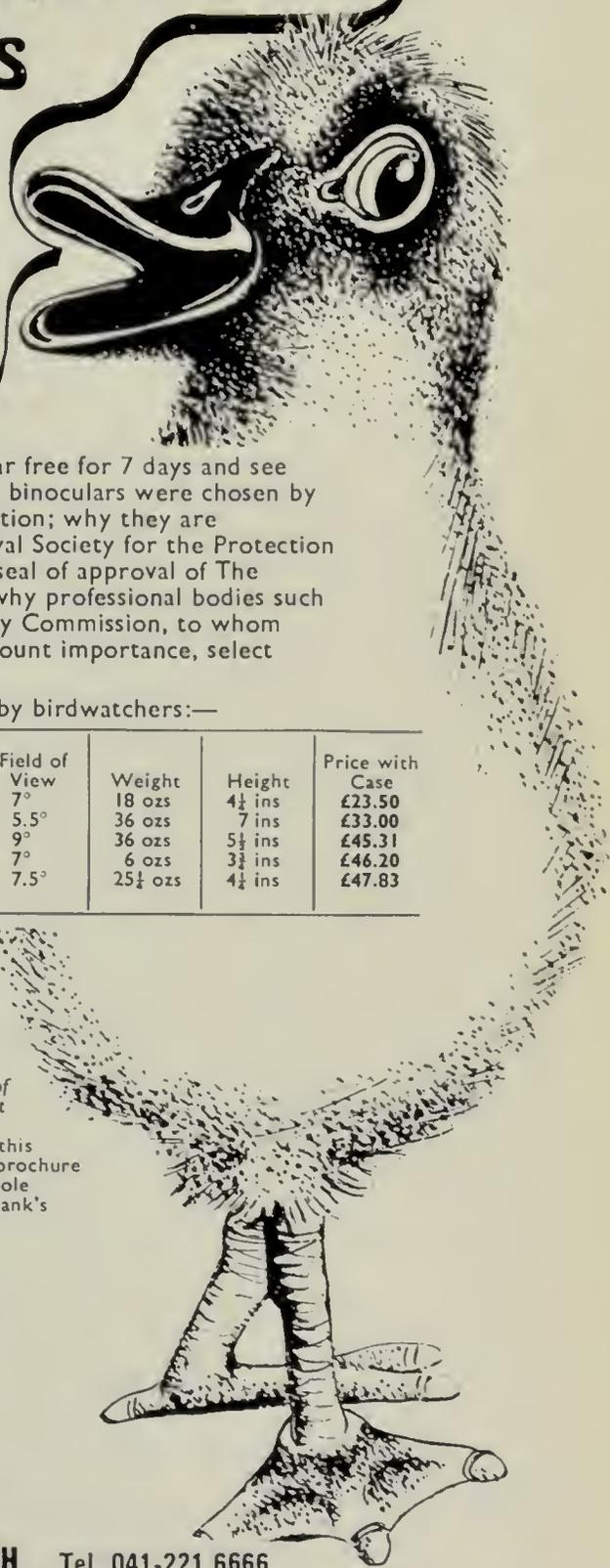
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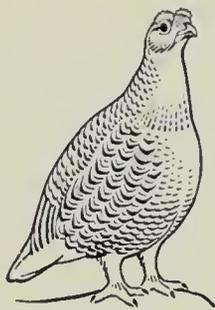
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News and comment

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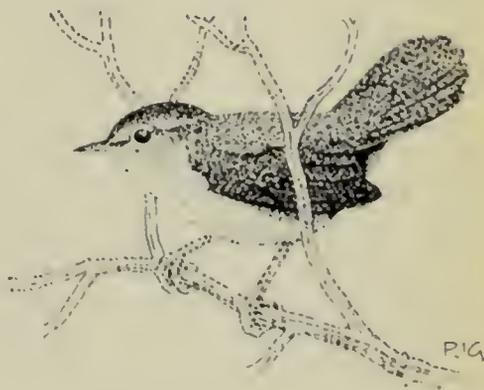
British Birds

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Cetti's Warblers in east Kent in 1975

W. G. Harvey

The colonisation of Britain by Cetti's Warblers has been one of the major events of the decade. There were no records in east Kent until 1971, yet by 1975 this was probably the third commonest warbler in parts of the Stour Valley



The results of a census of Cetti's Warblers *Cettia cetti* in east Kent in summer 1975 are here described in detail. The census confirmed that Cetti's Warblers were still spreading in east Kent and that numbers were building up rapidly, following initial colonisation late in 1971.

Hollyer (1975) documented the history of Cetti's Warblers in the whole of Kent up to 1974, on the basis of records submitted to the Kent Ornithological Society. Additional records were available to Bonham and Robertson (1975), who summarised the situation up to 1975. The following is a more detailed breakdown of the 1971-74 records, which form a background to the 1975 census results:

1971 Up to three singing males, November to December, in the valley of the River Stour, east of Canterbury (first substantiated record for east Kent).

1972 In Stour Valley, breeding strongly suspected at two separate sites (3½ km apart) east of Canterbury, with a third singing male to the east and a fourth to the west of the city for much of the season. Outside the Stour Valley, up to two south of Sandwich in May, October and November were probably on passage.

1973 In Stour Valley, at least eight singing males east of Canterbury and at least one pair bred; up to four singing males west of Canterbury. Outside the Stour Valley, probable passage birds north and south of Sandwich, possibly near Ashford and, in central Kent, near Maidstone.

1974 In Stour Valley, up to 13 singing males east of Canterbury and two in Canterbury; west of Canterbury, only two records, both suggestive of passage. One probable passage bird near Ashford.

Most of these records and, indeed, those in 1975 referred to singing birds, and pairs were not often seen. There is some evidence that females may sing on very rare occasions but, to avoid ambiguity, all singing Cetti's Warblers included in this census are recorded as males. It is particularly hard to prove breeding because of the difficulty of observing Cetti's Warblers in their often impenetrable habitat (usually thick scrub, and often marshy) and the desire of most observers to keep disturbance of a rare breeding species to the absolute minimum. Circumstantial evidence was strong, however, both during 1972-74 and in 1975, that many singing males were paired and holding breeding territories. One effective way of locating pairs is to look for the characteristic aerial display flights, but these are usually to be seen only at the beginning of the breeding cycle. Chases have been observed by several observers on a number of occasions in April and May. The male (distinguished by his slightly larger size) pursues the female, at a distance of up to 1 m, in a rapid, zigzagging flight between 5 and 50 m above the ground for up to 5½ minutes (usually one to two minutes). Both birds follow exactly the same course, around and through thick scrub in the breeding territory. The course is usually roughly circular or oval, but may describe a figure of eight. On some occasions, the male has been heard to make a soft 'twic' note, as well as his more common hard 'chic'. A modified version of the chase, of shorter duration and over a simpler course, has been observed in September and October over *Phragmites* reed-beds where Cetti's Warblers held winter feeding territories.

It seems likely that the first Cetti's Warblers entered east Kent, between Thanet and Deal, in late 1971 and then moved inland, up the Stour Valley, towards Canterbury. Four months later (in April 1972), the first pairs were probably breeding in the Stour Valley and, in the ensuing three years, numbers were augmented by locally bred birds and by new arrivals. By 1974, all singing males which were apparently holding territories were in the Stour Valley, within 8 km of the city centre of Canterbury. Records farther west, and also north and south of Sandwich, almost certainly referred to migrants.

Methods

Between 19th May and 30th August, I travelled widely in east Kent (the area of Ordnance Survey sheet 179). I visited all known and possible Cetti's Warbler sites within 15 km of Canterbury and, by the end, had made 41 visits to places where at least one singing Cetti's Warbler was found. My records were supplemented by those of C. Bignal, M. Davenport, P. J. Grant, J. N. Hollyer and D. B. Rosair, which usually dated from earlier in the season and covered a wider area of east Kent. The results of an independent survey by JNH in 1975, which included a number of records from other observers, were made available later. In view of the dangers of overcounting and the impossibility of checking records after the breeding season, I have incorporated only his personal records, two of which were additional to those gathered by the other five observers. Inclusion of the other records would have raised the final total by a maximum of only five (8%), probably comprising mainly passage birds. The

aims of the census were to discover the minimum number of singing Cetti's Warblers in east Kent, how many were holding territories and paired, and how many were on passage. Records were kept of the position of each site in relation to the Stour Valley, its aspect and, whenever possible, the dominant vegetation and the presence or absence of surface water during all or part of the year. The number of sites in each 1-km square was recorded. All recorders had a considerable local knowledge, both of the area and of the history of Cetti's Warblers within it, so that most sites were known at an early stage of the census, and an estimate of 60 singing males, made in mid May, was very close to the final minimum count determined in August.

Numbers

The final total was a minimum of 61 singing males. In areas of high concentration (in particular, four contiguous squares to the east of Canterbury), much time was spent ensuring that overcounting did not take place, and it is likely that the final count was conservative. Five males were thought to be on passage, as they were heard for only short periods. At least 27 of those singing were paired for at least part of the season and five pairs were proved to breed (two by JNH, one by DBR and two by me).

Cetti's Warblers were recorded in a total of 30 1-km squares in east Kent. Three single squares held eight, six and four singing males, five squares contained three, six had two and the remaining 16 squares each had a single singing male. Obviously, many territories crossed square boundaries, but, in analysing the results, records were placed in the one containing most of the bird's territory. There was very little evidence of wandering by Cetti's Warblers during the summer, but some territories were large, often linear in shape and extending along lake shores, dykes and strips of scrub. Singing Cetti's Warblers make full use of their territories; this, together with their secretive habits between widely spaced songsites, can lead to confusion. Careful watching is needed to elucidate the full extent of a territory, but the song sequences are often highly individual and can help to ensure that overcounting does not occur.

Locations

The main concentration was found in the area where initial colonisation occurred in 1971 and 1972: east of Canterbury in the Stour Valley. A contiguous block of 15 1-km squares contained a total of 43 singing males and at least 21 pairs, of which four were proved to breed. This represented 70% of the east Kent total, and an average density of almost three singing males per 1-km square.

A total of 38 sites (62%) was actually on the floor of the Stour Valley, with a further 13 (21%) along the valley sides. Of these 51 sites, 49 were between Chilham and Grove Ferry, a distance of 19 km. Of the ten outside the Stour Valley, one was south of Sandwich, in the presumed zone of entry from the Continent and close to sites where probable passage birds were recorded in 1972 and 1973. Four were less than 1 km outside

and two were 2 km and one $3\frac{1}{2}$ km outside. These last three were certainly only on passage, as were probably the Stour Valley birds farthest from the centre of concentration (near Minster and Ashford). Of those on the edge of, or outside, the Stour Valley, 15 sites faced south or west and eight faced north.

Thus, although 1975 saw a very large increase in the total number of Cetti's Warblers in east Kent, they followed the pattern of distribution set since 1971, and the Stour Valley remained very much the main area of concentration, with surprisingly few elsewhere. Within 15 km of Canterbury, in the valleys of the Little Stour and the Nailbourne, and the lowlands of the Wantsum Channel, Sarre Penn and between Thanet and Deal, there are many apparently suitable sites which were, however, unoccupied in 1975. Conversely, the attraction of the Stour Valley was such that Cetti's Warblers were found in apparently marginal sites within it: in dry scrub on coal slag, in scrub hawthorn *Crataegus monogyna/laevigata* in a busy village and well within Canterbury city boundaries. It would be interesting to know if the Cetti's Warblers in these marginal sites included new colonists.

Habitats

The favoured habitat of Cetti's Warblers in east Kent was described by Hollyer (1975) and confirmed, with some modifications, by this census. It can be summarised as marshy scrub or willow *Salix carr*, often associated with well-established flooded gravel workings and, to a lesser extent, areas of mining subsidence. I do not agree with Bonham and Robertson (1975) that the last of these are the focus of colonisation: well-established flooded gravel pits are more attractive to Cetti's Warblers in east Kent, perhaps because they support more scrub on land that is not under water all year round. The abundance of this habitat between Chilham and Grove Ferry in the Stour Valley is probably one reason why this area was so quickly and successfully colonised. Cetti's Warblers are, however, catholic in their tastes, as the acceptance of marginal sites in 1975 indicates. Those in 1975 were not always found in optimum habitats; rather, they appeared to prefer to spread into a greater variety of habitats close to the original centres of colonisation.

Most sites are wet for at least part of the year and over parts of their areas, but the presence of surface water all year is not, apparently, an essential component in the habitat. Only 28 sites (46%) were considered to have some permanent water for all of the year. A further 22 sites (36%) had surface water for at least part of the year, but were no more than damp for most of the breeding season. At least 11 sites (18%) were normally completely dry for all of the year. Several gravel pit sites included spits or islands of overburden covered with scrubby vegetation and including only a small area of true marsh or swamp. A territorial male would have to fly over deep and permanent open water to cover his territory, but this open water was not considered to be a part of the territory unless it had vegetation growing in it. Indeed, Cetti's Warblers favoured fairly extensive areas of scrub or willow carr and moved into sites including spits and

islands with limited areas of scrub only when the larger areas were not available or were already occupied. Dampness, however, is a relative term and 1975 was a particularly dry summer. An attempt was made to assess sites in relation to knowledge of them over the previous 18 years, but, obviously, many were in a state of change and external factors altered the amount of visible water. When present, water was usually less than 1 m deep and often full of growing plants. It seemed that the presence of surface water was not an essential element in the habitat, but the nature of the dominant vegetation was. Dry sites included scrub on coal slag up to 15 m above the highest water levels, carr and scrub where the ground had been silted up by gravel washing processes and, in one case, a strip of oak *Quercus* and hawthorn extending from a large block of deciduous woodland and bordering hayfields.

The three dominant plants were bramble *Rubus fruticosus*, found in all sites, common reed *Phragmites australis*, which occurred in 58 sites (95%), and scrub willow, which occurred in 51 sites (83%). Brambles can tolerate ground which is under water for part of the year and common reeds will grow, though more sparsely, on completely dry ground. This combination of dominants, however, does imply that even the wettest sites have some ground which is dry for at least part of the year. Mature trees were present in a number of sites, but probably had little significance to the Cetti's Warblers. Thus, mature willows were found in 17 sites (28%) and mature alder *Alnus glutinosa/incana* and oak in ten sites each (16%). Hawthorn scrub and trees up to 6 m high occurred in 17 sites (28%) and this was usually the main large plant where willow scrub was absent. Blackthorn *Prunus spinosa*, exotic pines *Pinus*, poplars *Populus* and gorse *Ulex* were all recorded in more than one site. Apart from brambles and common reeds, the following plants were common elements in the ground cover: bulrushes *Typha latifolia/angustifolia*, nettles *Urtica dioica/urens*, sedges *Carex*, rushes *Juncus*, willowherbs *Epilobium*, meadowsweet *Filipendula ulmaria* and raspberry *Rubus idaeus*.

The dominant plants recorded have two common features. They tend to be between low and middle level in height and form a dense faecies. They also tend to be among the first plants to colonise new ground and, because of their adaptability, may be deliberately planted by man to cover unsightly areas, such as coal slag heaps and waste ground. As an early stage in the succession, they may be superseded by taller trees as the ground dries out. Fortunately for Cetti's Warblers, not only are human activities in southern England ensuring that there is a constant supply of new ground for these plants to colonise, but also the Cetti's Warblers themselves have proved to be able to adapt to a relatively wide range of growths; so long as scrub exists they appear not to reject areas including tall trees, even when the latter form a closed canopy. This suggests that their acceptance of an area need not be restricted to a limited stage in the succession, but that they can occupy their niche through several stages. Further, they are not unduly disturbed by the presence of human activity (including noise from gravel washing and burning plants and heavy traffic) so long as this activity is not directed towards them.

Breeding

Five pairs were proved to breed in 1975, four of them within the main area east of Canterbury. I recorded two of these myself. The first pair was watched feeding young in a nest in a bramble, close to the edge of a shallow reed-fringed dyke on several dates in early June. The young were being fed on grubs extracted by both parents from a rotten willow branch lying on the ground, by clasping the rotten wood with their large, powerful toes and tugging the grubs out with considerable effort. On some occasions, they attacked the branch in a manner reminiscent of woodpeckers (Picidae). The second pair had young just out of the nest in an area of mixed brambles, reeds and willow scrub in the corner of a flooded gravel pit much frequented by fishermen. The late date of this observation, 12th August, implies a second or even third brood. Although Witherby *et al.* (1940) and, for Portugal, Ferguson-Lees (1964) both mentioned the likelihood of more than one brood being raised, recent literature (e.g. Harrison 1975) has recorded Cetti's Warblers as single-brooded. The only evidence of more than one brood is from the first breeding pair in West Germany, which produced two broods in 1975 (Bonham and Robertson 1975). Although it may be that these new colonists are more prolific than more stable populations, it would be unusual for a small resident passerine, which exhibits territorial behaviour in breeding habitat from at least early March to at least mid August, to be restricted to one brood when it has ample time for at least three. It seems likely that more than one brood is normal. The other three pairs each had young in the nest in June.

Discussion

The 1975 census indicated that Cetti's Warblers were consolidating their position in a very limited area of east Kent and, in order to do so, had moved into apparently marginal habitats in this area. This consolidation followed the pattern of Savi's Warblers *Locustella luscinioides* (Pitt 1967), which recolonised England along the same valley in 1960 and reached a peak (which has not been surpassed to date) in 1965. The Cetti's Warbler, however, has the advantage of being a resident species, and can, therefore, establish territories before migrant warbler species arrive; it has benefited from a remarkable run of mild winters since 1963. It is also more catholic in its choice of habitats and has, perhaps, like the Collared Dove *Streptopelia decaocto* before it, found a niche unoccupied by another species. Thus, it has now built up substantial numbers in the Stour Valley, where it is now probably the third commonest breeding warbler and among the ten commonest small passerines in some parts of the valley between Chilham and Grove Ferry. The widespread existence of suitable habitats throughout lowland and southern Britain favours its continued spread and increase.

It has few competitors in this favoured habitat. Hollyer (1975) suggested that the Wren *Troglodytes troglodytes* might be one, but the structural differences make this unlikely. It is more likely that Wrens increased in numbers so considerably after 1963 that they moved into every available

habitat, including those, such as swampy scrub, which are apparently not attractive as breeding habitats to most passerines. Their abundance in this habitat means that every Cetti's Warbler can hardly avoid having a Wren within earshot. A decline in the number of Wrens, following a cold spell in early 1976 in east Kent (P. J. Grant *in litt.*), was not followed by an observed increase in Cetti's Warblers in the 1976 breeding season. This might suggest that the cold spell also had a detrimental effect on the resident Cetti's Warblers, but it similarly implies that, if immigration took place in spring 1976, the vacant Wren niches were not particularly attractive. Unfortunately, no census was attempted in 1976, although records submitted to the Kent Ornithological Society (and personal observations by DBR, JNH and CB) suggest numbers in the main areas similar to those in 1975. There may have been some withdrawal from marginal habitats, but this was probably compensated for by some increase in the optimum areas. There was still very little evidence of spread outside the Stour Valley in east Kent. CB recorded night singing during early May 1976 and this appears to be the first recorded instance. I suggest that the Sedge Warbler *Acrocephalus schoenobaenus* is the closest competitor, particularly as recent years have seen that species moving into drier habitats. Sedge Warblers are perhaps, however, at a disadvantage, being migrants, and have undergone some decline recently, along with other trans-Saharan migrants. It may not be coincidence that, in 1975, Sedge Warblers were unusually scarce in the Stour Valley.

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Summary

The history of Cetti's Warblers *Cettia cetti* in east Kent from 1971 to 1974 is summarised. The methods and results of a census carried out in the summer of 1975 are presented. A total of 61 singing birds was recorded and is discussed in terms of the distribution of sites and their nature in respect of the presence of surface water, the dominant plants and their position in relation to the Stour Valley. Two of the five confirmed breeding records are detailed and the prospects for the species in east Kent are discussed. Cetti's Warblers were found to be increasing and spreading in east Kent, but to favour consolidation in the initial area of colonisation along the Stour Valley near Canterbury. They were found to be able to adapt to apparently marginal habitats in this area of concentration.

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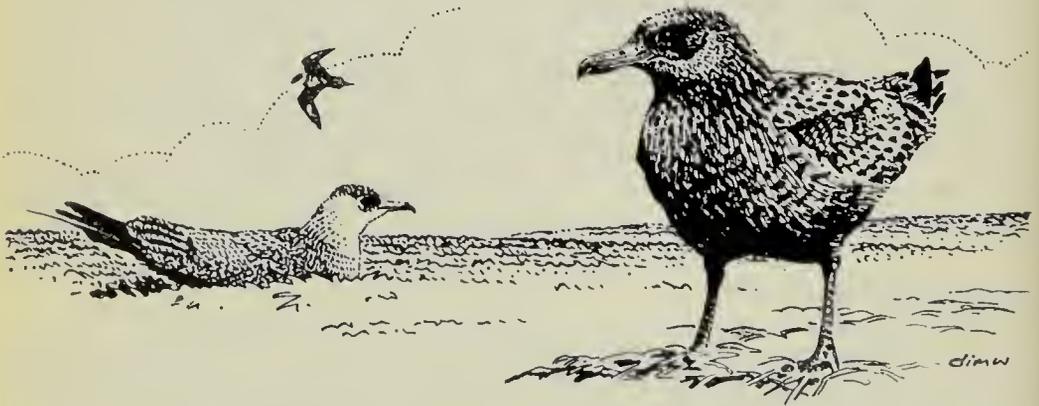
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Effects of Great Skuas on Arctic Skuas in Shetland

Robert Furness



Great Skuas, which have increased in numbers in Shetland, kill both adult and young Arctic Skuas. How has this predation affected Shetland's Arctic Skua colonies, and how will they fare in the future?

The Great Skua or Bonxie *Stercorarius skua* was brought close to extinction in Britain during the 19th century through extensive human persecution, but since 1900 the numbers breeding in Shetland have increased rapidly (Venables and Venables 1955, Parslow 1973, Cramp *et al.* 1974). Most colonies there are still growing, although in some cases less rapidly than in earlier years (personal observation). Many authors (e.g. Pennie 1948, Baxter and Rintoul 1953, Venables and Venables 1955) have claimed that this increase has resulted in a decrease in Arctic Skuas *S. parasiticus*, but this view has been supported only by circumstantial evidence.

Bonxies kill both adult and young Arctic Skuas, and may rob adults of food. They return to the breeding colonies earlier in the year than the smaller species and may establish territories in areas formerly held by Arctic Skuas, which are then forced to move elsewhere (Jackson 1966). These activities seem likely to have an adverse effect on Arctic Skua populations, but have not previously been quantitatively studied. Nor has any

attempt been made to collect and interpret the estimates of Shetland Arctic Skua colony sizes recorded by numerous ornithologists since 1890.

The 1969 'Seafarer' counts indicated that Shetland held 96% and 71% of the British populations of Bonxies and Arctic Skuas respectively (Bourne and Dixon 1974). Most of the Bonxies breed in three large colonies, on Foula, Unst and Noss. Large numbers of Arctic Skuas also nest on these islands, so it is in these areas that interspecific interactions would be expected. Fortunately, these three areas are extensively documented. This paper examines published and previously unpublished census data for these three colonies in relation to quantitative observations of the inter-specific interactions.

Census data

Counting pairs is a relatively simple matter. Arctic Skuas maintain exclusive territories of 20-100 m diameter during the breeding season. They are large, conspicuous birds, aggressive towards human intruders. Feeding occupies only a few hours each day, allowing both of the adults to be in the territory most of the time, with at least one present all the time from laying to shortly before the young are fledged. Several counting techniques have been used. Some estimates are based on single counts of apparently occupied territories, others on mapping of pairs in relation to topographical features, and a few on the number of nests with eggs found and marked during a breeding season. All three methods can underestimate or overestimate the colony size. It is unlikely that all nests in a colony will be found, but pairs which lose their eggs usually lay a replacement clutch, often some distance from the first nest, and it is difficult to distinguish these from late first clutches. In practice, these two errors tend to cancel each other out. Counts of occupied territories include non-breeding territory holders, but probably exclude a few pairs which are particularly timid. These errors also tend to cancel each other, so both methods should give close estimates of the number of breeding pairs. Estimates based on a single count may be less accurate, and probably tend to under-record the true number, but most of the counts used in this paper were made by several observers over periods of weeks.

In 1965, 1974 and 1975, counts were made independently in the same colony. These gave similar results (table 1), indicating that all three methods are suitable for censuses of Arctic Skua colonies.

Table 1. Estimates of pairs of Arctic Skuas *Stercorarius parasiticus* on Foula, Shetland, by different census methods

Year	Source	Method	Estimate (pairs)	Difference between methods (%)
1965	Fabritius (1969)	mapping pairs	140	} 15
		count of pairs	120	
1974	This study J. W. F. Davis	mapping pairs	180	} 11
		count of pairs	200	
1975	This study J. W. F. Davis	mapping pairs	240	} 5
		marking nests	253	

Census results

In other parts of Scotland, where there are few Bonxies, Arctic Skua numbers have probably changed little, but with suggestions of decreases in northern Scotland and increases in Orkney (Cramp *et al.* 1974); census data for Shetland should be examined against this background.

Table 2. Estimates of pairs of Arctic Skuas *Stercorarius parasiticus* on Noss, Shetland

Year	Source	Method	Estimate (pairs)
1922	Baxter and Rintoul (1953)	count of pairs	45
1929	Perry (1948)	count of pairs	60
1934	Perry (1948)	count of pairs	50
1939	Perry (1948)	count of pairs	25
1946	Perry (1948)	marking nests	31
1947	Baxter and Rintoul (1953)	count of pairs	37
1955	Kinnear (1974)	count of pairs	25
1957	Gordon (1964a)	count of pairs	13
1958	Kinnear (1974)	count of pairs	25
1964	Gordon (1964a)	count of pairs	17
1969	Kinnear (1974)	count of pairs	40
1970	Kinnear (1974)	count of pairs	40
1973	Kinnear (1974)	mapping pairs	39
1974	Kinnear (1974)	marking nests	44

Numbers on Noss have fluctuated considerably, from 13 to 60 pairs, but show no long-term trend, the number of pairs now being the same as that recorded in 1922 (table 2). Data for Unst are less reliable: there has been a considerable decrease at Hermaness, but an increase in other parts of Unst; the total number of pairs over the whole of Unst appears not to have decreased by more than 10% since 1922 (table 3). These two Arctic Skua colonies have maintained themselves despite increases in the Bonxie populations, from a score of pairs on Unst and none on Noss in 1900 to the current totals of 1,000 pairs on Unst and 250 pairs on Noss. Although numbers of Arctic Skuas appear to have changed little, the increase in the numbers of Bonxies at Hermaness has caused a major redistribution of the Arctic Skuas over the rest of Unst. The most thoroughly documented of the three colonies is that on Foula, where the Arctic Skuas have increased slowly and with some fluctuations, from 60 pairs in 1890 to 130 pairs in

Table 3. Estimates of pairs of Arctic Skuas *Stercorarius parasiticus* on Unst, Shetland

Density is measured in pairs per square kilometre

Year	Source	Method	HERMANESS		REST OF UNST	
			Pairs	Density	Pairs	Density
1922	Pitt (1922)	mapping pairs	200	29	0	0
1937	Baxter and Rintoul (1953)	count of pairs	100	—	—	—
1950	Gordon (1964b)	marking nests	75	17	—	—
1958	Gordon (1964b)	count of pairs	70	—	—	—
1965	Dott (1967)	mapping pairs	60	—	—	—
1969	Bourne and Dixon (1974)	count of pairs	80	—	—	—
1974	Bundy (1974)	mapping pairs	72	72	121	24

Table 4. Estimates of pairs of Arctic Skuas *Stercorarius parasiticus* on Foula, Shetland

Year	Source	Method	Pairs	Colony area (km ²)	Density (per km ²)
1890	Barrington (1890)	count of pairs	60	—	—
1948	Pennie (1948)	count of pairs	100	3.0	33
1960	Brathay (unpubl.)	mapping pairs	131	2.3	57
1961	Brathay (unpubl.)	count of pairs	130	—	—
1962	Brathay (unpubl.)	count of pairs	120	—	—
1963	Brathay (unpubl.)	count of pairs	120	—	—
1964	Brathay (unpubl.)	count of pairs	120	—	—
1965	Fabritius (1969)	mapping pairs	140	—	—
1965	Brathay (unpubl.)	count of pairs	120	—	—
1966	Brathay (unpubl.)	count of pairs	120	—	—
1968	Brathay (unpubl.)	mapping pairs	160	2.3	70
1969	Brathay (unpubl.)	count of pairs	100	—	—
1972	Brathay (unpubl.)	mapping pairs	150	2.0	75
1973	This study	mapping pairs	130	2.0	65
1974	This study	mapping pairs	180	1.8	100
1974	J. W. F. Davis (<i>in litt.</i>)	count of pairs	200	—	—
1975	This study	mapping pairs	240	1.8	133
1975	J. W. F. Davis (<i>in litt.</i>)	marking nests	253	—	—

1973, then suddenly to 190 pairs in 1974 and 250 pairs in 1975 (table 4). This increase is all the more surprising when it is remembered that the Foula Bonxie colony is the biggest and densest in Britain, having grown continuously at a rate of 6.8% per annum, from only 29 pairs in 1906 to 2,500 pairs in 1973 (Furness 1974a) and 3,000 pairs in 1976. Clearly, any deleterious effects of Bonxies in Shetland have been insufficient to cause a decline in Arctic Skua numbers, which have even increased.

Factors determining colony size

On Fair Isle, adult Arctic Skuas have an annual survival rate of 0.80 (Davis and O'Donald 1973). Most breed for the first time when four years old (Berry and Davis 1970). Fledgling production varies between colonies, and from year to year, but is usually between 1.0 and 1.3 chicks per pair, so that a first-year mortality of about 30% would result in a stable population. Variations in any of these statistics could tend to cause fluctuations in breeding numbers, but the deferred maturity, and variations in age of first breeding between individuals, would smooth out such fluctuations; it follows that rapid changes in numbers of breeding pairs are likely to be due to high rates of immigration or emigration. Many seabirds show a strong tendency to return to their natal area to breed, but this habit may not be well developed in Arctic Skuas, since many individuals ringed as chicks have been retrapped breeding in different colonies (Broad 1973, 1974, British Trust for Ornithology ringing returns) and in arctic areas this species moves its breeding locality from year to year depending upon the densities of small mammals and Pomarine Skuas *S. pomarinus* (Bertram *et al.* 1934, Pitelka *et al.* 1955). It seems likely, therefore, that changes in numbers of Arctic Skuas in Shetland colonies depend partly on local influences of Bonxies, but mainly on the breeding output

of all the colonies, coupled with the relative attractiveness of each colony to young, site-seeking individuals. Thus, the rapid increase of Arctic Skua numbers on Foula in the last two seasons, not paralleled by similar increases at other Shetland colonies, implies that Foula suddenly became more attractive as a breeding site. No clear changes in vegetation, human activity or Bonxie colony area occurred, so this growth is most likely to involve improvements in availability of food.

The skuas obtain most of their food by chasing and stealing from other species. In 1975, six one-hour periods were spent watching chases, by both Bonxies and Arctic Skuas, from a clifftop on the east coast of Foula, where most of the Arctic Skuas feed. Around Foula, the Bonxies chase Guillemots *Uria aalge*, Razorbills *Alca torda*, Puffins *Fratercula arctica* and Gannets *Sula bassana*, while Arctic Skuas chase Arctic Terns *Sterna paradisaea*, Kittiwakes *Rissa tridactyla*. Puffins and, rarely, the larger auks. As a result, there is little interspecific competition for food. It is clear that the success rate of Arctic Skua chases varies with the species, being highest with Arctic Terns and very low with auks (table 5). Furthermore, the durations of chases of Arctic Terns are less than those of other species, providing a higher reward for the energy expended; in addition, Arctic Terns make more feeding trips per day than Kittiwakes or auks (data from Pearson 1964), so that five pairs of Kittiwakes would be required to give as many opportunities for chasing as one pair of Arctic Terns. Although Arctic Skuas breed successfully in areas where there are few breeding terns (e.g. Fair Isle), the presence of large numbers of terns could strongly attract recruits to an Arctic Skua population. A similar, but less intense attraction may be provided by large numbers of Kittiwakes, the second most important victims of Arctic Skua chases.

Kittiwake numbers on Foula cannot be adequately counted from the island, and few counts have been attempted from the sea, but the number of Kittiwake breeding stations has increased gradually from one in 1900 to two in 1948 (Pennie 1948), six in 1959 (Coulson 1963), ten in 1969 and 18 in 1975 (Brathay Exploration Group unpublished data), although the most recently formed stations are considerably smaller than the older ones.

Table 5. Chases by Arctic Skuas *Stercorarius parasiticus* of seabird species on Foula, Shetland, 1975

Species chased	NUMBER OF CHASES		%	Mean duration (seconds)	Feeding trips per day by species chased
	Observed	Successful			
Arctic Tern <i>Sterna paradisaea</i>	220	105	48	5	35
Kittiwake <i>Rissa tridactyla</i>	16	4	25	10	7
Puffin <i>Fratercula arctica</i>	13	2	15	7	3
Razorbill <i>Alca torda</i>	3	0	0	9	3
Guillemot <i>Uria aalge</i>	3	0	0	9	3

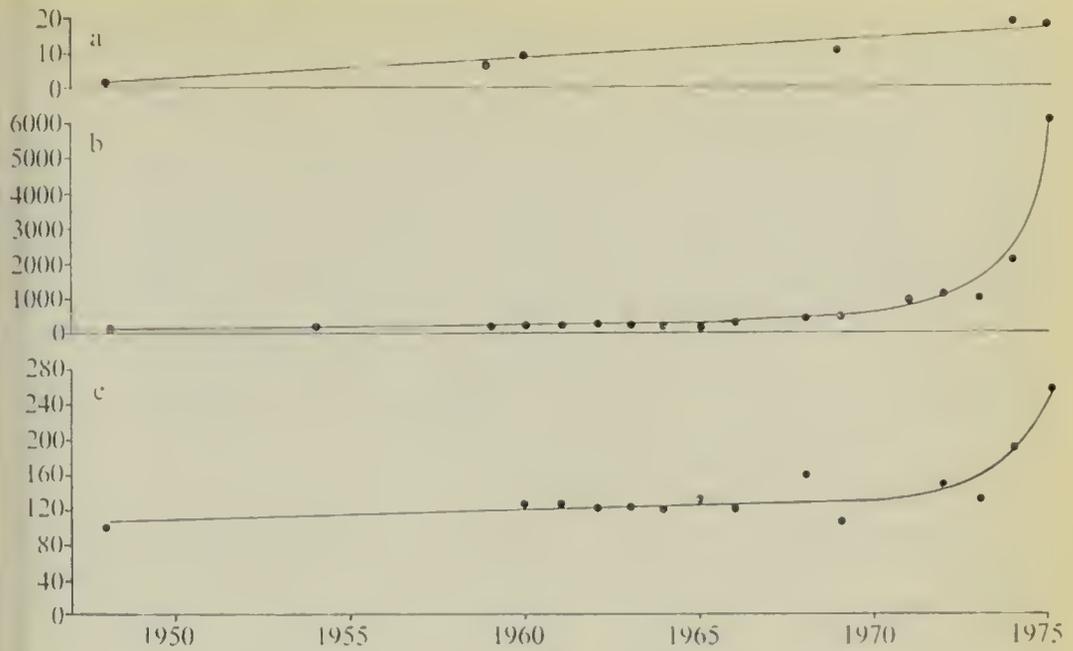


Fig. 1. Estimates of numbers of (a) colonies of Kittiwakes *Rissa tridactyla*, (b) pairs of Arctic Terns *Sterna paradisaea*, and (c) pairs of Arctic Skuas *Stercorarius parasiticus* on Foula, Shetland, during 1948-75

Arctic Tern numbers have been estimated in many years. Between 1948 and 1970, 12 counts in 12 different years fell between 40 and 400 pairs, with no general trend apparent. Recently, however, numbers have shown a dramatic increase, to 1,000 pairs in 1972, 2,000 pairs in 1974 and at least 6,000 pairs in 1975. In 1975, the terns occupied 0.22 km², so were nesting at a density of 0.027 nests per square metre, a value similar to the mean density of the same species on Coquet Island (0.02 nests per square metre, Laugham 1968) but much lower than the highest mean density found on the Farne Islands (2.0 nests per square metre, Coulson and Horobin 1976), although this was measured on a vegetation-free area, which allowed higher densities than normal. It is, however, unlikely that the estimated 6,000 pairs exceeds the actual number. It is very tempting to explain the changes in numbers of Arctic Skuas on Foula up to 1972 as a slow response to the gradual increase in numbers of Kittiwakes, and the fast increase since 1973 as a response to the influx of Arctic Terns. The closeness of the relationship can be seen in fig. 1, which shows the changes in the numbers of Kittiwake colonies, pairs of Arctic Terns and pairs of Arctic Skuas on Foula from 1948 to 1975.

Breeding success

Bonxies appear to have had little effect on Arctic Skua numbers, but they have limited the area available to Arctic Skuas for nesting, resulting in increased nest densities and breeding in suboptimal habitats. On Foula, Bonxies select territories in areas free from human disturbance and where the vegetation is long enough to provide cover for the incubating bird. As the Bonxie colony has grown, Arctic Skuas have been forced to nest in

areas of short vegetation and in the vicinity of crofts, roads, peat cuttings and the airstrip. By 1975, most of their territories were in such situations, which are likely to be suboptimal for breeding. Similar changes in colony distributions have taken place on Unst and Noss.

The breeding success of Bonxies nesting in high density areas of Foula is considerably lower than that of birds of comparable experience nesting at lower densities: most of the reduction is caused by intraspecific conflict between neighbouring pairs, which often results in loss of eggs. A similar reduction in breeding success at high density may be expected for the Arctic Skua, but, because young birds tend to be less successful and also hold smaller territories, it is difficult to isolate the effects of density. No satisfactory estimates of breeding success in relation to density are available for Foula, but figures exist for Noss. Breeding success was measured in 1946, when nest density was not much higher than in colonics free from the influences of Bonxies, and in 1974, when nest density had been forced, by the Bonxie colony growth, to the highest level recorded in any Arctic Skua colony. In 1946, with a nest density of 62 per square kilometre, 80% of all eggs hatched (Perry 1948). In 1974, when the nest density was 157 per square kilometre, only 65% of all eggs hatched (Kinnear 1974). Most of the reduction was due to losses of eggs to other Arctic Skuas, but chick mortality before fledging, although not measured in 1974, was thought to be similar in both studies (Kinnear 1974). Bonxies were not believed to have had any great direct effect on breeding success, as they were never seen to take Arctic Skua eggs and rarely killed unfledged chicks.

The increase in the number of Arctic Skuas on Foula between 1973 and 1975 occurred especially in the vicinity of the Arctic Tern colony south of Ham, and resulted in a particularly high nest density in that area (table 6). North of Ham, there are very few Arctic Terns nesting and the Arctic Skua territory size is larger. This suggests that the proximity of the large tern colony more than compensates for the disadvantages of small territories. Since most of the reduction in breeding success resulting from nesting at high density is caused by intraspecific conflict, there may be a considerable advantage to pairs which spend most of their time in the territory, since they will be better able to defend their nests against intruders. The big tern colony provides a large amount of easily obtained food; a pair nesting in this area can therefore minimise the amount of time during which only one adult is on the territory.

Table 6. Territory densities of Arctic Skuas *Stercorarius parasiticus* in areas of Foula, Shetland, 1975

The area north of Ham has few nesting Arctic Terns *Sterna paradisaea*; the area south has a large tern colony spread over the part occupied by Arctic Skuas

Site of colony	Pairs	Area (km ²)	Density (pairs per km ²)
Scattered pairs	30	0.30	100
North of Ham	90	0.88	102
South of Ham	120	0.57	211

Bonxie predation on Arctic Skuas

Jackson (1966) recorded that, between 1956 and 1965, variable numbers of Arctic Skua fledglings were killed by Bonxies. In 1960, it was estimated that 20% of fledglings were killed, whereas in 1961 only 2.5% were killed. Since 1969, all remains of kills attributed to Bonxies on Foula have been recorded by Brathay Exploration Group expeditions (Furness 1974b, 1976). From these records, the total number of Arctic Skua adults and fledglings killed each year can be expressed as a percentage of the number present on Foula (table 7). To determine the percentage of fledglings killed, an estimate of

Table 7. Predation of Arctic Skuas *Stercorarius parasiticus* by Great Skuas *S. skua*, Foula, Shetland

Year	Pairs of Arctic Skuas	NUMBERS KILLED BY GREAT SKUAS			
		Adults		Fledglings	
		Number	%	Number	%
1969	100	20	10.0	51	42.5
1970	120	3	1.2	14	9.7
1971	140	11	3.9	72	42.9
1972	150	19	6.3	56	31.1
1973	130	3	1.2	43	27.6
1974	190	21	5.5	35	15.4
1975	250	17	3.4	26	14.9
MEAN PREDATION RATES (%)			4.5		26.3

fledgling production per pair is required. Within the Foula colony, under conditions free from human disturbance, this is taken to be 1.2 chicks per pair, a value intermediate between those determined on Fair Isle, where nest density is lower (O'Donald 1962), and on Noss, where nest density is higher (Kinneir 1974). The considerable variation in predation intensity appears to result from differences in the annual fish migrations in the vicinity of Foula, predation being heavy in years when fish availability is low during the weeks when Arctic Skua chicks begin to fly. Killing of adults occurs earlier in the summer than killing of fledglings, and adults are often not eaten, suggesting that adult mortality results from territorial disputes rather than predation for food. This is supported by the low correlation between the intensity of adult and fledgling mortality over the seven years ($r = 0.56$, $p > 0.05$). In the long term, it is the mean predation rate which is most meaningful. The 4.5% predation of adults represents a 25% addition to the normal annual adult mortality, while the 26.3% loss of fledglings is nearly as great as the normal mortality in the whole of the first year of life. These values would be expected to result in a rapid decrease of Arctic Skua numbers on Foula if the population was closed and breeding effort at the species' physiological maximum. Neither of these conditions is likely, so a detailed knowledge of the population dynamics of the species is required before these figures can be put into perspective. It is clear, however, that the proportion of Arctic Skua fledglings killed each year has increased since the observations by Jackson (1966), while the regular killing of Arctic Skua adults may be a new effect of the Bonxie as it has

moved into traditional Arctic Skua areas on Foula, since it was not mentioned by previous authors.

Discussion

Two principal models of population regulation have been postulated. The simpler states that numbers of breeding pairs result from a balance between the rates of natality and mortality, the latter possibly being density dependent (Lack 1954, 1966). The second states that numbers are intrinsically regulated, possibly by behavioural mechanisms, to a level which does not 'overfish' resources (Wynne-Edwards 1962). The decreased breeding success of Arctic Skuas forced to nest at high density, and the increased adult and fledgling mortality, all due to population increases of Bonxies, would be expected to cause population declines if the first model were acting. If the second model were operative, however, changes in numbers of Arctic Skuas should reflect changes in the availability of food, irrespective of changes in mortality and natality rates (within certain limits). If the effects of Bonxies are too severe, the behavioural regulation mechanism may not compensate for the increased mortality, but, within the limits, intrinsic regulatory mechanisms will override alteration of mortality or natality.

In spite of the reduction in breeding success, and the increases in adult and fledgling mortality, numbers of Arctic Skuas have increased in many Shetland colonies (Cramp *et al.* 1974). The magnitude of these changes shows no relation to changes in mortality or production in individual colonies. The colony showing the greatest increase is Foula, where the reduction in Arctic Skua breeding success and increase in mortality due to Bonxies is higher than in most other Arctic Skua colonies in Shetland. These results are not compatible with the first model, but can be explained if Arctic Skua colony sizes are intrinsically regulated through control of recruitment in relation to food availability.

Several studies of bird populations have indicated that there is a surplus of individuals unable to obtain suitable breeding territories (Jenkins *et al.* 1963, Krebs 1971, Watson and Moss 1970). This almost certainly applies to the Arctic Skua, as non-breeders gather in 'clubs' around the colony, until they are able to establish a territory. Young (1972) found that removal of an individual breeding McCormick's Skua *S. maccormicki* from its territories was followed within 48 hours by its replacement by a bird from the club, which then bred in that territory. Arctic Skuas in Shetland do not normally breed until three to six years old (Berry and Davis 1970), although in arctic Russia they may do so when only one or two years old (Belopolskii 1961). This suggests that the deferred maturity in Shetland is probably a social rather than a physiological limitation. The mechanism involved is unknown, although dominance hierarchies are found among club members in skua colonies (Perdeck 1960, 1963, Furness 1974b) and could act to suppress hormonal development of subordinate members (Wynne-Edwards 1962). Breeding skuas are thought to take part in club displays (Perry 1948, Young 1963); their reasons for doing so are unknown, but if their behaviour at the club is modified by food

availability, this could provide a mechanism for colony size regulation.

If, as suggested, Arctic Skua colony sizes are intrinsically regulated in relation to local food abundance, current increases should theoretically be following increases in numbers of the main prey species. This has already been shown to be the case for the colony on Foula (fig. 1). Kittiwakes are increasing in most areas of Britain in response to the cessation of human persecution (Coulson 1963, Cramp *et al.* 1974), while Arctic Tern numbers are known to fluctuate greatly from year to year, with occasional movements of whole colonies to new sites (e.g. Venables and Venables 1955). Recent changes in tern populations in Britain have been documented by Lloyd *et al.* (1975) and suggest a general decline in Arctic Tern numbers. The national trend is not followed in Shetland: all the colonies have shown increases since 1969, the most pronounced being on Foula, Yell and Skerries (annual Shetland Bird Reports). These increases may be due to a redistribution of the huge Westray and Papa Westray colonies in Orkney, which have declined in size by an estimated 10,000 pairs since 1969. It should be possible to test the hypothesis of this paper by comparing changes in numbers of Arctic Skuas, Arctic Terns and Kittiwakes in Shetland and Orkney colonies over a number of years. It could be predicted that Arctic Skua numbers will show a consistent relationship, between colonies, with the numbers of Arctic Terns and Kittiwakes, the terns having a much more important influence.

Clearly, further studies into the regulation of colony size are desirable, but it can be concluded that Bonxies will play only a small role in this process. Enlargement of the Bonxie colony on Noss may force the Arctic Skuas to move elsewhere, as is happening on Unst. The same may eventually occur in other places, but, where they overlap, numbers of breeding pairs are unlikely to be reduced unless the whole non-breeding surplus is first removed. The size of this surplus will determine the resilience of the intrinsic regulatory mechanism and can overcome the present effects of Bonxies, the populations of which are unlikely to continue to increase in Shetland for many more years. Consequently, the interactions between the two skuas will probably not be harmful to either species.

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Summary

The rapid increase in the numbers of Great Skuas or Bonxies *Stercorarius skua* in Shetland, and their tendency to usurp territories of Arctic Skuas *S. parasiticus* and kill adults and fledglings, has led to concern for the survival of Arctic Skua populations. The interactions between the two species were examined quantitatively. Due to interactions with Bonxies, Arctic Skua breeding success was reduced by 20% on Noss; adult mortality was increased by 25% and fledgling mortality by 100% on Foula. Since Arctic Skua populations appear to be intrinsically regulated in relation to numbers of Arctic Terns *Sterna paradisaea* and Kittiwakes *Rissa tridactyla*, the main species from which food is obtained, these effects of Bonxies have not caused a decrease in Arctic Skua numbers in Shetland colonies. There

is a surplus of non-breeding Arctic Skuas available to replace those killed by Bonxies and it seems unlikely that Bonxies will continue to increase to a level at which this surplus is eliminated.

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King Eider studies

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The King Eider breeds on tundra, arriving at the nesting grounds as the ice begins to melt. Where its winter range overlaps with that of the Eider, mixed pairing may occur, resulting in occasional hybrids. These studies were made in Canada and Iceland

The King Eider *Somateria spectabilis* and the Long-tailed Duck *Clangula hyemalis* are the two most northerly nesting ducks; even their winter distributions are concentrated in fairly high latitudes. There are over 130 records of the King Eider in Britain and Ireland (most often in Shetland, where the species is now regular); it has been recorded also from Sweden and Finland (both over 50 records), France, the Netherlands, Belgium, Denmark, West and East Germany, Poland, Hungary and northern Italy. The best place to see it in Europe, excluding the arctic islands, is Varanger Fjord in extreme northern Norway, though it may not be there in summer.

In hard winters especially, a few King Eiders reach relatively southerly winter locations, and may be found far outside their usual range even in spring or summer. For example, there have been several summer occurrences in Scotland, and two in the Faeroes, while, in the western Atlantic, the King Eider has occurred in northern peninsular Florida in late May and in Nova Scotia in July. These vagrant records are almost all of the conspicuous and readily identifiable mature drakes (plate 15); it is worth scrutinising winter assemblies of Eiders *S. mollissima* on the chance that female or young male King Eiders may be present.



15. Drake King Eider *Somateria spectabilis* on melt-water stream, Mýrar, northwest Iceland, June 1973. Note the permanently erect dorsal sails (R. S. Palmer)

In spring, the King Eider migrates earlier and travels farther than the Eider. Yearlings, however, not only tend to travel later than older birds, but often also do not go the full distance covered by breeders: they stop, and eventually moult, at some intervening place. King Eiders tend to travel around continental margins; they nest in the greatest numbers on the islands in the low arctic and in smaller numbers northward into the high arctic.

In spring in the high arctic, the already paired, mature King Eiders fly over the frozen sea to mainland tundra and arctic islands, there seeking the first open water, at the margins of small, very shallow ponds. If the season advances normally, the margin of a pool thaws first; next there is a layer of melt-water all over the lens of ice that fills the pond; then the lens rises to the surface, stirring the bottom sediment as it does so; and, finally, the remainder of the ice thaws and the pond is open. The deeper or larger the pond or lake, the longer the process takes. Generally speaking, pools on arctic tundra are shallow, many less than 1 m deep, but, depending on the region, they vary greatly in number and size. In some areas where the climate is warmer, such as in Spitsbergen by early June, there is a narrow zone of open marine water between the land-fast ice and the sea ice; from the time of their arrival, the King Eiders use this perhaps even more than they use any thawed fresh water ashore. They sometimes eat plant materials on land when they arrive, since there is little or nothing to eat in the first open water, unless there is some open sea close by. The duck, silent or making a groaning noise, and closely followed by the drake, soon begins prospecting the drier areas of snow-free slopes or more level

terrain. The pair alights on land, and the duck, still followed by the drake, scoots about, inspecting various small depressions and shallow cracks caused by frost, in her search for a suitable nest site. There may be some vegetation at the site chosen, but many are on vast stretches of the monotonous arctic desert consisting of gravel, sand and loose rock. Some sites are slightly sheltered, being close beside a rock, for instance, but many have no protection whatsoever: yet the sitting bird is not conspicuous (plate 16). Nests on islets or islands may be fairly close together, but the King Eider is usually a scattered and solitary nester. Although not safe from skuas *Stercorarius* or gulls *Larus*, island nests are protected from arctic foxes *Alopex lagopus*, which may find and eat practically all the eggs at other sites.

The King Eider pair stays at a pond, or at the edge of the sea, feeds there, and flies to the nest site, which may be cleaned out or slightly enlarged by the duck before she begins to lay her clutch of four to six eggs. Sometimes she misses a day or so during laying, but usually she lays one egg a day. She covers the first eggs with loose plant material or other debris available at the site (plate 17) and the pair returns to water. After about the third egg, some down is added, and this process continues until perhaps a week or longer into incubation. Ducks which lose their eggs to predators during this period form little groups and spend time resting ashore near a tundra pond: such resting places are indicated by scattered down, which is still being lost by the ducks. In normal circumstances, the conspicuous drake quits attending the duck ashore at the start of incubation or soon afterwards, and stays for a while on the open water nearest to her; so long as he remains, the off-duty duck joins him there.

16. Duck King Eider *Somateria spectabilis* about to lay egg in nest on sparsely vegetated gravelly tundra, Bathurst Island, Canada, July 1971 (R. S. Palmer)





17. Nest of King Eider *Somateria spectabilis* with three eggs covered with plant debris by the duck, Bathurst Island, Canada, July 1971 (R. S. Palmer)

The palish olive-buff eggs are smaller than those of the Eider, averaging 67×45 mm (compared with 77×52 mm) and weigh less than three-quarters as much when fresh. The incubation period is 23 days. If a duck loses some first-laid eggs to a predator, she will complete the clutch elsewhere, but it is believed that no replacement is laid if she loses her entire clutch. The young all hatch in a day, perhaps often less, and are led to water by the duck. While still on ponds and lakes, they tend to gather in

18. Trio-bond: drake King Eider *Somateria spectabilis* and drake Eider *S. mollissima* flying after their shared duck Eider mate, Aethy, northwest Iceland, May 1973 (R. S. Palmer)



crèches, which are often attended by one or more females. They move to the sea either via outlets or overland.

The King Eider has a spectacular moult migration. A week or ten days after incubation has started, the males begin moving away from the ponds near the nests and gather in small groups on other fresh water. Soon, the movement begins, more or less in the direction of the winter range, and continues for up to several weeks. Vast numbers eventually arrive at favoured moulting places and become flightless. In the western Palearctic, probably the most notable such place is along the southwestern side of Novaya Zemlya. From the western North American arctic, there is a spectacular movement, of both Eiders and King Eiders, past Point Barrow, Alaska. From the eastern part, there is heavy migration out of the central Canadian arctic, principally across the mid portion of Baffin Island, to waters along central western Greenland. Salomonsen (1968) gave more details and a map of this migration. Thus, like those of other eiders, mature drakes tend to moult well away from the females and young, which travel later, not always by the same routes. The females have their flightless period late in the season, before moving down to the winter range. In winter, though they have overlapping distributions, there is still incomplete intermingling of the sexes and age-classes. This is a simplified and generalised picture. A few King Eiders, possibly ones that have lingered north of continental landmasses and then had to move because of a freeze-up, migrate in a southerly direction overland: the King Eider is more likely than other eiders to occur far in the interior of continents.

19. Trio-bond: drake Eider *Somateria mollissima* and King Eider *S. spectabilis* on station close to their incubating Eider mate, Aethey, Iceland, May 1973 (R. S. Palmer)



The King Eider is a marine bird for most of its life; it is known to rest on ice, but, during much of the year, seldom if ever comes ashore. Scattered individuals occur far from land, such as those occasionally seen on the Grand Bank off Newfoundland. From knowledge of the usual depths at which certain marine invertebrates occur, those that have been found in the digestive tracts of King Eiders show that these birds often feed in deeper waters than is typical of the Eider. Such diving is in great contrast to the summer feeding of the King Eider at shallow tundra ponds, where it principally eats the larvae of caddisflies (Trichoptera) and non-biting midges (Chironomidae). For a while, the latter are so abundant that they darken the water and the eiders literally scoop them up, just as Barrow's Goldeneye *Bucephala islandica* does when feeding on the hordes of midge larvae at Mývatn, Iceland.

Most of my experience with the King Eider was obtained during field-work based at the National Museum of Canada's research station on Bathurst Island in 1971, and in northwest Iceland in 1972 and 1973. In Iceland, a few drake King Eiders form pair-bonds with Eiders; in some instances there are trio-bonds, with a drake of each species sharing the same Eider duck as mate (plates 18 and 19). Occasionally, hybrid King Eider \times Eider males appear in the Eider colonies, presumably the result of these mixed pair-bonds (plate 20). Only males have ever been identified, but a female would not be easy to spot. When a drake King Eider accompanies his Eider mate to an Icelandic eider farm, the King Eider stays close to his mate, just as do the Eider drakes in the colony. In these special circumstances, it is often an easy matter to approach within comfortable camera range of a drake King Eider (plate 21).

For a documented account of the King Eider, in which various matters only touched upon here are given expanded treatment, see Palmer (1976).

20. Hybrid drake King Eider \times Eider *Somateria spectabilis* \times *mollissima* on station beside his incubating Eider mate, Myrar, Iceland, May 1972 (R. S. Palmer)





Fig. 1. Drake King Eider *Somateria spectabilis* mated to an incubating Eider *S. mollissima* at an eider farm, Mýrar, Iceland, May 1972 (photo taken with self-timing device: R. S. Palmer)

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Personalities

Richard Porter

I first met Richard Porter at Dungeness in 1958, on a Junior Bird Recorders' Club ringing course. He was small, very enthusiastic and had a crewcut. The crewcut went, but he is still small and even more enthusiastic.

Richard was born in London in 1943, and was a keen birdwatcher from very early age, being an avid member of the JBRC, then the junior branch of the Royal Society for the Protection of Birds, whose members at that time included a number of other young men destined to become



22. Richard Porter (*Mark Beaman*)

professionals in later life—Crispin Fisher, Nicholas Hammond and Peter Morgan spring to mind.

After leaving school, Richard embarked upon a course in food technology at Weybridge, which he claims was called a sandwich course, and lasted a year. He abandoned plans to enter the lucrative world of food processing when he discovered that the industry's busiest time coincided with the autumn migration; he then entered a period of some uncertainty so far as his career was concerned.

His first setback was when he failed an interview to be a dustman, which he considers must be some kind of record. He was, however, successful in becoming a stevedore, but, not feeling this to be his *métier*, moved on to equally rivetting jobs, all these being in the Brighton area so as to allow him maximum time for birdwatching along the Sussex coast. He became a photograph-trimmer, but was not cut out for this; a bread-stacker's assistant, but there was not enough dough in it; battery-filler; pitch-stirrer; postman; and even, for a short time, a trainee underwriter at Lloyds, when he became a commuter to London for several months.

A long-planned eight-month trip to Turkey in 1966, which included documenting the first-ever full autumn's count of soaring birds over the Bosphorus, fired his enthusiasm for that country, and led to his finding the kind of employment he needed—working part-time in Turkey for the International Council for Bird Preservation, and for the rest of the year in Britain for the RSPB, which he joined full-time in 1970.

As the RSPB's Investigations Officer ('The Sandy Sleuth', as one newspaper dubbed him), he travelled extensively in Britain, enforcing the bird protection acts. His work on Turkish birds can scarcely have received a warmer plaudit than that from a member of his audience, when he addressed the annual conference of the British Trust for Ornithology in 1967, who said that 'He speaks very good English for a Turk.'

Richard's enthusiasm, dedication and hard work are well known, and there are few areas of national ornithology in which he has not been active. He has served on the Selsey Bill Committee, Cape Clear Bird Observatory Council, Sussex Ornithological Society Records Committee, Seabird Group Council and BTO Council. He was founder and first secretary of the Ornithological Society of Turkey, and co-editor of its bird report; this work culminated in his co-authorship of the widely-acclaimed series of papers in this journal, subsequently published as the book *Flight Identification of European Raptors* (1974), which has made his name known throughout Europe. He is now devoting more and more of his time to the international scene.

Currently the RSPB's regional officer for southeast England, Richard is a direct and forceful character, who has an ability to get on well with everybody. He is, above all, a very practical conservationist and a man who gets things done.

B. A. E. MARR

Mystery photographs

3 Sharp-tailed Sandpiper *Calidris acuminata*, Clwyd, October 1975. The set of the body, the length of the folded wings and tail, the small head and the clear supercilium may at first suggest that this wader (plate 11 on page 73) is a sandpiper of the genus *Tringa*. The back pattern, however, and also the size and shape of the bill, quickly indicate *Calidris*, and the pale edgings to the scapulars and tertials and the sharp lines on the mantle are typical of that genus in first-autumn plumage.

Even in the photograph, one gains the impression that the bird is bigger than a Little Stint *C. minuta* (it is actually close in size to a Reeve *Philomachus pugnax*) and it is clearly not a Dunlin *C. alpina* or American species of comparable build. Curlew Sandpiper *C. ferruginea*, Purple Sandpiper *C. maritima* and Knot *C. canutus* are all quickly ruled out (the first on bill shape and length, the last two on head marks and plumage pattern) and, in fact, the choice lies between a Pectoral Sandpiper *C. melanotos* and a Sharp-tailed Sandpiper, two similar species which both have pointed centres to their tails. The dorsal plumage pattern could fit either, but the limited patterning on the lower neck and chest rules out the former: the narrow collar of weak marks, less obvious than the

yellowish or ochre-buff ground colour of the whole breast, falls far short of the wide, strongly streaked and sharply demarcated gorget of the Pectoral Sandpiper in all plumages. As is evident in the photograph, the Sharp-tailed also possesses a somewhat different character from the Pectoral, looking bulkier in the body and thus appearing to have a smaller head and shorter legs. In the field, confirmation comes from the tone of the calls, which are less reedy and harsh than those of the Pectoral: the commonest note, which may be written 'tree-treep', is given with an inflection that recalls a Swallow *Hirundo rustica*.

This rare vagrant may reach Britain and Ireland after travelling either east or west from its breeding grounds in Siberia. There were four records in the 19th century, but no more until one in 1956; three were then identified during 1961-66 and five during 1973-76. The one in the photograph is the immature that visited Sealand, Flintshire (Clwyd), from 14th to 24th October 1973 (*Brit. Birds* 67: 351-352). Other useful references are those describing records in Co. Durham in 1963 (*Brit. Birds* 58: 18-19) and Co. Cork in 1973 (*Irish Bird Rep.* 21: 16-20). DIMW



23. Mystery photograph 4 (*Richard T. Mills*). What is this species? Answer next month

Notes



Grey Herons fishing in deep water On 26th March 1972, at Combermere, Cheshire, I observed a Grey Heron *Ardea cinerea* flying across the deep centre of the mere at a height of 10-15 m when, suddenly, it drew back its wings and gradually began a vertical descent, while simultaneously lowering its legs until they were half submerged. Then, with its body still completely clear of the water, the bird stabbed downwards with its bill into the mere and emerged with a fish about 15 cm long. With several strong, fast wing beats, the heron then lifted clear of the surface and flew off, still carrying the fish, in the direction of the nearby heronry. Throughout, the heron was mobbed by four Black-headed Gulls *Larus ridibundus*.

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On 3rd June 1975, at Corsham Lake, Wiltshire, I saw a Grey Heron *Ardea cinerea* jump into the air and rise, with butterfly-like wing beats, to a height of approximately 7 m. It drifted along the lake side with head outstretched and legs dangling, then turned, dropped towards the surface and, at a height of about 2 m, levelled off and suddenly plunged head-first into the lake; its body was completely submerged and only the wings, which were held high, remained above the surface. It emerged, flew back to the bank and then, during the next 15 minutes, made four more dives, all from a height of 1-2 m and some 25 m from the bank, where the lake was approximately 2 m deep; on two occasions only one of its wings remained above the surface. All these five dives were apparently unsuccessful, but on a sixth it caught a fish about 20 cm in length, which it swallowed at the lake's edge.

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On 7th July 1975, at Minsmere, Suffolk, an adult Grey Heron *Ardea cinerea* flew down, apparently intending to land in front of one of the hides. When its legs were just touching the water, the heron seemed to fall headlong in the water, until only its flapping wings were visible. With some effort, it managed to take off, carrying a fish.

F. A. Lowe (1954, *The Heron*) recorded several instances of Grey Herons diving, though not by this rather entertaining method.

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These observations are comparable with others involving Grey Herons in Sussex and Somerset in 1966 (*Brit. Birds* 60: 49-50, 215) and Night Herons *Nycticorax nycticorax* and Great White Egrets *Egretta alba* in Canada in 1975 (*Brit. Birds* 68: 384). The subject is now closed. EDS

Golden Eagle fledging three young Studies of the Golden Eagle *Aquila chrysaetos* (e.g. Brown and Amadon 1968) have shown that, from the clutch of one to three (usually two) eggs, often only one chick is reared. The larger, first-hatched eaglet tends to prevent the survival of the other(s) by killing it (them) or by intimidation and consumption of all the food brought by the parents. In Spain, however, the subspecies *A. c. homeyeri* normally rears two eaglets, and this note records a case of three being reared successfully in the same nest.

This nest was about 700 m up on a rocky cliff on the western slope of a small sierra in Cáceres, central Spain, facing a wide expanse of Mediterranean scrub forest and a dense thicket; behind the nest, on the other side of the sierra, the land is given over to agriculture. The nest measured 155 cm at its widest, 122 cm at its narrowest, and did not exceed 50 cm in depth; it was lined with green branches of evergreen oak *Quercus ilex*, genista *Retama sphaerocarpa*, narrow-leaved ash *Fraxinus angustifolia* and bracken *Pteridium aquilinum*. On 7th June 1974, when fledging was almost complete, the three eaglets weighed 3,080 g, 3,000 g and 2,730 g (plate 24); nine days later they all seemed almost ready to leave the nest. On 25th May 1975, the middle-sized one of the three was found dead in the province of Sevilla, 175 km SSW of the nest.

We have been able to find only three cases of three Golden Eagles

24. Three young Golden Eagles *Aquila chrysaetos* in nest, Spain, June 1974 (*M. Delibes and J. Calderón*)



fledging from the same clutch in Europe. Seton Gordon (in G eroudet 1965) mentioned a pair which reared three young in six consecutive years: Praz and Fellay (1974) reported a nest with three fledglings in the Alps; and Gordon and Gregory (1973) quoted a similar case from Scotland. Wolley and Newton (1864-1902) mentioned a clutch of three eggs, all fertile and about to hatch, and a nest with three eaglets, though whether they survived was not stated. In Spain, there are usually one or two eggs and one or two chicks, although Arevalo (1887) found a nest with three eggs. In North America, Bent (1937) recorded a clutch of four eggs and a nest in which three eaglets hatched, but the smallest died after a few days; there, however, nests with three eaglets are not exceptional.

Most authors agree that breeding success depends on the availability of prey. We collected 68 pellets from the C aceres nest and identified 153 prey specimens. The three most frequent species were rabbits *Oryctolagus cuniculus* (41%), Red-legged Partridges *Alectoris rufa* (29%) and ocellated lizards *Lacerta lepida* (16%), all of which are abundant in the area. In terms of energy expenditure by the Golden Eagle, the rabbit, because of its size, habits and density, is the optimal prey species (Delibes *et al.* 1975). The high productivity of Mediterranean Golden Eagles may be due to the abundance of rabbits in the area. The pair with three eaglets cited by Gordon and Gregory (1973) also preyed mainly on rabbits.

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Aerial roll display of Golden Eagle in winter On 2nd November 1974, in north Tayside, I was watching a pair of Golden Eagles *Aquila chrysaetos* soaring above a crag in good weather when the larger of the two, presumed to be the female, flew across the glen, followed by the male. She headed towards a crag on which there was an eyrie, and then turned and flew parallel with the rock face. The male followed her turn, then accelerated and caught up with her, whereupon she rolled on to her back and extended her talons towards the male, now directly above her. She completed the roll and both eagles continued flying up the glen. This aerial roll display, which resembles that involved in the food pass, has seldom been recorded for Golden Eagles (Leslie Brown, 1976, *British Birds of Prey*).

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Merlin using sheep as look-out perch On 25th June 1972, on Exmoor, Somerset, A. Bundy, R. H. Ryall and I watched a female Merlin *Falco columbarius* hunting in a fairly confined territory near her nest. Natural perches in the area included dead tree stumps and tall heather or heath *Calluna*/*Erica*, which the Merlin used in rotation as look-out posts. A scattered flock of six unshorn sheep grazed the hillside, and we were surprised to see the falcon alight without hesitation on the back of one, which appeared to be unaware of its passenger. During 30 minutes' observation, the same sheep was used as a perch on three occasions, the Merlin remaining on its back for periods of 30 to 60 seconds.

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Pheasant swimming The note on a Feral Pigeon *Columba livia* swimming (*Brit. Birds* 68: 467-468) prompts me to record the following. In autumn 1960, while in a punt on the River Nene near Peterborough, Cambridgeshire, I disturbed a cock Pheasant *Phasianus colchicus* feeding on an adjoining field edge. It flew low across the river and attempted to land in a stand of reeds *Phragmites australis*, but fell back into the water. It then swam some 15 m upstream and reached the bank. The Pheasant appeared to swim quite proficiently, propelling itself fairly quickly and deliberately through the water; the wings were closed and the neck was moved in rhythmical jerks, reminiscent of a Moorhen *Gallinula chloropus*. The body seemed to be about half submerged, with the tail on a level with the surface. The water along the bank at the edge of the reed-bed was about 45 cm deep.

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Water Rail attacking Spotted Crake On 21st August 1975, at Newton Ings, South Yorkshire, while I was watching a Spotted Crake *Porzana porzana* at a distance of about 8 m, a Water Rail *Rallus aquaticus* suddenly emerged from the reeds and moved aggressively, with outstretched bill, towards the crake, which quickly flew into the reeds. Later, the crake returned to feed on the mud, but again was driven off by the rail. Water Rails have been known to attack, and sometimes kill, small passerines (e.g. *Brit. Birds* 61: 264-265), but I have not seen aggressiveness towards crakes recorded previously.

DOUGLAS PAGE

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Baillon's Crake feeding in wake of Water Rail The several notes on feeding associations between various species in both Britain and Africa (*Brit. Birds* 68: 293-297) reminded me of an observation of similar behaviour. On 6th October 1973, near Palaeochora, Crete, I had brief views of a Baillon's Crake *Porzana pusilla* feeding secretly in dense vegetation along the muddy margins of a small river mouth. During 7th-9th October, it was joined by a Water Rail *Rallus aquaticus*, which fed more openly, in rather deeper water outside the vegetation. With the arrival of the rail, the Baillon's Crake became bolder and fed almost exclusively in the other's company, following it closely. I watched both birds at very short ranges

and could see material being stirred up by the actions of the Water Rail, caught by the water current and brought to the surface. The Baillon's Crake picked actively at this debris, staying 30-80 cm behind the Water Rail as it moved along the water's edge. In three days of fairly close observation, I saw it feed only in this manner.

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Behaviour of incubating Woodcock The observations on the behaviour of an incubating Woodcock *Scolopax rusticola* made in 1975 (*Brit. Birds* 68: 421-428) were confined to the hours of full daylight. In 1976, incubating activity was recorded at a nest found on 6th April, about 2 km from the 1975 nest, by placing a thermistor under the eggs and connecting it to a chart recording machine. Apart from four faulty recordings, I obtained a complete indication of the bird's presence on, or absence from, the nest during the period 10th-25th April, on the last night of which the eggs were presumed to have hatched.

The bird (a) was absent from the nest on five to seven occasions during a 24-hour period, and the average length of absence in 81 instances was 29 minutes (range 12 to 46 minutes), thus confirming the 1975 observations; (b) always left the nest shortly before sunrise, the average of 13 departure times being 45 minutes before sunrise (range 39 to 52 minutes before); (c) always left the nest at about sunset, the average of 15 departure times being 14 minutes before sunset (range 38 minutes before to 10 minutes after); and (d) did not leave the nest during the night.

Since the thermistor records only temperature, it did not react immediately the bird left or returned to the nest. The exact delay was found by flushing the bird and observing the reaction of the thermistor on the chart: the time lag was $2\frac{1}{2}$ minutes. In addition, the nest was watched from a hide about 9 m away, but the thick undergrowth made observation difficult. On three occasions, however, satisfactory observations showed that the time lag was less than $2\frac{1}{2}$ minutes. This can be accounted for by small inaccuracies in the time-keeping, and by the mechanism driving the chart cancelling out the time lag which in fact occurred. The times given in (b) and (c) above are as recorded and have not been adjusted.

I am glad to acknowledge the essential help of R. Riley, who provided the recorder and devised the means of coupling it to the thermistor, and the help of W. H. Lambert in nest finding.

G. DES FORGES

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Hoopoe rendered flightless by sun-hardened mud On 15th May 1974, at Salinas de Levante, Mallorca, A. Bundy and I noticed an adult hoopoe *Upupa epops* a few metres ahead of us on a sandy track alongside some derelict salt-pans. It was unable to fly and, after a brief chase, we captured it. Although it was strong and healthy, its primaries, tail and wing breast feathers were encased in a hard-set mixture of salt and mud, which resembled cement. We assumed that the Hoopoe had bathed in the shallow salt-pans and stirred up the bottom sludge, which had quickly

dried in the hot early afternoon sun, the temperature at the time being about 25°C. The large mounds of extracted salt were also hard and rock-like.

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While not discounting the explanation offered, it is surprising that a landbird should bathe in salt water. It is possible that the Hoopoe dusted in a mixture of dry salt and earth and afterwards became wet, or, more probably, that it went on to liquid mud and did not realise this until too late. EDS

Juvenile Swallow in Kent in May On 17th May 1969, juvenile Swallows *Hirundo rustica* were reported in Jersey by J. C. M. Robertson and in Yorkshire by Mary Hancock (*Brit. Birds* 62: 282-283, 283-284). At about 18.50 GMT on 10th May 1976, at Stodmarsh, Kent, nine other observers and I saw a juvenile Swallow. We watched it at close range for about ten minutes, both perched and in flight, and noted the short tail with rounded ends to the outer feathers, the gape, the buff face and the off-white underparts. Its flight was strong, but lacked the zest shown by the 400 to 500 adult Swallows which were arriving to roost. A twittering note was uttered at least twice by the juvenile, and at least one adult was apparently attracted by it. On three occasions, an adult attempted to feed the juvenile on the wing, but we could not be certain that actual feeding took place. The day was one of considerable Swallow movement in east Kent, and the roosting birds on that evening were certainly migrants.

J. N. HOLLYER

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This observation was a week earlier than the two in 1969. As Peter Davis has recorded (*Brit. Birds* 62: 387), some young Swallows in southern Spain fledge by mid April and the juveniles in Britain and the Channel Islands a month later may have become caught up in the passage of more northerly populations. EDS

Great Tit eating bumblebees The note by Andrew Cramb (*Brit. Birds* 69: 64) prompts me to record the following. On 20th April 1970, by Font-hill Lake, Wiltshire, I saw a Great Tit *Parus major* fly into a goat willow *Salix caprea* and catch a bumblebee *Bombus* in its bill. The tit transferred the bee to a twig, held it down with one of its feet, and pulled away and ate portions of the inside. The bee was not killed and could be seen struggling while it was being consumed. The tit caught and ate five bumblebees in quick succession in the manner described, never releasing them as observed by Mr Cramb. So far as I could see, the head and thorax were not eaten, nor was the sting removed.

GEOFFREY BOYLE

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Role of male Great Tits in nest-building The note by Dr P. G. Morris on the role of male Blue Tits *Parus caeruleus* and Great Tits *P. major* in nest-building (*Brit. Birds* 68: 469-470) prompts me to record observations made in my garden at Hemel Hempstead, Hertfordshire. Between 15th March and 23rd April 1975, the male of a pair of Great Tits regularly visited a nest box. During this period, the female gradually showed more and more interest in the potential nest site by increasingly visiting the box herself. On 24th, nest-building started and both male and female took grass bents into the box. Visits were frequent and divided approximately equally between the sexes, each bird spending between several seconds and two minutes inside the box. It is not, however, known whether the male was actually taking part in nest construction. Over the following three days, until the nest was completed, the male participated no further in building, spending most of his time singing nearby, especially when the female was inside the box.

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Autumn feeding behaviour of some migrant passerines I was interested to read the notes on Yellow-browed Warblers *Phylloscopus inornatus* and Red-breasted Flycatchers *Ficedula parva* feeding on the ground on autumn passage (*Brit. Birds* 68: 249-250). This behaviour is probably not uncommon. I have seen many Yellow-browed Warblers doing this, including one on Bryher, Scilly, on 9th October 1970, which spent much time feeding among fresh tide wrack on the shore or among thick layers of moist seaweed in a bulb field. It fed almost entirely on flies (Diptera), picking them from the seaweed or jumping into the air to obtain those on the wing. I have also seen several Red-breasted Flycatchers feeding on the ground. One at Nanquidno, St Just, Cornwall, between 16th October and 1st November 1971, frequently took small earthworms (Lumbricidae) and other items among grass, and sometimes jumped into the air in order to recover. It also fed on a narrow, metalled road. On 9th October 1972, on St Mary's, Scilly, I watched another Red-breasted Flycatcher for ten minutes taking insects from the surface of a road, from which it also sallied into the air.

I have also noted gregarious ground-feeding by Redstarts *Phoenicurus phoenicurus*. Between 15th and 22nd October 1966, an influx of about 40 occurred on Tresco, Scilly. They fed mostly on the ground and, nearly every morning, a little after dawn, up to 12 fed gregariously on the ground in a small patch of recently ploughed grassland, as well as jumping into the air for flies; to a lesser extent, nearby bushes and fencing were used as perches from which to sally forth. Other groups of Redstarts, and two black Redstarts *P. ochruros*, fed in the same manner in some of the very small bulb fields and meadows. *The Handbook* states that, on passage and in winter quarters, the Redstart perches largely in the open on bushes and is not gregarious.

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Reviews

Bird Hazards to Aircraft. By Hans Blokpoel. Clarke Irwin, Toronto, 1976. xiv + 236 pages. £6.65 hardback; £4.20 paperback.

This is a clear, concise, comprehensive, conventional child's guide to how a bird can cause the greatest possible embarrassment to man in the shortest possible time. It is produced under the auspices of the most publicity-conscious national committee on the subject, and, as we have come to expect of Canadians, tends to stress local achievements, but deals with the subject nonetheless thoroughly for that. The main headings include birds and bird migration; bird strike statistics; bird-proofing aircraft and engines; on-board equipment to disperse birds; prevention of strikes at airfields and in flight; and organisations working on the problem. There are 445 references extending down to a deadline in the spring of 1974, many of them to obscure departmental memoranda and conference proceedings, and the rest covering a variety of work on related subjects.

It is reported that 12 major civil crashes have cost about 100 lives, and the loss of 65 military aircraft (usually equipped with ejection seats) 35 lives, at a total cost of at least \$100,000,000. There has also been a vast amount of other expensive damage to and delay of aircraft. Many other incidents have undoubtedly passed unreported or unconfirmed, especially in the military sector, and this category includes the disappearance of a Viscount over the Irish Sea in 1968 (at a time when Bewick's Swans were on the move). There is limited useful ornithological information about such matters as the heights at which strikes have occurred, and some useful recommendations, notably that too little attention has been given to the way in which birds react to aircraft, with advice to pilots that they should try to fly in straight lines and keep their landing lights on at night below 10,000 ft, to give birds more chance to avoid them.

The main novel information relates to developments with radar. It appears that ten years after my unwelcome views on the subject were filed away in the library at Oxford in 1963, technologists finally decided to abandon the methods of estimating bird density in the air developed for use with plankton in the sea, and set about trying to count the birds directly. Unfortunately, they also seem to have discarded all the knowledge already gained with radar, so that, for example, the official German map of European bird hazards reproduced in the book still indicates that they normally migrate on a narrow front. There is little discussion of the varying natures of the threats presented by different types of bird hazard and how to distinguish between them, and the quality of the work of the Royal Radar Establishment in particular has already been indicated in *British Birds* (69: 77-87; on further reflection we now wonder whether the birds identified as raptors soaring over Gibraltar could be the local gulls).

Ornithologists may continue to question the development of expensive new types of radar for detecting birds which are not adequately identified: does this really represent an improvement on the more careful study of what can be seen with existing radar?

W. R. P. BOURNE

The Thames Transformed: London's River and its Waterfowl. By Jeffery Harrison and Peter Grant; photographs by Pamela Harrison. Andre Deutsch, London, 1976. 239 pages; 13 colour and 62 black-and-white photographs; 8 maps and diagrams. £5.95.

The transformation of the Thames, from a heavily polluted river to one that is sufficiently clear to attract back a wide variety of aquatic life, is one of the great natural history success stories of our time. Hopefully, it will persuade authorities in other parts of this country and abroad that there is no real need for the disgrace which so many rivers bring to the environment.

The first part of this book describes how the transformation came about, and is the real reason for the whole. It describes not only some of the technical details, but also the various stages in the return of the food chain that has enabled wildfowl and waders to exploit once again an estuary in which, a hundred or more years ago, they may well have been an even more conspicuous feature. There follow two chapters in which the status of wildfowl and waders in the Inner London section of the river (defined as London Bridge to Tilbury) is reviewed species-by-species, with special emphasis on the changes that have followed the cleaning-up of the river.

This section of the book, however, occupies rather less than half the total, the remainder being devoted to the North Kent Marshes, which are taken to extend to the eastern end of the Isle of Sheppey and the south Essex shore. The changes in status in the last 25 years have been considerable, with a tendency for the Medway and Swale to grow in importance at the expense of the Thames. Though many wildfowl appear to have left the outer estuary of the Thames for the inner reaches, there seems to be good evidence for a total increase in numbers in many cases. In spite of the title of the book, it is the Medway and Swale which receive most attention in the outer part of the estuarine complex, and their status as wetlands of international importance for a number of species is well documented, with numerous tables of changing numbers since the early 1950s. Such tables, both in this section and in that on the Inner Thames, provide very valuable data for future research.

Throughout, it is the single-mindedness of the authors in studying this period of great transition that makes the book so interesting as a chronicle of what can be done by practical conservation. It is a telling appeal for recognition of the importance of the area to wildfowl and waders in the face of increasing pressure for various developments. The multiplicity of authorities which can trigger off such development is one of the most alarming aspects of the story, and illustrates the need for unremitting attention on the part of conservationists.

Valuable though the book is, it would have been less stimulating without the magnificent series of photographs by Pamela Harrison. These concentrate on wildlife in an environment frequently backed by factory chimneys and other symbols of industrial desecration of the landscape, but there are, as a bonus, some lovely studies of birds alone.

R. C. HOMES

Airborne Birds. By T. P. Inskipp and G. J. Thomas. Royal Society for the Protection of Birds, Sandy, 1976. 26 pages; several photographs and line-drawings. £1.00 including postage.

The publication in April 1975 of *All Heaven in a Rage*, the first report of an RSPB working party on imported wild birds, led to a public outcry and speedy adoption by the Government of two of its recommendations, with action promised on five others. The RSPB decided, however, that more information was needed, particularly about the trade in endangered species and the conditions under which birds are imported into the United Kingdom. So, once again, T. P. Inskipp made careful studies of birds handled by the Royal Society for the Prevention of Cruelty to Animals hostel at Heathrow and analysed records kept there and by HM Customs and Excise, and also scrutinised advertisements in the trade press. Compared with 1975, the total numbers brought in dropped markedly (partly due to stricter control, for veterinary reasons, on the import of captive birds in March 1976), but Senegal, India and the Netherlands remained at the top of the exporting countries. The RSPCA hostel handles only part of the imported consignments, and much larger numbers of birds in transit.

More than one in 20 of the imported birds were dead on arrival at the hostel, the heaviest mortality being among near-passerines and soft-billed passerines. A horrifying table gives details of the 23 cases of highest mortality, rising to 2,029 dead birds out of 2,120 in the worst instance, where the airline concerned was successfully prosecuted. The main causes of death were unfitness to travel, lack of water and food, delays en route and disease, but, as the detailed examination of 117 consignments showed, there were also many cases of overcrowding (some cages of parakeets held 30-65 times the recommended numbers) and the use of unsatisfactory containers. The report recommends many changes in the International Air Transport Association's regulations, but makes clear that even the existing ones are rarely observed by exporters or enforced by the airlines concerned. The implementation of the Washington Convention on Endangered Species (including all birds of prey and owls) on 1st January 1976 tightened controls considerably on these species, but trade advertisements and other evidence suggest that they are not always observed, nor is the transit trade adequately controlled; thus, large birds of prey sent from India to Germany via London appear to be avoiding the regulations simply by being described as 'ravens'! Action is recommended on all these aspects, particularly the urgent need to restrict ports of entry and to establish reception centres under veterinary advisers, for it seems likely that some less scrupulous importers may avoid the well-conducted RSPCA hostel at Heathrow. There is still much to put right in Britain, but this shocking report covers only a small part of the death and suffering caused by the international trade in wild birds.

STANLEY CRAMP

Letters

Interchange between Gannet colonies The paper by M. S. Cullen and R. Pratt (*Brit. Birds* 69: 88-90) added to the now considerable evidence that relatively massive increases—and sometimes substantial decreases—in the numbers of nest- or site-owning Gannets *Sula bassana* occur at many gannetries in successive years. I have discussed the details in *The Sulidae: Gannets and Boobies* (in press), but the main points can be summarised simply.

On both sides of the Atlantic, the total population of Gannets has, in this century, grown at approximately 2.9% per annum, a figure which corresponds—almost exactly (as of course it should, but in practice need not have done)—with that expected from the known figures for breeding success, mortality of young and adults, and age of first breeding. The increases far exceeding 3% per annum, which characterised the gannetry on Grassholm, Dyfed, in certain periods of its growth, and many other colonies too, indicate that considerable immigration takes place. Large numbers of Gannets in their second to fifth (possibly sixth) years are, each year, prospecting and, in many cases, establishing themselves at gannetries other than their natal colonies. It is likely that this interchange is particularly common off the west coasts of Britain and Ireland (the gannetry on the Bass Rock, Lothian, however, has not increased by more than about 3% per annum, so may be a more 'closed' population). Of course, we seldom know the details of interchanges, though one Gannet reared on Ailsa Craig, Strathclyde, is now breeding in Norway. The exploited Faeroese and *Sula Sgeir* gannetries are clearly augmented by immigrants, and it is possible that the area of interchange embraces the northern colonies, as well as those off Britain and Ireland, in one vast network. Alternatively, there may be major, but mainly demarcated zones of interchange.

Substantial decreases in sections of some colonies, in successive years, may be due to transitory site-holders moving elsewhere before actually breeding (there is no known case of a Gannet breeding in two different colonies, though even this has been proved for some boobies). Within the Bass colony, there is proof that some site-owning males move locality before breeding. All the new gannetries for which we possess founding and growth figures have, at one time or another, grown largely by immigration. Perhaps many gannetries produce a mixture of emigrants and home returners, and the eventual breeding colonies of the former are determined by the social and ecological attributes of the colonies visited by them. Social factors are probably important, and recently established and growing colonies appear to reach a threshold of numbers above which they become more attractive. All this has important implications, but one of the practical issues is that counts at gannetries are much more valuable if they distinguish between individuals (or pairs) that are attending 'good' nests and those attending merely sites, or sites with poor nests. This is usually possible only by examining the colony through binoculars and cannot be done from photographs. Since it is impossible to count major

colonies visually with this degree of detail, interpretation, in some cases, is inevitably difficult. Where it can be done, however, as at small colonies and discrete parts of larger ones, it is a great help and, where it cannot, the scale of the fluctuations (as in many of the increases at big gannetries) may be large enough to make it clear that immigration has been partly or largely responsible. Until recently, the scale and prevalence of interchange had not been appreciated.

J. B. NELSON

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Status of the Linnet in Shetland The literature on this subject must be confusing to birdwatchers outwith Shetland. With so many recent publications on status, which will constantly be referred to in future, it is necessary to clarify the status of the Linnet *Acanthis cannabina* in Shetland. H. F. Witherby *et al.* (1938, *The Handbook of British Birds*, vol. 1) stated 'breeds and also migrant Shetlands'. Dr D. A. Bannerman (1953, *The Birds of the British Isles*, vol. 1) referred to it as both a migrant and a resident. E. V. Baxter and L. J. Rintoul (1953, *The Birds of Scotland*) wrote, 'The Linnet has only colonised Shetland of recent years, having become established as a breeding bird about 1934.' This is the source for J. L. F. Parslow's information in *Breeding Birds of Britain and Ireland* (1973) (JLFP *in litt.*); he, Dr I. Newton (1972, *Finches*) and more recently Dr J. T. R. Sharrock (1976, *The Atlas of Breeding Birds in Britain and Ireland*) all referred to the species having bred and then become extinct. P. A. D. Hollom (1962, *The Popular Handbook of British Birds*) said, 'It breeds Orkneys but not Shetlands.'

L. S. V. Venables and U. M. Venables (1955, *Birds and Mammals of Shetland*) documented all the Shetland literature up to 1952 and recorded the Linnet as a scarce migrant. They failed to see any during their eight-year residence in Shetland. They also said, 'In Shetland the name linnie applies to the twitc, and the majority of Shetlanders have no experience of the linnet. This may lead to confusion and may be the source of the erroneous *Handbook* statement that linnets *breed* in Shetland.' Despite the statement by Baxter and Rintoul, there seems to be no documented evidence to suggest that the Linnet has ever bred in Shetland.

In recent years, the Linnet has appeared as a regular spring migrant in small numbers and a scarce autumn migrant, with totals of up to 30 in a year. Despite a growing network of capable observers throughout the county, no records of suspected breeding of Linnets have been reported.

P. K. KINNEAR

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Announcement

XVII International Ornithological Congress 1978 The congress will be held in Berlin (West) from 4th to 11th June 1978, under the auspices of the Deutsche Ornithologen-Gesellschaft. It will be sponsored by the Senat von Berlin and by the Deutsche Forschungsgemeinschaft from special funds provided by the Bundesminister für Forschung und Technologie. The president of the congress is Professor Donald S. Farner, Seattle, USA. All scientific events will take place at the Berlin Congress Hall.

Participation is open to anyone seriously interested in ornithology. Details may be obtained from the secretary-general of the congress, Rolf Nöhring, Hardenbergplatz 8, Zoologischer Garten, D-1000 Berlin 30 (West), West Germany.

News and comment

M. J. Everett

Look it up in the 'Key-Word-Index'
Not long ago I was shown three large volumes entitled *Key-Word-Index to Wildlife Research*. At first sight, they seemed to be crammed full of small print and looked highly complicated, but, after a closer look, I thought they deserved to be made known more widely than they seem to be so far. Published by the Swiss Wildlife Information Service, the three volumes produced to date (1974, 1975 and 1976) provide a very full index to papers appearing since 1973 on a wide range of topics concerning mammals and birds: for instance, the 1976 volume lists as its sources well over 300 local, national and international journals. The basis of each volume is its *Key-Word-Index*—a vast list arranged by subjects, using a key-word for each. Whole groups of similar subjects may be lumped together under a common key-word and, so that the researcher can see how this was done, and what abbreviations have been used, a detailed thesaurus is also provided. One can, therefore, trace a reference through its subject matter, even if the title and the author are not known. The *Key-Word-Index* is cross-referenced to an alphabetical author title index, which also provides a useful list of references in the more normal way. All the journals

consulted are listed, as are the species, which are shown both alphabetically in English, French and German and systematically by scientific names. One very useful feature is that Xerox copies may be obtained of virtually all the papers listed. Details are available from the Swiss Wildlife Information Service, University of Zurich, Birchstrasse 95, CH-0850 Zurich, Switzerland.

Severn Estuary Conservation Group
With pressures on our estuaries growing all the time, it is good to hear that no fewer than 15 local and national organisations—including wildfowlers as well as naturalists—have got together to form this new group. They aim to present a united front against increasing developments on the Severn, but will also turn their attention towards furthering public interest in the estuary and awareness of its importance. A booklet will be produced in due course and, meanwhile, further information on the flora and fauna of the area is being collected. These are all timely moves; the Severn is of considerable importance for birds, holding up to 10,000 winter wildfowl, with important populations of European White-fronted Geese, Bewick's Swans, Shovelers, Wigeon and Shelducks.

as well as up to 100,000 waders. It also includes a Ramsar Convention site at Bridgwater Bay. The group is seeking support, and further details of how one can help may be obtained from the chairman, Professor G. V. T. Matthews, The Wildfowl Trust, Slimbridge, Gloucester GL2 7BT, or the secretary, Stanley Davies, RSPB, 42 St David's Hill, Exeter, Devon.

Two more RSPB reserves This month, the Royal Society for the Protection of Birds announces the acquisition of two more new reserves, at Rathlin Island off the Antrim coast and at South Stack, Anglesey. Rathlin is a particularly attractive place, of great interest to botanists, geologists and historians as well as to ornithologists. Like many small, inhabited islands its population has declined, so that large areas of former arable land have gone back to grassland, rich in orchids in summer and still holding good numbers of Corncrakes. There is a lot of heather moor too, and many small wetlands, but without doubt the main bird interest centres around the superb cliffs and their thousands of breeding seabirds. All four auks are present, as well as Fulmars, Manx Shearwaters and Kittiwakes; Peregrines seem to be thriving and there is also a small Chough population. With help from the World Wildlife Fund, the RSPB has bought important sections of cliff along the north and south coasts; the summer warden also looks after the Kebble reserve there, in association with the Department of the Environment for Northern Ireland.

Like Rathlin, South Stack has some very spectacular geology, but with ancient, twisted pre-Cambrian rocks instead of the basalt and chalk of the Irish island. It too has Guillemots, Razorbills, Fulmars and a few Puffins and Choughs. Inland are some of the best maritime heaths anywhere in western Britain, important for their special and sometimes rare flora and fauna. By establishing this reserve—to be known as South Stack Cliffs—the RSPB hopes to protect these habitats and their wildlife and, at the same time, to take advantage of the considerable opportunities for education offered by the presence of thousands of visitors in summer. South Stack is a place where there is a lot of recreational pressure, but hopefully this can be reconciled with its undoubted value for wildlife through careful planning. Some advances have already been made in this direction:

there are some fine cliff climbs, but the British Mountaineering Council has placed a voluntary ban on climbing there during the breeding season.

Some news from the USA The autumn newsletter of the Cornell Laboratory of Ornithology included some interesting news of several rare American species. The Whooping Crane population rose to 44 birds with 12 youngsters surviving the breeding season in Canada, but efforts to boost productivity by transporting eggs from Canada and using Sandhill Cranes in Idaho as foster-parents met with little success. The young which hatched suffered heavily from bad weather and predation by crows and coyotes.

Habitat management is well in hand to help the Kirtland's Warbler, which numbered over 1,000 pairs in the mid 1960s, but fell to a mere 179 singing males in 1975. One major reason for the continuing decline in northern Michigan is nest-parasitism by the Brown-headed Cowbird. A programme to trap and remove the offending cowbirds is apparently achieving some results, since the 1976 score of Kirtland's Warblers was 199 singing males.

Many British ornithologists have followed with interest the Cornell programme of breeding Peregrines in captivity and bringing up the young at selected sites in the wild, with the main aim of re-establishing the extinct breeding population in the eastern states. In 1975, 12 young birds fledged from their artificial eyries and in 1976 five of these returned to their 'home areas', which augurs well for the future. There was a good success rate from eight sites used last year, and, if some of these birds follow the pattern set by their predecessors, it may not be too long before the first 'natural' breeding occurs.

There is some good Osprey news too, from the region around Long Island Sound, where DDT contamination drastically reduced the breeding success and came close to wiping out breeding Ospreys altogether. DDT has been banned in the area since 1966 and the results of a cleaner environment have been striking: in 1976, 105 active nests were located and, from these, 130 young were fledged. It makes a pleasant change to record a come-back story for a bird of prey!

Relief for Houbo of Scatsta I doubt if Peter Conder would have guessed that I would be writing about this so soon after his comments on the shameful decision to dump peat into one of Shetland's best-known wetlands (*Brit. Birds* 70: 41-42), or that I would be reporting that the area is safe again. At the eleventh hour, Shetland County Council changed its decision, after hearing from its Director of Planning that a new costing had shown that it would be no more expensive to dump the peat in Orka Voe after all. This may seem a relatively minor business to many outside Shetland, but it does represent a victory for wildlife in the face of a singularly unenlightened majority of county councillors — even if, to my mind, the right decision was reached for all the wrong reasons: it looks as if the new decision is based purely on finance. With so many other developments, large and small, likely to crop up in the islands in the years ahead, one cannot but worry about a county council which can so easily ignore the environmental arguments raised originally and also the advice of its own planners. Fortunately, there are some councillors who care; we must hope that their views will be listened to next time.

Endangered Species (Import and Export) Act, 1976 This topic has been noted before (69: 68, 156-157, 372-373, 416, 518-519), but the Act, designed for the implementation of the International

Convention held in Washington in 1973, has now come into force. It is aimed at regulating trade in threatened species by licensing arrangements agreed between the exporting and importing countries and it lays down that, for all but the commoner species, a Department of the Environment licence is required for the importation of birds into this country. Equally, it enables the Government to impose conditions on the licensee concerning the premises where the bird is kept and other aspects relating to the conservation of rare birds. Commercial interests may not be given licences at all for very rare species, while, in the cases of less rare but still endangered birds, licences will not be issued unless a valid export licence is also produced. In any case, all licences for Convention species will be issued only on the advice of a scientific advisory panel (see 69: 68). All comings and goings are to be monitored and figures will be published regularly. The main duties of enforcing the new Act fall to HM Customs and Excise, but private prosecutions will be permitted in some cases. Copies of the Act (ISBN 010547276X) are available from HM Stationery Office, price 60p each.

Address for contributions Until April, contributions for this feature should be sent to M. J. Everett, 3 Gunnings Way, Hemingford Grey, Huntingdon PE18 9EE.

Opinions expressed in this feature are not necessarily those of the editors of British Birds

Recent reports

K. Allsopp

These are largely unchecked reports, not authenticated records

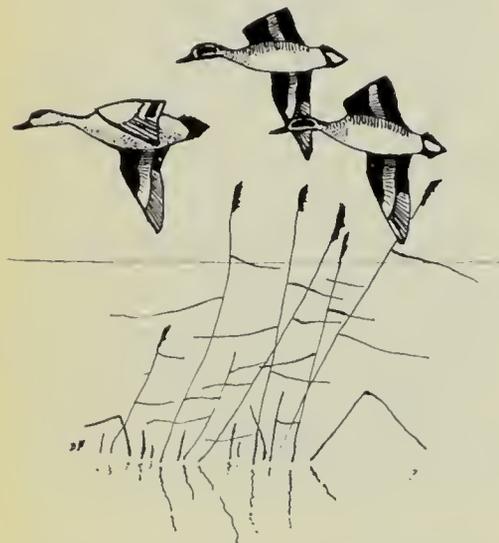
This report covers December 1976 and the first part of January 1977. Unless otherwise stated, all dates refer to December.

The year end's birdwatching was even more of an anticlimax than usual, the exceptional autumn's migration being fol-

lowed by a meagre influx of winter visitors. Whether this reflected a poor breeding season or the choice of Continental wintering areas remains to be seen. The westerly areas of Britain and Ireland stayed mild, in comparison with the east, where tem-

peratures were below average and many of the smaller waters were frozen over for several days. Before Christmas, the European North Sea coastal regions also remained mild, but from 25th very cold weather prevailed there, and this extended to the Kent coast on 29th, when the sea became frozen. The reports received so far indicate some general hard weather movements at this time.

Figuratively speaking, wildfowl become the staple diet for birdwatchers in winter.



The most exciting occurrences were all in the west. A total of 9,190 wildfowl was present at Chew Valley Lake (Avon) on 29th, easily exceeding the previous highest total of 4,692 on 28th December 1965. Record numbers for individual species were 101 **Ruddy Ducks** *Oxyura jamaicensis*, 127 **Bewick's Swans** *Cygnus bewickii*, 330 **Gadwalls** *Anas strepera* and 2,810 **Pochards** *Aythya ferina*. Farther north, the Mersey marshes (Merseyside) held 4,500 **Teal** *Anas crecca* and 9,200 **Pintails** *A. acuta* on 12th. Exceptional counts of 1,800 **Common Scoters** *Melanitta nigra* and 31 **Velvet Scoters** *M. fusca* were reported from Red Wharf Bay (Gwynedd). The latter species was also reported from the east coast, 22 at Redcar (Cleveland) being the highest number. Apart from male **Ferruginous Ducks** *Aythya nyroca* at Sutton Bingham Reservoir (Somerset) on 26th and at Durlough Reservoir (Somerset) on 28th, the rare ducks reported were all of American origin. Three **Ring-necked Ducks** *A. collaris* (two adult males and one immature male) were present at Chew

Valley Lake on the record-breaking 29th, and an immature **Surf Scoter** *M. perspicillata* was found at Kingsbridge (Devon) on 27th, following three other immatures at Clonakilty (Cork) from early November until late December.

Fieldfares *Turdus pilaris* and **Redwings** *T. iliacus* were much commoner in the southwest than on the east coast, and they were evident inland only after Christmas, feeding on the plentiful supply of hedgerow haws. During the hard frosty days, **Lapwings** *Vanellus vanellus* moved westwards, a flock of 15,000 gathering at west Sedgemoor (Somerset) on 9th. An exceptional flock of 6,500 **Snipe** *Gallinago gallinago* at Kingsmoor (Somerset), during freezing conditions on the 26th, suggests a similar westerly movement of that species, or perhaps a lack of food on reservoir margins, which were exposed for long periods during the summer drought, so concentrating the birds into flooded meadow lands, where feeding was perhaps better. Reports of other wintering waders included about 50 **Avocets** *Recurvirostra avosetta* at the regular wintering site on the Tamar (Cornwall), as well as single **Little Stints** *Calidris minuta* at Wadebridge (Cornwall) and Tivoli (Cork), and two at Marshside (Merseyside) on 5th.

The coastal moors of Land's End seem an unlikely locality for **Cranes** *Grus grus*, but five at Nanjizel (Cornwall) were about as far south as they could get without crossing the English Channel. These birds, which arrived on about 20th, were possibly one of the Scottish flocks reported last month; four were still present at the end of the year.

Latest news

Mid to late January and February: **White-billed Diver** *Gavia adamsii* at Rosses Point (Co. Sligo), **Green-winged Teal** *Anas crecca carolinensis* in Cornwall, four **Surf Scoters** *Melanitta perspicillata* at Clonakilty (Co. Cork), **Snow Goose** *Anser caerulescens* at Southernness (Dumfries and Galloway), **American Brant** *Brant bernicla nigricans* at Trimley Marshes (Suffolk.) about 7,000 **Barnacle Geese** *B. leucopsis* at Caerlaverock (Dumfries and Galloway), 1,200 **Bewick's Swans** *Cygnus bewickii* on the Ouse Washes (Cambridgeshire/Norfolk). **Lesser Yellowlegs** *Tringa flavipes* at Rahasane (Co. Galway) and **American Robin** *Turdus migratorius* at Glengarriff (Co. Cork).

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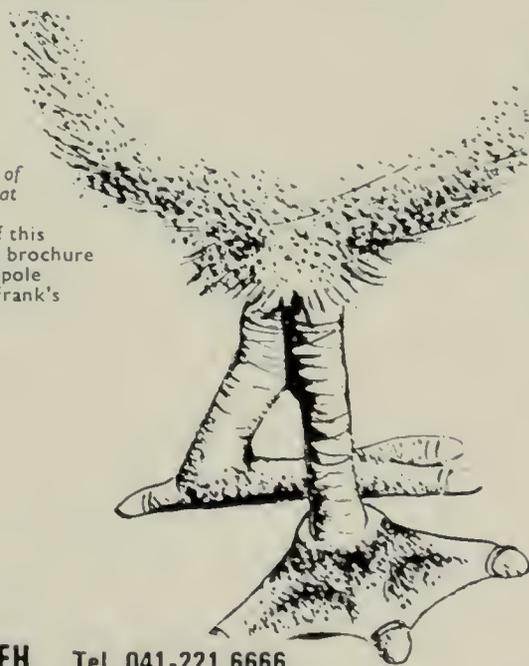
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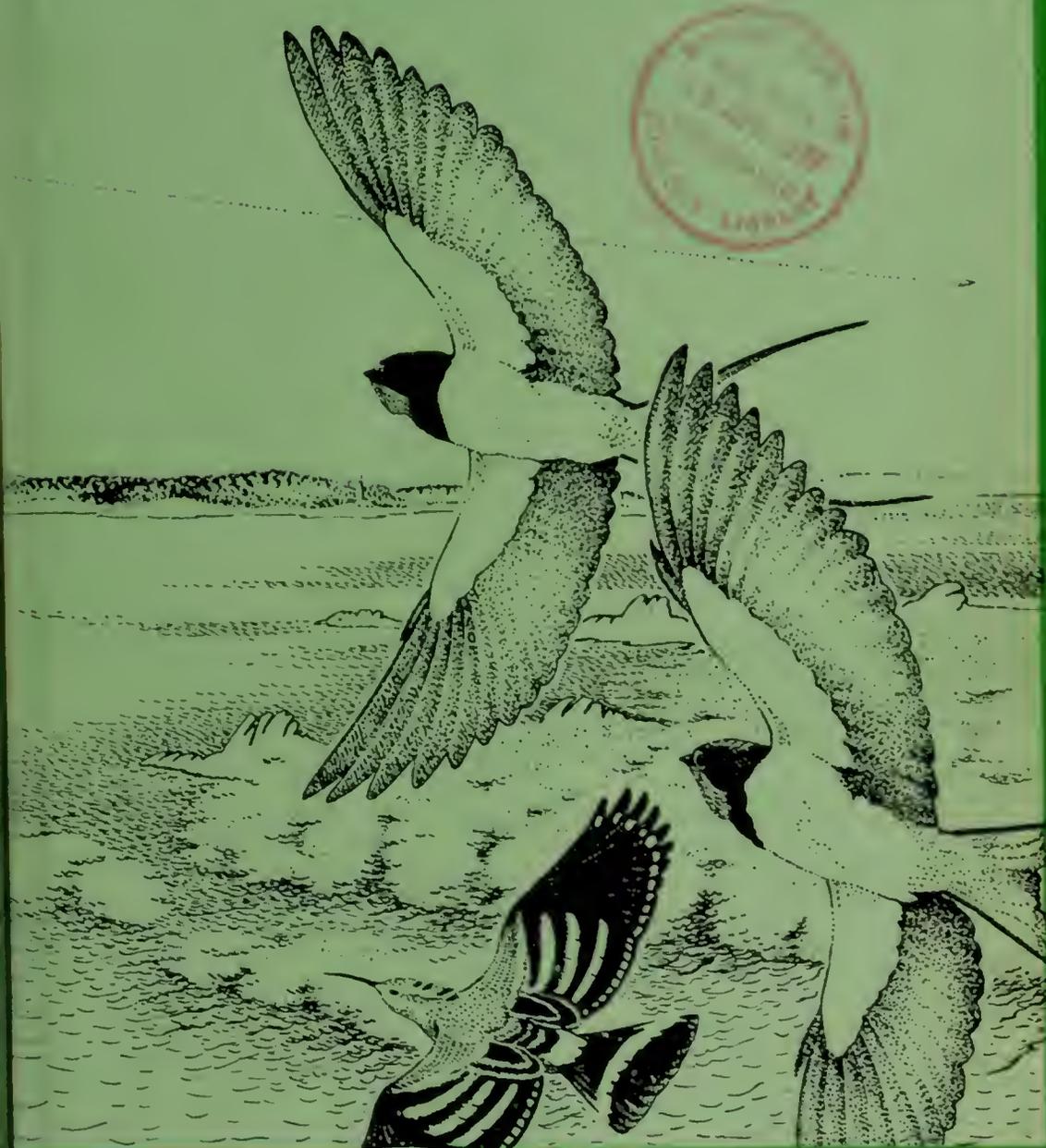
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Bird Photograph of the Year

Ruddy Duck behaviour · Pintail Snipe identification

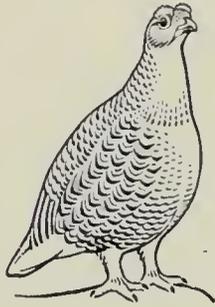
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British Birds

VOLUME 70 NUMBER 4 APRIL 1977



Bird Photograph of the Year



Bird Photograph of the Year, 1976. Nightingale *Luscinia megarhynchos* at water, Sernal Woods, Wiltshire, May 1976. (Technical details: Nikon 'F' with a 135 mm Nikon lens and a 2x Converter, using a Braun F700 flash with two heads at 1 m; film Agfachrome Professional 'S'; 1/60th second at f8.) (M. C. Wilkes)

The 130 entries for the 1976 competition were judged by M. D. England, Eric Hosking, I. J. Ferguson-Lees and Dr J. T. R. Sharrock. The winning photograph, which was the first choice of three of the four judges, and the runners-up were as follows:

1. Nightingale *Luscinia megarhynchos* (M. C. Wilkes, Worcester)
2. Water Rail *Rallus aquaticus* (Barry Walker, Buckinghamshire)
3. Rock Dove *Columba livia* (L. R. Dawson, Argyll)
4. Corncrake *Crex crex* (E. Arthur, Sussex)
5. Ferruginous Duck *Aythya nyroca* (Dick Jones, Hampshire)

The award of an inscribed salver and a cheque for £100 were presented to Mr Wilkes by Sir Peter Scott at a press conference on 17th March 1977. The photograph (plate 25) was one of two colour transparencies resulting from patient waiting over a period of two summers: Mr Wilkes placed the branch in a pond at Spernal Woods, Warwickshire, in an attempt to get the Nightingale in a position for photography. The judging panel was particularly impressed not only by the clarity of the result and its composition, but also by the colour tones and the achievement of photographing this shy species in such a situation: neither the present nor the past



26, 27 and 28. Water Rail *Rallus aquaticus* wading, Newport Pagnell, Buckinghamshire, December 1976 (Barry Walker); top right, Rock Dove *Columba livia* at nest with young, Islay, Argyll, September 1976 (L. R. Dawson); bottom right, Corncrake *Crex crex* calling, North Uist, Western Isles, May 1976 (E. Arthur) (all from colour transparencies)



photographic editor of *British Birds*, both of whom have spent many hours in hides overlooking pools, has ever had the good fortune to see a Nightingale drinking or bathing.

The Water Rail (plate 26) was a most evocative picture, full of action. Although Feral Pigeons are often so tame in our towns, the wild Rock Dove (plate 27) is a most difficult subject, seldom if ever before photographed at a cave nest-site. The Corncrake (plate 28) was also a remarkable achievement: this species is heard far more often than it is seen, and very few ornithologists will ever have observed one singing. The Ferruginous Duck (plate 29) was particularly pleasing on aesthetic grounds; like all the first five entries, this was a colour transparency and the combination of the greens and blues of the water and the chestnut plumage of the duck were most attractive: this effect can still be appreciated in monochrome. EDS

29. Male Ferruginous Duck *Aythya nyroca* swimming, Chichester gravel pits, Sussex, March 1976 (Dick Jones) (from a colour transparency)



Behaviour of Ruddy Ducks in Avon

D. E. Ladhams



Ruddy Ducks are new to our avifauna and provide fascinating subjects for study. Does their behaviour here differ from that observed in their native North America?

During 1971-75, I studied the behaviour of the Ruddy Ducks *Oxyura jamaicensis* which gather at and sometimes breed on Chew Valley and Blagdon Lakes, two adjacent drinking-water reservoirs in Avon (formerly north Somerset). The origin and distribution of these birds have been discussed by Hudson (1976). The most comprehensive study of the behaviour of this species in North America is that of Miss Helen Hays, as yet unpublished, though she has contributed a summary to Palmer (1976). This paper follows her terminology so far as possible. The Avon birds showed certain actions not recorded previously and others which apparently differed from those reported from North America.

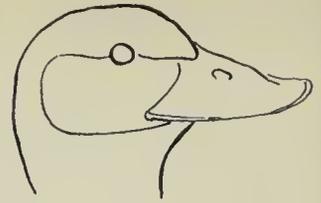
Winter flocks

Flocks of Ruddy Ducks build up in late autumn on several British reservoirs (Hudson 1976); the largest that I have observed was 209 on Blagdon Lake on 5th February 1977. About half of the flock were adult males, of which at least one-third remained in full breeding plumage throughout the winter. The rest of the flock consisted of females and juveniles, which are usually indistinguishable.

Individual identification

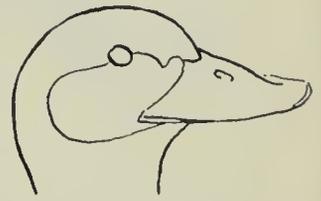
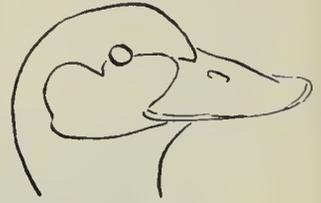
In the very small breeding group, I could identify most of the males individually by their head markings—the shape of the black cap and,

particularly, its eye-line, with or without notches (three examples are shown here); the two sides of the head rarely had identical markings. The females could not be separated individually for certain, though general tones of the plumage showed variation.



Pair formation and bond

All the birds freely intermixed in the winter flocks. In March, these rapidly dispersed into small groups of up to ten birds, in which there were skirmishes, displays and escapes, but very few actual fights by males. The females were never seen to incite, appearing indifferent or showing the 'Open-bill Threat' (see below). Actual association leading to pairing took place away from the group, and once a nest had been made the female kept well out of sight, with the drake, evidently aware of her presence, patrolling and feeding nearby. He usually escorted her to open water during incubation breaks. This was almost the only evidence of pair-bonding, although, from the first laying until the ducklings were about two weeks old, the female was attended by a drake. Yet, on closer observation, I found that this was not always the same male, and some of the disputes between males were apparently for the privilege of escorting the family.



Behaviour

In many species of waterfowl, aggression and courtship call for seemingly identical actions, and the purposes of some of the Ruddy Duck's activities are not always clear. The first four described below seem to me to be largely if not wholly antagonistic in character, while the succeeding seven probably serve more than one function.

Open-bill Threat

One bird swims rapidly towards an opponent, with neck extended and bill



open, the whole body being flattened on the water surface. As the opponent turns to escape, the threat usually ceases. Females repel approaching

males, and both sexes drive off intruders of all kinds in this way. Sometimes, a threatened Ruddy Duck will fight another; otherwise, the escape procedure is to swim rapidly away in a crouched position, diving, or taking to the air if the attack persists; I have seen males stop and 'Bubble' while escaping.

Pre-attack Posture

Aggression between males is very occasionally preceded by this action, when two drakes face each other rigidly, for up to 20 seconds, bill to bill,



crouching with heads and tails held low. I always saw it lead to a fight or to one escaping.

Fighting

Fights were rarely seen, involved only the males and appeared to be strictly ritualised: each male leapt or attempted to leap over the other and claw his scapulars and back. After each leap, they spun round to face each other on the water and repeated the movement up to 30 times in succession. I never detected any damage, and each fight ended in 'Wing Quivering' or escape.

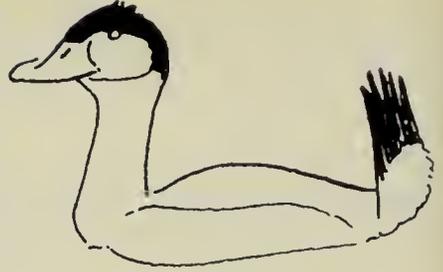


Wing Quivering

This activity does not appear to have been observed in North America. The drake, sitting quietly on the water in the 'Head-high Posture', raises his scapulars and quivers his primaries rapidly for several minutes. I observed this only after fighting or vigorous displays, and other males not previously involved sometimes joined in. A very brief comfort movement, 'Scapular Ruffling', has been seen by Miss Hays, and Siegfried (1973a) has noted 'Wing Shivering' in North America on platforms built to serve as drying and warming areas. In this country, no platforms have been reported, and 'Wing Quivering' was performed independently of the weather and always on the water.

Head-high Posture

The adult male swims slowly with the neck held stiffly vertical, the bill horizontal, and ear-tufts raised; the tail is vertical, revealing the white undertail-coverts. This display is always made during the breeding season, in the presence of at least one female, but may be maintained for minutes at a time in the middle of a group of both sexes. It seems to lead to either aggression or courtship.

*Bubbling*

This complex action starts from the 'Head-high Posture'. The drake very rapidly taps on his chest with his bill, usually five times, followed by two or more hard slaps near water level, pressing on the chest so as to expel air from the feathers and raise a shower of bubbles (plate 30). To complete the ritual, the bird raises his head and emits a croak, with open bill. Each chest tap makes a sharp click, and the slap a deeper note. During the performance, which takes less than three seconds, the tail is raised beyond the vertical, to 130° or more, almost touching the nape, and more or less fanned, pressing against the primaries, which are displaced. The bill does not actually touch the water, as was confirmed by examination of films taken by M. Tibbles. In about half of the instances, only the chest taps were given, with few bubbles. In a typical 20-minute session, one male, in the presence of several birds of both sexes, performed more than 40 times. The action seemed to be directed towards another bird only by

30. Male Ruddy Duck *Oxyura jamaicensis* 'Bubbling', Gloucestershire, 1969
(*Philippa Scott*)



chance, and on many occasions I noticed a male 'Bubbling' while his female companion was out of sight foraging under water. The female only occasionally 'Bubbles', and on the few times that I saw it I could detect no difference from the male's actions. 'Bubbling' by young birds was not seen, but has been noted in North America (Joyner 1975).

Head Jerking

The bill is flicked in the vertical plane, almost on to the breast. This may be an incipient form of 'Bubbling', but it seemed to me to be no more than an irritation response to the 'Bubbling' of another bird.

Ring Rush

Drakes perform the 'Ring Rush' within a social group, often alternating with 'Bubbling'. Starting from the 'Head-high Posture', the male suddenly flattens his tail on to the water, extends his neck and body at about



30° above the surface and moves forward as if to take flight. He rushes along the water for 2-4 m, churning it up with five to 15 wingbeats, partly immersing the primaries and causing a loud clanging or ringing noise at each beat. The rush may be preceded or followed by 'Bubbling', and starts and ends quite abruptly.

Bill Flicking

In this display, a drake, between 'Bubbings', approaches a female, then dips his bill and flicks it laterally, scattering a few drops of water to either side. I have sometimes seen this performed when no female was in sight. Johnsgard (1965) described a similar action as pre-copulatory, but I could never detect any reaction.



Hunched Rush

Within a social group, a drake will sometimes swim vigorously, with bill pressed on his inflated breast and tail submerged, while the scapulars are raised. Miss Hays records it as being directed towards a female, whereas Johnsgard (1965) believed it to be a threat posture towards another drake. To me it seemed quite undirected, so its significance is uncertain.

Tail Flash

Miss Hays also regards this revealing of the undertail-coverts by the male (plate 31) as display to a female, but in my experience it is part of the 'Head-high Posture', a kind of self-advertising.



31. Male Ruddy Duck *Oxyura jamaicensis* 'Tail Flashing' at female, Gloucestershire, 1969
(Philippa Scott)

Copulation

This is very rarely seen in the wild in either country. Joyner (1975) observed it only once in three breeding seasons, and I saw it for the first time in April 1976. There were no preliminaries, and it lasted about four seconds. It was followed by 20 minutes of preening.

Interspecific attacks and defence

During the breeding season, other waterfowl which happened to come near were threatened by the 'Open-bill' display. Female Pochards *Aythya ferina* were the most often threatened, especially by the drake Ruddy Ducks, and their superficial resemblance to female Ruddy Ducks, particularly the head markings, may be the cause. Similarly, male Ruddy Ducks, and also females if with a brood (plate 32), frequently attacked Coots *Fulica atra*,



32. Female Ruddy Duck *Oxyura jamaicensis*, with brood of ducklings, threatening intruder. Gloucestershire, 1967 (Philippa Scott)

perhaps stimulated by their markedly aggressive postures. All the waterfowl that were threatened escaped at once by diving or swimming. Joyner (1975) noted similar behaviour in North America. Adult Ruddy Ducks never seemed to threaten other ducklings, nor did they actively defend their own against attacks by predators. On two occasions in 1975 when downy young were dragged under by fish, the attendant female did not react in any way; but an 'Open-bill Threat' or the mere presence of an adult may have deterred some mammalian or avian predators.

Breeding season

Displays occurred regularly throughout the period from March to October. The earliest hatching recorded in this country was at the beginning of May 1961 (M. A. Ogilvie *in litt.*). Hatchings continue for some months: the latest was estimated to have been on 8th September 1973. Some of the late records could be second broods, which have been reported for captive birds at the Wildfowl Trust, Slimbridge, and for wild ones in the southern parts of their North American range (Palmer 1976), or could have been from repeat layings following the loss of the first clutch. Incubation takes 25-26 days in North America (Low 1941), but it has not been possible to time this here in the wild.

Nesting

The nest, apparently constructed by the female, consists of dead reed and sedge, usually in thick cover, on the mud and always near to water, with which it is linked by a mud ramp. Joyner (1975) found that, if the water-line receded at all, the nest was invariably abandoned. There was no canopy, as is sometimes found in North America (Bent 1925), or down lining in any of the nests that I examined. The female alone incubates, but does not cover the eggs when leaving the nest (M. Tibbles verbally). On average, eight eggs were laid, as in North America; as each is about 62×45 mm (Bent 1925), which is very large for the size of the bird, the female cannot cover all of them at one time, and there is usually a lower layer which does not hatch.

The incubation is further complicated by egg-dumping, which has been recorded twice in this country. One nest held eggs of a Pochard, as well as those of the Ruddy Duck, but was soon destroyed by a predator; the other held eight eggs of the Ruddy Duck, one of a Moorhen *Gallinula chloropus* and one of, probably, a Pochard. In both Britain and North America, a Ruddy Duck sometimes takes over the nest of a grebe (Podicipedidae), a Coot or another duck, and, indeed, Bent (1925) stated that it was often difficult to decide which was the original owner of the nest. With one possible exception, no young Ruddy Ducks have been seen in Avon accompanying or being accompanied by the ducklings of another species, but in North America interspecific rearing does occur (Joyner 1975). The exception was a sooty-brown duckling less than a week old attached to a female Ruddy Duck in July 1975; it was probably a young Tufted Duck *Aythya fuligula*.

Parent-duckling bonds

The young are precocial and nidifugous, but remain with their mother for a few weeks. The association is not strong, however, and broods readily intermix, or attach themselves as a group, or even singly, to another adult. In July 1972, three ducklings about two weeks old switched overnight from the company of their parent to that of another adult male accompanied by three similar-aged ducklings and one downy duckling a few days old. The impulse seems to be for the ducklings to stray and attach themselves to an adult, preferably a male, rather than the converse suggested recently by King (1976).

Feeding by the ducklings

Siegfried (1973b) recorded that the diving times of captive adult Ruddy Ducks in Manitoba were about twice those of their young ducklings.

Table 1. Diving times of Ruddy Ducks *Oxyura jamaicensis* in 1.5 m of water in one area of Chew Valley Lake, Avon, during breeding seasons 1970-76

Males, females and ducklings (D) are numbered individually and those diving together are linked by + (see text)

(A) ADULTS	♂1 + ♀1		♀2 + ♀3		♀4	♂2	♂3	♂4
Number of dives timed	9	18	10	4	19	8	8	10
Mean time submerged (seconds)	14.2	14.6	17.7	19.0	16.4	18.0	17.0	20.7
(B) DUCKLINGS WITH FEMALES	D1 + ♀5		D2 + ♀6		D3 + ♀7			
Approximate age (days)	8		9		12			
Number of dives timed	10	5	6	3	9	2		
Mean time submerged (seconds)	10.2	11.0	8.4	10.8	11.1	12.6		
(C) DUCKLINGS NEAR FEMALES	D4	D5	D6	D7				
Approximate age (days)	5	7	25	> 30				
Number of dives timed	10	8	20	6				
Mean time submerged (seconds)	10.2	9.6	13.0	15.8				

Joyner (1975) made similar observations on wild birds in Utah. The ducklings are so buoyant that it is doubtful whether they can submerge at all until they are a few days old, but buoyancy decreases with growth until the adult diving ability is attained within a few weeks. I observed this same phenomenon at Chew Valley Lake (table 1). Matthews and Evans (1974) noted a similar buoyancy effect with captive White-headed Ducks *Oxyura leucocephala*. Siegfried (1973b) and Joyner (1975) noticed that females accompanied by ducklings showed shorter diving times, comparable to those of the ducklings themselves, and the observations of Matthews and Evans (1974) bore this out for the White-headed Duck. My observations not only agreed with this, but (table 1B) also revealed that the female roughly synchronised her dives, ensuring that usually she was not submerged while the ducklings were on the surface. Presumably, her shortened dives, especially if synchronised, are an adaptation towards maximising protective supervision of the young.

Predators and breeding success

Little is known about the attacks on Ruddy Ducks' nests by predators, but they occur frequently. Very young birds, which rarely go ashore, also suffer considerable losses. Among possible predators, mink *Mustela vison* were not seen and gulls (Laridae), which prey on most other ducklings, rarely attacked Ruddy Ducks, but foxes *Vulpes vulpes* and feral domestic cats *Felis domesticus* have been seen to hunt in shallow water and may take eggs and prey on young Ruddy Ducks. There is more than one record from Avon of very young ducklings being attacked from below and dragged under by fish. In 1974, a brood of five was reduced to one in about a week from this cause. The survival rate from the egg to the fledging stage is apparently extremely low. It was not possible to assess total numbers accurately, but on Chew Valley Lake the usual six potential breeding pairs rarely produced a total of more than eight juveniles by the end of the season.

Acknowledgements

I wish to thank Miss Helen Hays for copies of her notes and other correspondence, M. A. Ogilvie for personal communications, and Maurice Tibbles for verbal information and, particularly, for the use of his films of Ruddy Ducks.

Summary

The behaviour of Ruddy Ducks *Oxyura jamaicensis* on two reservoirs in Avon is described. Details are given of the principal antagonistic and courtship displays, together with information on the breeding biology, feeding of the young and breeding success.

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Field identification of Pintail Snipe

S. C. Madge



The Pintail Snipe has not yet been recorded in Britain and Ireland, but has it been overlooked?

The genus *Gallinago* provides observers with difficulties in field identification, chiefly because of the rather similar general plumage patterns of snipes and their singularly awkward habits: most views being of flushed birds flying away from the observer. Difficulties generally arise between large-looking Snipe *G. gallinago* and Great Snipe *G. media* (see Wallace 1976), but emphasis on these two species should not preclude the possibility of other Palearctic snipes, especially the Pintail Snipe *G. stenura*, occurring as vagrants in western Europe.

The inclusion of the Pintail Snipe in a popular European field guide (Heinzel, Fitter and Parslow 1972) has attracted the attention of observers to the species, but the brief description given there is of little use in the field. This paper grew around my field impressions of Pintail Snipe in comparison with Snipe in Nepal in winter 1973/74, and includes notes supplied by T. P. Inskipp (*in litt.*) from India in 1970 and P. A. Dukes (*in litt.*) from Sri Lanka in 1975. We found the distinctions between the two species more striking than has been suggested in the literature,

although there is clearly scope for more fieldwork to be done on the differences between the Pintail Snipe and the closely allied Swinhoe's Snipe *G. megala*, which is said to be possibly indistinguishable unless in the hand.

World distribution

The Pintail Snipe breeds widely across Siberia, from the western foothills of the Urals east to Anadyrland and the Sea of Okhotsk, north to the southern Yamal Peninsula and about 71° on the Lena, south to the region of Tomsk and northwestern Manchuria. It is a highly migratory species, wintering mainly in the Indian subcontinent and southeastern Asia, with possibly a few in northeastern Africa, where it has been recorded in Somalia and Kenya (Vaurie 1965, Backhurst 1969).

Field identification

On the ground

The distinctions between the Snipe and the Pintail Snipe on the ground are not so obvious as in flight; if the two species are seen together, however, the Pintail Snipe can be picked out by the buff stripes along the scapulars being narrower and paler, with the areas between them looking browner and more vermiculated, giving a less contrasting appearance to the upper-side. These narrower stripes can appear as separate pale lines, rather than as continuous stripes (TPI). The wing-coverts are duller and less rufous-looking than those of the Snipe, but, in general, separation of these two species on the ground is well-nigh impossible.

In flight

The distinctions between the two are far more apparent in flight (see fig. 1), with the most obvious and useful character being the Pintail Snipe's lack of white trailing edges to the secondaries, which are present and visible on the upperwing of all Snipe seen well (and also, less obviously, on the underwing): in the hand, the Pintail Snipe exhibits extremely narrow, brownish-white tips to the secondaries, but they are only about 1 mm wide and are invisible in the field. The flight feathers are also browner than those of the Snipe. Seen from above, the whole wing of a rising Pintail Snipe looks dull brownish, with more marked pale buff mottling on the coverts than on those of the Snipe, which looks quite blackish on the flight feathers, with the coverts marked with warm (almost rufous) brown and prominent white tips to the secondaries forming a distinct trailing edge. In exceptional circumstances, it may also be possible to see a whitish outer web to the outermost primary of a rising Snipe, whereas, on a Pintail Snipe, this is brownish-white and offers no contrast: this feature could be useful if a bird were repeatedly flushed at close quarters.

The striping on the scapulars of the Pintail Snipe is less apparent than on the Snipe, and there is a generally more uniform, duller brown appearance to the upper-side. The tip of the wing is also slightly blunter in the Pintail Snipe, giving a rather heavier appearance, which is exaggerated by its heavier flight.

The underside of the wing of the Pintail Snipe is markedly different from that of the nominate race of the Snipe, being closely marked with intense dark barring, giving the whole underwing a uniform dark appearance, a feature which is, however, shared with the American

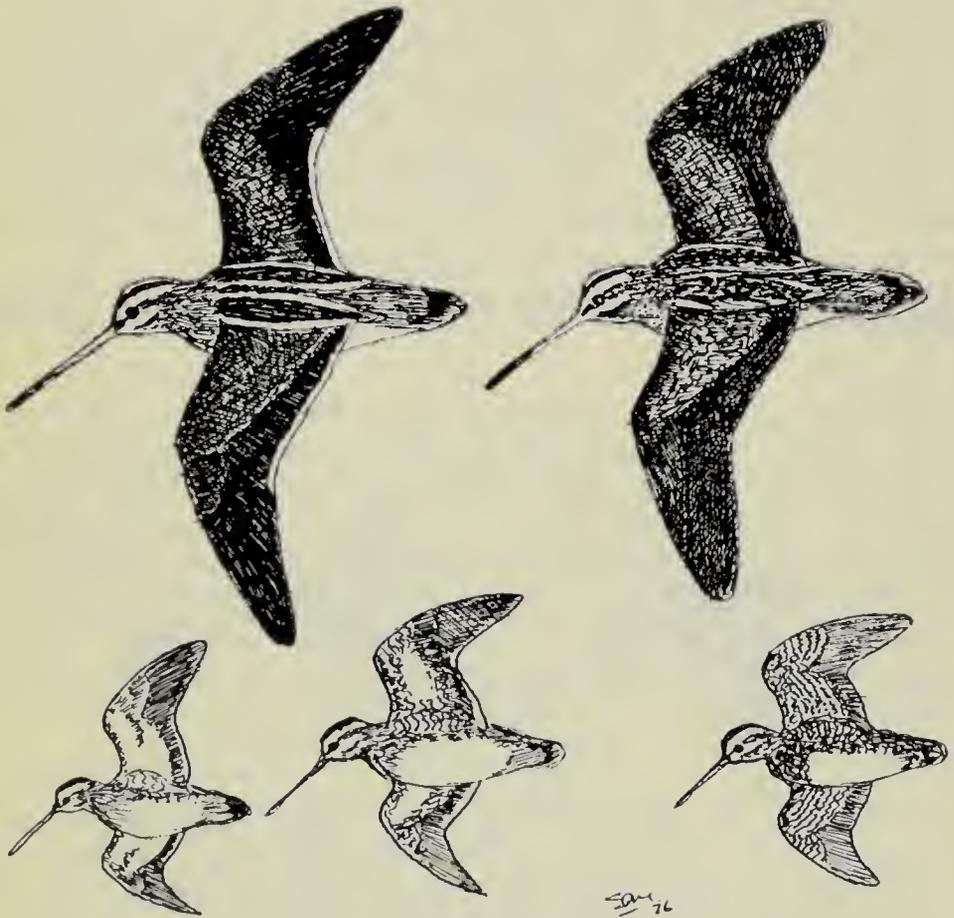


Fig. 1. Snipe *Gallinago gallinago* (left three birds) and Pintail Snipe *G. stenura* (right two). Note variations in underwing pattern of Snipe, but usually showing clear whitish area compared with densely barred underwing of Pintail Snipe. Note also latter's lack of white trailing edge to secondaries, more uniform upperparts and slightly blunter wing tips

subspecies of the Snipe *G. g. delicata*. Snipe of the nominate race, even those with very heavily barred underwings, usually show a clear, unmarked, whitish area towards the centre of the underwing (see fig. 1).

Habitat and habits

Pintail Snipe breed on the Siberian tundra, in damp areas covered with birches *Betula* and in marshy areas alongside small rivers, and avoid the really dry areas (Dementiev and Gladkov 1969). These are, in fact, probably very similar to the breeding habitats of Snipe in western Europe; the relationships between the snipes on the breeding grounds would make an interesting ecological study.

In their winter quarters in Nepal, the two species were found together in wet, open paddy-fields in the terai—the alluvial plain in the south of

that country. Pintail Snipe observed by PAD in Sri Lanka were again in damp, boggy areas, around the edges of coastal lagoons. Baker (1921), however, considered that Pintail Snipe often preferred dry, open grasslands; it seems that, although both species feed in damp situations, the Pintail Snipe more often frequents drier ground, where it feeds on insects rather than by probing for worms (Ali and Ripley 1969). PAD found it a more approachable bird on the ground than the Snipe, and often watched them feeding out in the open as well as among grazing water buffalo *Bubalus arnee*.

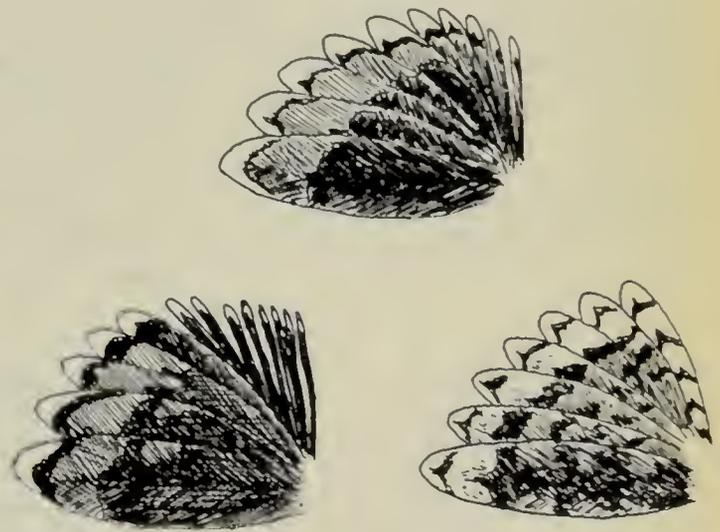
Pintail Snipe tend to sit quite 'close', rising rather like heavy Jack Snipe *Lymnocyptes minimus*, with little or no zigzagging and dropping after a short flight, but sometimes flying steadily for a considerable distance before going to ground. Frequently, they did not 'tower' as Snipe will, although occasionally they climbed high before flying well away. They were often silent, but, when calls were heard from rising birds, the note was markedly similar to that uttered by flushed Snipe, although rather less explosive and possibly weaker: a more abrupt 'charp' or 'seaap'.

Structure

In general size and shape, the Pintail Snipe resembles the Snipe, but the bill is rather shorter: 57-64 mm (Ali and Ripley 1969) compared with 57-69 mm (Witherby *et al.* 1940); this feature was, however, hardly noticeable in the field in India and Nepal.

The number and shape of the tail feathers are regarded as an acceptable basis for differentiating between species in the hand, and, since snipe are

Fig. 2. Half-tails of Pintail Snipe *Gallinago stenura* (left), Snipe *G. gallinago* (right) and Swinhoe's Snipe *G. megala* (upper). Note number and shape of outer tail feathers, in particular the pin-like feathers of Pintail Snipe



handled for ringing and are still shot in Britain and Ireland, the differences in tail structures are summarised in table 1 and shown in fig. 2. Pintail Snipe have a most distinctive tail consisting of 26 feathers, of which the outer eight or nine pairs are remarkably narrow and pin-like. The closely-related Swinhoe's Snipe has a similar tail, but there are only six or seven

pairs of narrow feathers, which are less pin-like than those of the Pintail Snipe.

Comparisons with other Palearctic snipes

The differences between Snipe of the nominate race and Pintail Snipe have been summarised above, but consideration must also be given to the six other snipes found in the Palearctic: Solitary *G. solitaria*, Wood *G. nemoricola*, Great, Latham's *G. hardwickii*, Swinhoe's, and Jack. Of these, the Solitary and the Wood are both big birds, larger than the Great Snipe; that last species and the Jack Snipe can also be ruled out on size and by the presence of white trailing edges to the secondaries. Latham's is also a large bird about the size of the Great Snipe, but lacks the white trailing edge to the secondaries; it is very similar to and may even be conspecific with Swinhoe's Snipe, but, since it is confined to Japan as a breeding bird and winters in Australia, it need not worry us here. This leaves Swinhoe's Snipe, which is considered below.

Swinhoe's Snipe

Swinhoe's Snipe breeds in central Siberia and winters from eastern India to northern Australia; it is probably less likely than the Pintail Snipe to turn up as a vagrant in western Europe, although it has been recorded as a straggler in the northern Caucasus, in December 1898 (Dementiev and Gladkov 1969).

I can find no field description of this species other than the comment that it is very similar to, and perhaps indistinguishable from, the Pintail Snipe. Like that species, the secondaries have exceedingly narrow pale tips and the underside of the wing is densely barred. After examining a series of skins of both species, I suggest that they may be separable by Swinhoe's having broader longitudinal buff stripes on the scapulars, with the areas between these stripes and the mantle being blacker than those of the

Table 1. Tail structures of snipes *Gallinago*

Summarised from Ali and Ripley 1969, Baker 1921, Dementiev and Gladkov 1969, Henry 1971, King *et al.* 1975 and Witherby *et al.* 1940

	NUMBER OF TAIL FEATHERS		Comments
	Normal	Extremes	
Snipe <i>G. g. gallinago</i>	14	12-18	All broad; <i>G. g. delicata</i> normally has 16 feathers
Great Snipe <i>G. media</i>	16	14-18	All broad
Pintail Snipe <i>G. stenura</i>	26	24-28	Central 10 normal; remainder pin-like; tip of outermost feather 1.0-1.5 mm wide and falling 10-20 mm short of tail tip
Swinhoe's Snipe <i>G. megala</i>	20	20-24	Central 10 normal; remainder grading to become rather pin-like, but less so than Pintail Snipe; tip of outermost feather 2.5-4 mm wide and falling 5-15 mm short of tail tip

Pintail Snipe: this would give Swinhoe's a more contrasting appearance in flight, resembling the Snipe in this respect.

The wing-coverts are as pale as those of the Pintail Snipe, and, on a rising bird, could contrast well with the more boldly striped mantle. Swinhoe's is also a larger bird than the Pintail Snipe, lying between the Snipe and the Great Snipe in size and bulk. In the hand, the distinctive tail structure should be examined (see fig. 2 and table 1) and the bastard wing measured: Pintail Snipe, under 19 mm; Swinhoe's Snipe, over 19 mm (Ali and Ripley 1969).

B. F. King (*in litt.*) considers that, when flushed, Swinhoe's is heavy-looking, with a straighter, non-erratic flight compared with the Pintail Snipe. There may also be a difference in calls, since King *et al.* (1975) described the calls of Swinhoe's as being similar to that of the Snipe 'but slightly higher-pitched and less hoarse' and of Pintail Snipe as a 'rasping, rather nasal *squak*'.

Clearly, there is a need for fieldwork on Swinhoe's Snipe in its winter quarters before anything more concrete can be said about its identification in the field.

Faeroe and American Snipes

These two subspecies of the Snipe can look odd in the field and it seems pertinent to mention them here. *G. g. faeroeensis*, the race breeding in Iceland, the Faeroes, Shetland and Orkney, occurs in winter chiefly in Ireland. Compared with the nominate form, it is distinctly more rufous and vermiculated above, with narrower striping on the scapulars, although it similarly has conspicuous white trailing edges to the secondaries.

The American subspecies *G. g. delicata* has been recorded twice as a vagrant in Britain (but never in Ireland) and is distinguished from the nominate race by normally having 16 tail feathers and by being very dark and densely barred on the underwing, with very dark upperparts; skins that I examined also had narrower white tips to the secondaries than the nominate form. Thus, the densely barred underwing and narrower white trailing edge to the secondaries approach those of the Pintail Snipe, but the generally very dark and prominently striped upperparts would distinguish them.

Acknowledgements

I should like to express my thanks to P. A. Dukes and T. P. Inskipp for letting me have notes and comments on their experiences with the species concerned, and to them and D. I. M. Wallace and C. W. Westwood for commenting on early drafts of this paper. I am most grateful to D. K. Reid and M. P. Walters of the British Museum (Natural History), Tring, for allowing me to examine the skin collection there, and to C. Simms of York Museum for the same courtesy. B. F. King commented on Swinhoe's Snipe in the field.

Summary

The Pintail Snipe *Gallinago stenura* could occur as a vagrant in western Europe, but difficulties in field identification would probably cause it to be easily overlooked. Field impressions are described and it is proposed that the species can be separated from the Snipe *G. gallinago* by a combination of lack of white trailing edge to the secondaries, duller, more uniform upperparts, darker, more densely barred underwing and slightly different

call. Attention is also drawn to Swinhoe's Snipe *G. megala*, which is said to be indistinguishable in the field from the Pintail Snipe, and to other subspecies of the Snipe. Since many snipe are handled every year in Britain and Ireland, differences between the three species in the hand, especially tail structure, are also outlined.

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When will the Fan-tailed Warbler colonise Britain?

I. J. Ferguson-Lees and J. T. R. Sharrock

Following the recent run of mild winters, this tiny grass warbler has increased in numbers and spread dramatically in Europe. It has nested only 80 km away, just across the English Channel



The maps in most of the European field guides show the Fan-tailed Warbler *Cisticola juncidis* as essentially southern and largely Mediterranean, though Peterson *et al.* (1974) were able to add an extension along the Atlantic coasts of Iberia and France up to about 47°N in Vendée. In the 1950s, as might be expected for the sole European representative of

this primarily African and generally tropical and subtropical genus of some 75 species of Old World grass warblers, the northern limits were the Mediterranean coast of France and the Po valley and western side of the Gulf of Venice in Italy; otherwise, the species was confined in the Mediterranean area to northwest Africa, the southern two thirds of Portugal and Spain (extending up through Cataluña), the larger west Mediterranean islands, Italy, southern Albania, Greece and some Greek islands, Cyprus, Turkey, Syria, Lebanon, Israel and Egypt. In many of these areas it was, and remains, rather local, as befits the northwestern edge of a much wider range in tropical Africa and southern Asia north-east to Japan and southeast to Australia. By 1959, however, Fan-tailed Warblers had begun to return to Vendée, on the west coast of France, which they had previously colonised during 1936-39 before being wiped out by the hard winter of 1939/40, and they continued to consolidate in that department and Charente-Maritime during the 1960s, without being found farther north or south. Thus, when a Fan-tailed Warbler was seen by one of us on Cape Clear Island, Co. Cork, in April 1962, the species bred no nearer than 400 km to these islands and was considered to be virtually sedentary (Sharrock 1972).

Since 1971, however, the Fan-tailed Warbler has been spreading so dramatically that by May 1976, in the foreword to *The Atlas of Breeding Birds in Britain and Ireland*, it was possible to cite this species as a strong contender among future colonists (Ferguson-Lees in Sharrock 1976). In fact, by the time that the *Atlas* was published in November 1976, there had been reports of single Fan-tailed Warblers in Norfolk in August 1976, at Cley on 24th and at Holme from 29th through to 5th September, which appear likely to be accepted as the first British records. The purpose of this short paper is to summarise the recent spread and to encourage British observers to watch out for this species during the coming breeding season.

Recent expansion

The spread up to 1970 (1972 in France) was summarised by Sharrock (1972) and, in general, there is therefore no need to repeat that information now. Nevertheless, certain points are worth making as background to the present situation. Apart from the Irish record, other observations indicated movement by this species in the mid 1960s. For example, single Fan-tailed Warblers appeared on ships 400 km off Cape St Vincent, Portugal, in March 1961, in the channel between Sicily and Tunisia in July 1963, and off Cape St Vincent again in July 1964. Then four arrived on Malta in June 1967 and, although three of those were promptly shot (De Lucca 1967), others were recorded on 17 dates in summer between then and 1972, and successful breeding was proved at two localities in 1973, when single singing males were seen in two other areas in May and two migrants also appeared on Gozo in October (Sultana and Gauci 1974). In Crete, too, to take another Mediterranean island, the species was recorded and suspected of nesting in 1967, subsequently spread



33. Fan-tailed Warbler *Gisticola juncidis* carrying spider to young, Spain, May 1957. The nest is typically an elongated pear-shape with a small hole at the top, made of the living stems and plant down bound together with spiders' webs and cocoons (*Eric Hosking*)

through most suitable areas, and was proved to be breeding in May 1975 (John Parrott *in litt.*).

Although the species has long bred very locally on the mainland of Greece and on certain of the Ionian Islands (see Bauer *et al.* 1969), it is absent from most of Yugoslavia and, indeed, was not referred to at all for that country by Matvejev and Vasić (1973), but in May and June 1974 a total of 45 'pairs' was located in three river valleys in Istria, in the extreme northwest, where they had certainly not been present in 1953-57 and perhaps not since the 1880s (Rucner 1975). This expansion from the western side of the Gulf of Venice reflects the recent spread in northern Italy (Dr S. Frugis quoted by Appenzeller *et al.* 1974, Bianchi *et al.* 1972, Bricchetti 1973), which in turn led to colonisation of Switzerland. There the species was found for the first time in 1972, when two males sang regularly in the Magadino delta, Tessin, from July to October and breeding was strongly suspected (Appenzeller *et al.* 1974). Subsequently, Fan-tailed Warblers were recorded in 1974 in the canton of Zoug, and in 1975 in Zoug, Argovic, Schwytz, Tessin and Vaud, breeding being proved in the last two (Gilliéron 1976, G  roudet and L  v  que 1976); in 1976, singing males were found in Zoug, Schwytz, Vaud, St Gallen and Vallais (R. Winkler *in litt.*). Meanwhile, the species had also been found farther north in central Europe: in Vorarlberg, western Austria, in 1971 (Billeter *et al.* 1971), 1973 (Appenzeller *et al.* 1974) and 1975 (G  roudet and L  v  que 1976), as well as, we understand, in the southern Tirol in 1976 (Dr G. Berg-Schlosser *per* R. L  v  que); and in Baden-W  rttemberg, southern Germany, in 1975 (Kn  tzsch and Schuster 1976).

If the Yugoslavian, Swiss, Austrian and German records may be linked with the spread in northern Italy (though those in Vaud and Vallais may well have emanated from southeastern France), it is with the much more dramatic spread in western and northern France that we in Britain are most concerned. Fig. 1 reproduces the Fan-tailed Warbler map from the recently published French atlas (Yeatman 1976) and this obviously saves the need for much verbal description. It can be seen that the species now breeds in coastal marshes and river valleys right across southern France and up the west coast, and that it has established itself in several areas along the Channel coast. Much of this extensive pattern is, however, very recent: although this is the map for 1970-75, all the Channel coast records and most of those in Brittany, as well as those in the southwest or well inland, relate to the second half of that period (*cf* fig. 1 in Sharrock 1972, which was also based on the French atlas, up to 1972). As pointed out by Cruon and Vielliard (1975), there has been an 'expansion spectaculaire depuis 1970 et surtout 1972'.

In 1972, in Brittany, breeding was proved near Quiberon, Morbihan, and probably took place just south of Brest, Finist  re; that year the

species was also present on the northwest coast of Brittany and near Calais, but otherwise not north of Vendée. By 1974, this range had been consolidated: breeding was confirmed or probable at several places in Finistère, on the border of Côtes du Nord and Ille-et-Vilaine and in the northern part of the Cherbourg peninsula, Manche; there were also many more records, not only in southern Brittany, Vendée and Charente-Maritime, but also in the southwest (Gironde, Landes and Basses-Pyrénées) and more than 100 km inland along such rivers as the Loire, Dordogne, Garonne and Adour. Then, in 1975, breeding was probable

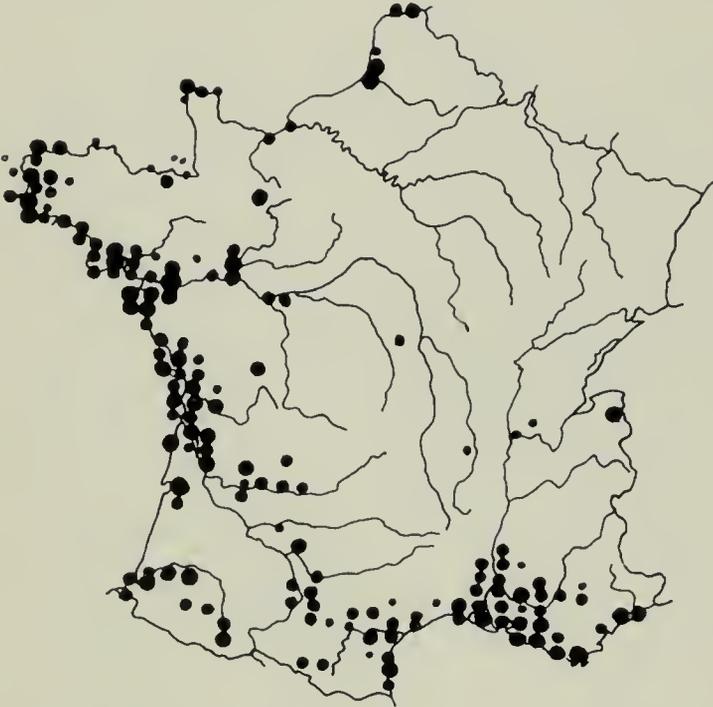


Fig. 1. Breeding distribution of Fan-tailed Warbler *Cisticola juncidis* in France, 1970-75. Large dots show confirmed breeding, medium probable and small possible. Note the largely coastal and riverain pattern (after Yeatman 1976)

in the Calvados/Seine-Maritime area at the mouths of the Orne and the Seine, and confirmed in the extreme north at the mouth of the Somme and near Dunkerque. We do not yet have any picture of the records for 1976, but we understand that there are 'a lot more observations from France', including one in Alsace (R. Lévêque *in litt.*). Thus, Fan-tailed Warblers have now nested as close to England as about 160 km from Cornwall, 90 km from Dorset and 80 km from Kent.

Nor is this the whole story. In Spain, Fan-tailed Warblers have spread inland south of the Pyrenees in northern Cataluña and Aragon and they have also established themselves along the north coast, particularly in Santander (Dr F. Bernis *per* J. D. R. Vernon *in litt.*). In spring 1973, they were 'strikingly more numerous' in the basin of the Ebro in Spain than in 1971-72 (*Limosa* 47: 167). Much closer again to England, the species has already occurred in Belgium (a singing male at Jupille in August 1975)

(Joiris and Noulard 1975) and on three occasions in the Netherlands (Friesland in August-September 1972, Zeeland in August 1973, and Zuid-Holland in September 1973) (Hermsen 1974, de Ridder 1974, Breek 1974); doubtless there are other records as yet unpublished.

What next?

Against this background, it can surely be only a matter of time before more occur in Britain and, judging by events in France, we suggest that breeding may soon follow. There are several areas with apparently suitable habitat on the English south coast. Fan-tailed Warblers do not nest in reeds *Phragmites australis*, usually not in sedge *Carex* or rush *Juncus*, and seldom in crops (though commonly feeding there); instead, they prefer grass or waste lands and edges of cultivation, often in or close to damp or marsh areas, building in grass or club-rush *Scirpus*.

Like the Bearded Tit *Panurus biarmicus*, this species is particularly vulnerable to severe winter weather and heavy snowfall, but it is currently enjoying considerable success as a result of the long succession of mild winters since those of 1961/62 and, particularly, 1962/63—though we must wait to see if it has received a setback as a result of the colder weather of 1976/77. As already pointed out, the French Atlantic coast department of Vendée was originally colonised as long ago as 1936-39, but the population was then exterminated by the hard winter of 1939/40 and it was another 20 years before recolonisation took place. The present population is by far the most widespread ever recorded in Europe, but it is still mainly maritime and delimited by the January 5°C isotherm (Yeatman 1974). If this isotherm is critical, then the possible places for nesting in our area may be limited to the south and west coasts of England and Wales, and Ireland.

The spread northwards has been compared with that of Cetti's Warbler (*Cettia cetti* (cf Bonham and Robertson 1975), but that species has been advancing since at least the 1920s, with temporary halts brought about by severe winters. The Fan-tailed Warbler's range expansion seems to be of more recent origin and to be attributable almost entirely to the high population level resulting from mild winters. At Gibraltar, where Lathbury (1970) described up to four or five in a day during August-October 1965-69 as 'a pronounced movement', the numbers had built up to much more striking behaviour and movements of an apparently eruptive nature by July-August 1973-74, with a peak of as many as 70 departing south-east in a two-hour period on 30th July 1974 (Elkins 1976). As in the case of tits *Parus*, Bearded Tits and Dunnocks *Prunella modularis*, such events reflect high autumn numbers following successful breeding by populations already at a high density. There is some evidence that autumn wanderers, possibly including birds of the year, sing and even build nest frameworks in areas remote from those in which breeding has occurred: observers should beware of making premature assumptions.

Unless the colder weather of 1976/77 has caused a severe setback, however, we predict that Fan-tailed Warblers will soon colonise Britain, possibly in 1977. Observers should be alert for the monotonous but

highly characteristic song 'dzeep dzeep dzeep . . .', uttered during high, dipping flights over the territory. Patience is often needed to find one of these birds perched, but the song attracts attention at some distance.

Acknowledgements

We are particularly grateful to Laurent Yeatman for allowing us to use the Fan-tailed Warbler map from the *Atlas des Oiseaux Nicheurs de France*. The map was redrawn by Mrs Karen Ferguson-Lees. Raffael Winkler, Raymond Lévêque and John Parrott kindly supplied us with information from Switzerland, parts of France and Austria, and Greece.

Summary

The remarkable spread of the Fan-tailed Warbler *Cisticola juncidis* in Europe since 1971 is described in some detail for Malta, Crete, Yugoslavia, Switzerland, Austria, Germany, France, Belgium and the Netherlands, and briefly summarised for Italy and Spain; the first British reports are also mentioned. The cause of this expansion in range is considered to be the recent long succession of mild winters, which has resulted in an exceptionally high population; there is some evidence of eruptive movements in the western Mediterranean. The species has now nested only 80 km from England and observers in Britain are urged to be alert to the possibility of its predicted colonisation here.

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Special review

Handbook of North American Birds, vols. 2 and 3 (waterfowl, parts 1 and 2). Edited by Ralph S. Palmer; illustrated by R. M. Mengel and C. H. Nelson. Yale University Press, New Haven, Connecticut, 1976. 1,081 pages; 8 colour plates; 53 range maps; 103 line-drawings. £19.80 each.

Thrice-blesséd be the name of Wetmore (still happily with us at a great age), for having established his Order. Now, when another vast handbook creaks into production, we can be sure that the interesting birds will be dealt with before enthusiasm, money or time runs out. What a depressing vista opens for the student of the Ploceidae, when the gap between the first two volumes is 14 years, as in the case of the American set. At that rate, our sparrow-expert can hardly expect to live long enough to read about his brown-jobs.

Although 29 authors were involved in the present volumes, the hand of the editor has been heavy upon them. In part, this has been due to his valiant, and largely successful, attempts to rejuvenate their ageing texts. His museum-orientated interests also tend to be writ large. More than a fifth of the pages are devoted to plumage and other bodily attributes. Presumably this pedestrian stuff needs to be set out once again, but, even so, 18 pages of Description on the Common Eider seems more than enough, when 'only' 47 have to cover Field Identification, Distribution, Migration, Banding Status (stopping short in the early 1960s), Reproduction, Survival, Habits and Food, which constitute the other main divisions of the species by species accounts. Still, we probably get off lightly. Having been warned that a 'Full description would require at least 30 printed pages' in the case of the Northern Pintail, we escape with only eight. A certain bias towards the, admittedly delightful, Common Eider is indicated by its 65 pages, nearly twice as many as are devoted to the Mallard. In all, 52 species are dealt with in some, varying detail and a dozen accidental or fringe species are noticed briefly.

Had there been less about feathers, there could have been more on

interesting topics such as ecology of the quarry species, subjected to so much governmental and academic research in North America. For this, and for an altogether more evocative book, the reader should turn to Frank Bellrose's 1976 revision of F. H. Kortright's *Ducks, Geese and Swans of North America*. For good English writing, and a much fuller treatment of waterfowl behaviour, there is Dr Paul Johnsgard's *Waterfowl of North America*, which appeared in the same year. Both of these publications are single volumes and considerably cheaper.

One cannot but praise, however, the meticulous compilation and massive detail of the Palmer volumes. Errors of typography and of fact are infrequent and unimportant. The references, nearly 2,000 of them, afford really excellent coverage and, for an American text, an unusual penetration of the European, Russian and even Icelandic literature.

Few people, other than a conscientious reviewer, will actually want to read a reference book such as this. It is, therefore, perhaps ungracious to gripe about the infelicitous abbreviations, but, if space had to be saved, it would have been better to cut the Descriptions. The rationale for the abbreviations was probably explained in Volume 1, but that was a long time ago (1962). Having apparently decreed that 'average' should be rendered as 'av.' (fair enough in tables), this is tenaciously followed in the text whether the noun, adjective or verb (of any tense) is intended. Statements such as 'may av. paler than a year before' and 'she av. 2.55 absences daily' send one groping for dropped aspirates. Sprinkling horrors such as 'Dcf. Alt.', 'mo.' (but 'wceks'), 'Pcn.' and 'dist.' through the text does not make for happy reading. Putting compass points in lower case is another irritant—e.g. 'on ne. L. Erie go towards e. Hudson Bay and the e. Canadian arctic.' and 'In e. N. Am. n. to include s. Baffin I.' For the casual dipper, the types used for section headings are also less than helpful: subspecies headings are in lower case italic, and are very easily overlooked.

With the overburden of Description, it is surprising that there should be so few coloured plates (one picture . . . etc.). There are three colour plates of downy young in a refreshing variety of poses, though some of the little chaps do appear rather 'thoughtful', if not downright 'seedy'. Five other colour plates beautifully illustrate plumage variations in six species; needless to say, these include the Eider. Mengel has also produced many line-drawings, mostly based on the editor's photographs. These are decorative and helpful—the Ruddy Duck displays being an exception. The range maps are excellent and properly varied in coverage to suit specific requirements.

How can one summarise these two massive volumes? Monumental? Useful? Dull? They must have been a load off the editor's mind. It is no surprise that he will not continue with the other projected volumes. It would be difficult, indeed, to find any one person to undertake such a Herculean task. Palmer seeks, in his introduction, to epitomise previous compilers of waterfowl facts (. . . enthusiasm of Millais . . . common-sense of Tougarinov . . . precision of the Kurodas . . . empathy of Delacour . . .). Perhaps we should now add persistence of Palmer?

With the first volume of *The Birds of the Western Palearctic* (or whatever it is now called) about to leave the presses, however, covering the same ground as the three AOU volumes, Old World readers are advised to wait and see before consulting their bank managers. G. V. T. MATTHEWS

Personalities

4 J. N. Dymond

Ever since I first met Nick Dymond in 1964, during a Bedfordshire Natural History Society weekend in the New Forest, we have kept in close contact. Apart, however, from a mad dash to Portland Bill, Dorset, on 24th December 1970 to see Britain's first Desert Warbler *Sylvia nana*, and another two days later to see an Ivory Gull *Pagophila eburnea* at South Shields, Tyne and Wear, it was not until May 1975 that we made our first major trip together, to Lake Neusiedl in Austria. There, he confirmed my previous assessment of his character and ability: without him, Pete Smith and I would have eaten poorly, risen late and misidentified many of the birds of prey.

34. J. N. Dymond (Michael W. Richards)



Born in Bedford, in June 1943, and educated at Bedford School, Nick achieved some fame as a cox. On leaving school, he became a trainee surveyor, first in Bedford and then in Kilmarnock, Ayrshire. While in Scotland, he met George Waterston and it was as a result of this association that he became assistant warden at Fair Isle Bird Observatory during 1966. He next joined the staff of the British Trust for Ornithology, in the Ringing and Migration Section, and, until January 1972, had responsibility for the co-ordination of the bird observatory network. During this period, he was also editor of *The Bedfordshire Naturalist* and, later, bird recorder and *Atlas* organiser for Bedfordshire. When he heard of a vacancy for the post of warden on Lundy, Devon, he leapt at the chance, and spent two years there, until January 1974, transforming the Old Lighthouse into a workable observatory and rebuilding the heligoland traps. He is currently compiling a checklist of the birds of the island.

After leaving Lundy, he joined the staff of the Royal Society for the Protection of Birds, as warden of the Lodge, the society's headquarters at Sandy, Bedfordshire. The most recent news is that Nick is starting a seven-month stint on Fetlar, Shetland, where, among other things, he will keep an eye on the Snowy Owls *Nyctea scandiaca*.

Every young birdwatcher longs for the chance to prove his mettle by finding a rare bird. Nick's first major find was a Sharp-tailed Sandpiper *Calidris acuminata* at one of his regular stamping grounds, Bedford sewage farm, in September 1961, and the latest was Britain's first Fan-tailed Warbler *Cisticola juncidis*, on 24th August 1976, at another of his favourite haunts, the East Bank at Cley, Norfolk. His training as a surveyor and his experience as a member of the scientific staff of the BTO and as a county recorder and observatory warden have created in him an unusual ability for meticulous paperwork. This, with his interest in rare birds, made him the logical successor as secretary to the Rarities Committee when F. R. Smith resigned in 1975; his departure for Fetlar has unfortunately forced him to relinquish this post.

Nick has travelled widely in his quests for greater ornithological experience, and his migrations have included trips to the Caspian Sea area of Iran and to Turkey. It was on the long haul to Iran by road that he kept his all-male companions in a mini-bus amused by spotting watchable females; he has, however, not yet lived down one faulty identification—an eastern European male with a handbag.

Nick Dymond occurs regularly in all parts of Britain, from the Isles of Scilly, Dorset, Kent and Norfolk, north to the Solway and Shetland. Although he usually has a beard, this may often be pruned into a luxuriant moustache, or even disappear altogether. Slight build, a swift gait and large binoculars, however, are constant. His interests are wide and include moths, a study which started on Lundy and has continued as part of his work at the Lodge. Approach him and you will soon realise that you are conversing with a dedicated and knowledgeable birdwatcher, someone who loves birds and is willing to assist his fellow enthusiasts in any way.

B. D. HARDING

Mystery photographs

4 Icterine Warbler *Hippolais icterina*, France, May 1971. The long, pointed bill (plate 23, page 116) suggests an *Acrocephalus*, *Hippolais* or, possibly, *Phylloscopus* warbler, but not a *Sylvia*. Many *Acrocephalus* have streaked mantles, so that the uniform upperparts help to narrow the field to less than a dozen species. The other main features of this bird are its relatively short supercilium, distinct eye-ring, and long, pointed wings with a pale panel produced by the edges to the secondaries. Although size is difficult to judge, it gives the impression of being bulky. The expert will already have looked for the wide-based bill and square-ended tail of a *Hippolais*. Neither can be seen clearly, but the rather thick legs and, especially, the uneven spacing of the primary tips confirm that it is an Icterine Warbler, although this species usually shows a flat or peaked crown. Adults in spring are mainly greenish above and yellow below, but young in autumn can be grey-brown and white, often with only a trace of yellow wash on the throat. The main confusion species is the Melodious Warbler *H. polyglotta*, which, however, has shorter, more rounded wings (obvious in flight), with closely-bunched and evenly-spaced primary tips (discernible at rest) and either a less clear wing panel or none at all; the greyish legs usually lack the blue tinge of most Icterines' legs. The field identification of *Hippolais* warblers was discussed in great detail by D. I. M. Wallace (*Brit. Birds* 57: 282-301) and in subsequent correspondence (58: 520-521).

35. Mystery photograph 5.
What is this species?
Answer next month



My *Scarce Migrant Birds in Britain and Ireland* (1974) showed that there was a total of 646 Melodious and Icterine Warblers during 1958-67 and that, of those specifically identified, 41% were Melodious and 59% Icterine. Whereas Melodious are virtually confined to Ireland and southwest Britain (east to Sussex and Kent), Icterines are recorded almost equally on the east coast (Shetland southwards) and in the south and west (Kent to Cork), mirroring their respective Continental breeding distributions.

JTRS

CORRECTION The statement (*Brit. Birds* 70: 34) that 20 of the 22 British records of Lanceolated Warbler *Locustella lanceolata* had been on Fair Isle, Shetland, was incorrect: as P. K. Kinnear (*in litt.*) has pointed out, one of these 20 was actually on Out Skerries, Shetland (67: 332).

Notes

Mallard diving for small fish One afternoon in late September 1975, I watched 16 Mallard *Anas platyrhynchos* diving continually for small fish at Herriott's Bridge, Chew Valley Lake, Avon. About 95 Black-headed Gulls *Larus ridibundus* were flying over and swimming alongside the ducks in a narrow channel, where the water was about 3 m wide and possibly 1 m deep. The dives of the Mallard lasted from two to no more than five seconds and appeared to be almost always successful. The gulls seemed intent on robbing the ducks, but were generally ineffective, since the Mallard usually swallowed the fish promptly on surfacing. A large shoal of small fry, probably roach *Rutilus rutilus*, was in the channel; the fish were only slightly larger than the breadth of the ducks' bills and were easily eaten.

Suddenly, and for no apparent reason, the fishing ceased and both the ducks and the gulls took alarm and flew to the edge of the lake.

JOHN BARBER

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Although Mallard often dive for grain and vegetable matter, and also sometimes eat fish, such persistent and concentrated diving for fish is unusual. EDS

Oystercatchers' nest of goose droppings On 8th May 1976, at Loch Indaal, Islay, I found the three eggs of a pair of Oystercatchers *Haematopus ostralegus* in an unusual saltmarsh nest. Instead of the normal scrape, this was a bulky heap, about 40 cm by 25 cm, and 6-7 cm high at

the rim, of several hundred droppings of Barnacle Geese *Branta leucopsis*. Two other, more normal nests in the area each had a few goose droppings. Various books, including *The Handbook* and David A. Bannerman's *The Birds of the British Isles* (1961, vol. 10), have referred to droppings of rabbits *Oryctolagus cuniculus* in nests, but none of such material built into a heap.

K. VERRALL

Cnoc-na-Daal, Bridgend, Islay, Strathclyde

Identification of a long-billed Little Stint During the afternoon of 25th October 1976, the attention of SAB was drawn to a small sandpiper or 'peep' feeding at the edge of Mobberley Lake in Cheshire. It had been present there since 22nd October and one observer was reported to have seen semipalmated feet. A group of observers, watching the bird at a range of about 15 m, told SAB that it was probably a Western Sandpiper *Calidris mauri*, although no-one was prepared to commit himself. Later that day, both SAB and DE watched the bird from about 10 m. Visibility was poor and deteriorated further by late afternoon with oncoming darkness and encroaching mist. They left still in doubt about the bird's identity.

In the field, the bird was tame and showed several features suggesting a Western. It seemed to be larger than a Little Stint *C. minuta*, but smaller than a Dunlin *C. alpina*, with a bill that appeared to be larger than that of a Little Stint and drooping from a deep base; some observers thought it was also longer legged. The upperparts showed rich rufous coloration with a distinctive white V on the back. The supercilium, although noticeably light grey, was not distinctive.

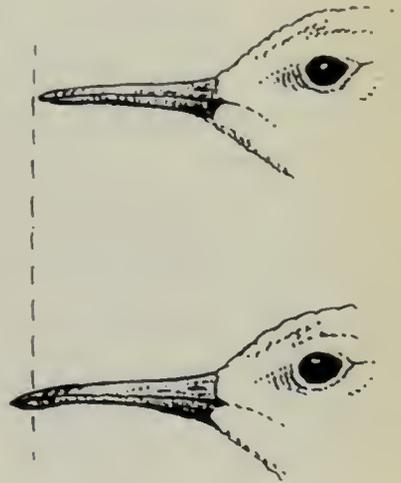


Fig. 1. Bills of Little Stints *Calidris minuta*: above, normal; below, long-billed individual trapped in Cheshire in October 1976 (life-size)

Reference was made to the available literature, and in particular D. I. M. Wallace's paper 'Field identification of small species in the genus *Calidris*' (*Brit. Birds* 67: 1-17), where, for Western Sandpiper, the V on the back was described as 'indistinct' and the supercilium as 'almost white'. Our

doubts remained and it was decided to attempt to trap and ring the bird. At first light the following day, we erected single panel mist nets around the lake edge. Visibility was very poor with thick fog, but the peep was soon caught and we noticed at once that the feet were not semipalmated. It was clear from this, the strong V on the back and the rich rufous on the upperparts that the bird could only be a Little Stint. It was ringed, aged as a first-year and sexed, on bill length, as a female. The following measurements were taken: weight (at 07.00 hours) 33.8 g, bill to feathering 21 mm, wing 98 mm, tarsus 21.5 mm. From details of birds ringed in north Kent and from information supplied by A. J. Prater (*in litt.*), the wing and tarsus lengths obviously fitted well into the ranges for Little Stint. Few weight data were available, but this bird seemed to be on the heavy side, although weights of migrants vary considerably. At 21 mm, however, the bill was exceptionally long and we have been unable to find any records greater than 20 mm. In the hand, we noticed that the culmen was straight except at the very tip of the bill. The lower mandible, however, showed a distinctive curve from a very deep base and it was this feature that gave the drooping bill appearance in the field (see fig. 1, redrawn by D. I. M. Wallace from a sketch by SAB). Despite Wallace's paper, it is apparent that field identification of some *Calidris* waders is still difficult, especially when a common species with slightly abnormal features occurs. We agree with him that 'A full and annually revised knowledge of Little Stints is the only safe start to the identification of the six others.' That semipalmated feet were apparently seen in this particular instance should be a reminder that waders are apt to get their feet muddy; and also that it is easy to be deluded once a rare species is suspected.

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Unpaired Arctic Tern killing chick In July 1970, I had under observation a pair of Arctic Terns *Sterna paradisaea* which had hatched two chicks at a site near a footpath on Inner Farne, Northumberland. A third, unpaired Arctic Tern was often nearby and frequently perched on a signpost, from which it was then driven away by the nesting pair. When both of the other adults were absent, it removed and scattered pieces of their nest material. This interference culminated in the behaviour illustrated by my photographs. The unmated tern landed beside a chick, brooded it (plate 36), and then waddled over to a large twig, which it moved over a metre away. It next returned to the chick (plate 37), which it seized in its bill (plate 38), and took flight, with the chick dangling; when flying about 18 m above the tide-line, it dropped the chick to its death on the rocks.

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36, 37 and 38. Unpaired Arctic Tern *Sterna paradisaea* brooding and picking up Arctic Tern chick in the absence of its parents, Northumberland, July 1970 (*Dennis Green*)



Magpies stealing boxed eggs During May 1975, 'Live Letters', the correspondence section of the *Daily Mirror*, contacted me about a report they had received from Banstead, Surrey, of a Magpie *Pica pica* which attacked a papier maché carton of eggs left by the milkman and prised one out of the carton before being disturbed by a neighbour. The box had been closed and no egg would have been visible to the bird. After the publication of this report, another *Daily Mirror* reader, Mrs June Parramore, wrote about similar depredations by her local Magpies, at Ecclesfield, South Yorkshire. There, the milkman's customers leave bowls to be placed over the egg-cartons to protect them from Magpies, but the birds sometimes overturn these. Eggs have been attacked even in the storeroom, where they are kept in cartons inside a wooden box; the Magpies entered through a broken window and reached the eggs through the gaps in the wooden box. Since these incidents happened so far apart, it seems possible that this behaviour may already be quite widespread. C. J. MEAD
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Desert Warbler in Essex On the afternoon of 20th November 1975, while I was walking along the concrete sea-wall parallel to the golfcourse at Frinton-on-Sea, Essex, I noticed a small bird flitting about in the low vegetation on the landward slope of the wall. Though I could approach to within a few metres, as it fed in the weeds, the species was unfamiliar to me. After noting the salient features, I left to fetch Mrs Diane Weston and we later watched the bird for about 20 minutes. The next morning, the bird was still in the same locality and I was joined by John K. Weston, who identified it as a Desert Warbler *Sylvia nana*.

The following notes are derived from our joint observations:

The immediate impression was of a light buffish Whitethroat *S. communis* (although later observations revealed little resemblance to that species), with a yellow iris and rich tan-coloured rump, which contrasted with white outer tail-feathers.

Crown, nape, back, wing-coverts, side of face down to eye level and a suggestion of a band round throat all light greyish mouse-brown. All underparts dirty-white, but a comparatively cleaner white under chin and from below the eye round to the ear-coverts. A richer buff at the base of the primaries and through the secondaries gave a slight resemblance to a Whitethroat.

Upper rump and base of the long graduated tail rich tan, giving the most noticeable colour contrast, especially in flight. Outer tail-feathers with a noticeable amount of white; central tail-feathers darker towards the tip, almost black at the

end. A slight shading of buff was noticed on the belly in the region of the legs and on to the flanks.

Soft parts: iris straw-yellow; bill fine, yellow with a black tip; legs yellow, rather long for the size of the bird.

It lacked the elongated appearance of a Whitethroat, being more compact and rounded, recalling a Wren *Troglodytes troglodytes* with long tail and legs. It was exceedingly active, not remaining still for a second, feeding on the ground and low herbage: recalling a Goldcrest *Regulus regulus*. It was quite tame, allowing approach to within a few metres, but, when on the wing, it flew low and swiftly, with undulating flight, to settle about 100 m away in similar habitat. Two photographs of the bird have been published in the *Essex Bird Report for 1975*.

The bird was unringed, so was not the individual caught at Spurn, Humberside, during 20th-24th October 1975 (*Brit. Birds* 69: 349). We

considered that, like that bird and the only previous British example at Portland, Dorset, in December-January 1970-71 (*Brit. Birds* 65: 460-464), the plumage indicated that it was of the Asiatic race *S. n. nana*.

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Firecrests feeding at garden bird tables Firecrests *Regulus ignicapillus* were watched at two garden feeding stations in southern England during 1968-75, taking food scraps with increasing regularity. This species will possibly join other generally insectivorous overwintering passerines, such as Blackcaps *Sylvia atricapilla*, Chiffchaffs *Phylloscopus collybita* and Goldcrests *R. regulus*, which have visited bird tables in greater numbers in recent years (British Trust for Ornithology Garden Bird Feeding Survey Results, 1969-75).

A male Firecrest first visited the garden of a suburban house in Dibden Purlieu, bordering the New Forest, Hampshire, on 26th October 1968, and took white bread crumbs from a bird table and bacon fat from a hanging wire basket. During the 1972-74 winters, up to three Firecrests fed irregularly at the table between 4th November and 14th February. Similarly, at Higher Metcombe, Ottery St Mary, Devon, a male Firecrest was caught in a mist net on 12th December 1972, after feeding on beef fat suspended from a bird table; this was one of three Firecrests ringed in the garden in 1972. After an absence in 1973, four were ringed during 10th-22nd November 1974. They fed on fat pressed into the crevices of an ancient Scots pine *Pinus sylvestris*.

At both stations, the Firecrests always fed singly, giving two or three peeks before flying off to the cover of nearby bushes. They were in strong competition with other species, particularly tits *Parus*, Robins *Erithacus rubecula*, Treecreepers *Certhia familiaris*, Greenfinches *Carduelis chloris* and sometimes Golderests and Nuthatches *Sitta europaea*.

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Spotted Flycatcher's methods of removing bark On 20th July 1975, at Liddington, Wiltshire, I watched an adult Spotted Flycatcher *Muscicapa striata* stripping bark off a dead apple tree. Having collected a beakful of small pieces, it flew off. It then collected six further beakfuls in the following 40 minutes. The flycatcher removed the bark in two ways: (1) by standing on the branch and pulling pieces off; and (2) by hovering slightly beneath the branch, as if flycatching, and removing bits while in flight. On one occasion, a large piece of bark approximately 15 cm long and 2 cm wide was taken. The bird flew off in the same direction after each visit and presumably it was collecting the bark as nest material.

STEPHEN B. EDWARDS

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Letters

Voices of the storm-petrels It was interesting to see the comparative recordings of the voices of the British Storm-petrel* *Hydrobates pelagicus* and Leach's Storm-petrel* *Oceanodroma leucorhoa* provided by Joan Hall-Craggs and P. J. Sellar (*Brit. Birds* 69: 293-297), though it would have been even more useful if they could have included those of some of the less well-known members of the family Hydrobatidae which are now available. I am not sure that it has been emphasised adequately before that all the short-legged, long-winged, northern species apparently tend to have vocabularies based largely on variations of a twittering flight-call and a churr, whereas the long-legged, short-winged, southern species tend to use shriller whistles and chirps.

I should like to question whether it is really (in their words) more 'useful to be able to identify the species aurally' by means of this type of laboratory analysis than, for example, by the detailed descriptions of the birds' voices in the British and North American handbooks (H. F. Witherby, F. C. R. Jourdain, N. F. Ticehurst and B. W. Tucker, 1940, vol. 4; R. S. Palmer, 1962, vol. 1), which I am surprised they did not quote. Some of the notes discussed in those works appear to be similar, though there may be additional ones and there is much individual variation. Personally, I thought that the best character for distinguishing these two species was the more complex flight-call of Leach's Storm-petrel, which is also used in the burrow. Finally, I wonder how Hall-Craggs and Sellar identified the sex of the vocalist and the function of the 'food-begging call' of the 'female' Leach's Storm-petrel, which is mentioned by few or no other authors?

W. R. P. BOURNE

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*Dr Bourne has particularly requested the use of these vernacular names in preference to Storm Petrel and Leach's Petrel. EDS

In reply to Dr Bourne, the title of our paper, 'Distinguishing characteristics in the burrow-calling of Storm and Leach's Petrels', clearly indicated its extent. Our aim was to communicate some facts about the vocal repertoires of the two British breeding petrels, since these are the only ones that most readers of *British Birds* are likely to have the opportunity of observing. We must leave it to Dr Bourne to describe the vocalisations of the less well-known members of the Hydrobatidae since he obviously has special knowledge.

Dr Bourne's form of expression at the beginning of his second paragraph is equivocal. We are quoted out of context, so that readers of his letter may infer that we compared the relative usefulness of electronic analyses and detailed verbal descriptions for identifying avian vocalisations. We did not. Both methods have their place in the literature; moreover, we took the trouble to use both. But now that Dr Bourne has raised the matter, we are constrained to emphasise the fact—surely known to all by now—

that, whereas 'this type of laboratory analysis' is devoid of subjective auditory interpretation and is, therefore, reliable, verbal descriptions of non-verbal auditory stimuli are not (except in the rather specialised instance of a musician taking musical dictation). This is illustrated by the variable, and sometimes conflicting, reports in the literature, which are multiplied to the point of confusion when more than one language is involved. When agreement does occur, it is usually the result of quotation.

Regarding the function ascribed to the wheezing calls, there is, we admit, insufficient evidence at this stage to be certain (a) that it is solely attributable to the female and (b) that it necessarily implies a food-begging situation: the calls should preferably have been described as 'food-begging-type'. It is beyond dispute, however, that the recording referred to in our paper was made directly after the arrival of the second bird from flight into the burrow, with the first already in residence. It is also of interest that the recording was made without in any way disturbing the burrow, and without the aid of playback.

JOAN HALL-CRAGGS and P. J. SELLAR
*Sub-Department of Animal Behaviour, High Street, Madingley,
 Cambridge CB3 8AA, and 89 Riddlesdown Road, Purley, Surrey CR2 1DU*

Voice of the Barn Owl In my paper on the voice of the Barn Owl *Tyto alba* (*Brit. Birds* 67: 493-501) I stated that, owing to the difficulty of describing the calls of this species, I had chosen to rely entirely on first-hand experience to avoid the risk of duplication. As a result of subsequent correspondence, however, I now feel that I may have been overcautious in not including the call described below, which would have been appropriately placed at the end of VOCAL SOUNDS under the heading 'Kit-kit note'.

This is a high-pitched call, which may be written as 'kit-kit' though the number of 'kits' varies, repeated at intervals in flight. It is reminiscent of a note of the Moorhen *Gallinula chloropus* and is quite unlike any other call of the Barn Owl. It is apparently uttered only in flight and probably serves only as a contact, not aggressive or territorial. I have not personally identified this call from a Barn Owl, though I have occasionally heard it at night in my study areas, almost always when a Barn Owl was known to be in the vicinity. This circumstantial evidence was confirmed by R. B. Warren (*in litt.*) who, after similar experiences, finally saw a Barn Owl utter the call as it passed him closely in daylight. Tape-recordings of this note played to captive Barn Owls elicited no response, whereas recordings of the screech caused great excitement.

D. S. BUNN
13 Walden Road, Blackburn, Lancashire BB1 9PQ

The appreciation of birds In his 'Viewpoint' (*Brit. Birds* 69: 493-494), Louis J. Halle infers that modern birdwatchers are gatherers of species and have little aesthetic appreciation of what they see; he places the blame for this partly on the field guides. Although many birdwatchers carry field guides in their pockets, I feel sure that most of them also have books

of which Mr Halle would approve on their bookshelves at home. An interest in and an appreciation of birds are natural outcomes of our hobby.

H. J. FREEMAN

26 Downing Drive, Greenford, Middlesex

The first field guide? I enjoyed and approved Louis J. Halle's 'View-point' (*Brit. Birds* 69: 493-494), so may I be allowed, in the words of one of your journal's most famous editorials, 'To put the record straight'? It is true, of course, that Roger Tory Peterson developed the modern field guide, but more than a germ of the concept is to be found in W. B. Alexander's concept *Birds of the Ocean* (1928).

Although illustrated principally by black-and-white photographs, it contained 12 monochrome plates 'from drawings by the author'. These each showed several species of closely related seabirds, in various plumages, with dorsal and ventral aspects in flight. Such treatment is characteristic of the field guide; so is the brief text and the pocket format of the book.

'WBA' was the last man to press his claims to be first in the field and thoroughly appreciated 'Peterson, Mountfort and Hollom' when it was first published in 1954, the year, incidentally, in which Putnam's reprinted his book in an even handier size.

BRUCE CAMPBELL

West End Barn, Woolton, Woodstock, Oxford OX7 1DL

Announcements

Change of editorial address As from 4th April 1977, the editorial office of *British Birds* and the home address of Dr J. T. R. Sharrock will be Fountains, Park Lane, Blunham, Bedford MK44 3NJ.

Rarities Committee: new secretary Following the resignation of J. N. Dymond for professional reasons, John M. O'Sullivan has taken on the secretaryship of the Rarities Committee in a non-voting capacity. The address for submissions remains the same: RSPB, The Lodge, Sandy, Bedfordshire SG19 2DL.

Requests

Photographs of west Palearctic gulls The response to a previous appeal (*Brit. Birds* 69: 190) for pictures to illustrate my forthcoming series 'Identification of west Palearctic gulls' has been most encouraging. A wide and invaluable collection is accumulating, and I am indebted to the many photographers who have contributed their work. There are, however, some important gaps still to be filled, and these are listed below. Black-and-white pictures are preferred, but 35 mm colour transparencies which show identification or age characters particularly well would be most useful as a reference for my drawings; they can also be considered

for conversion to black-and-white, as recently announced (69: 458).

SPECIES

PHOTOGRAPHS NEEDED

White-eyed Gull *Larus leucophthalmus*, Ring-billed Gull *L. delawarensis*, Iceland Gull *L. glaucoides*, Franklin's Gull *L. pipixcan*

Any

Ivory Gull *Pagophila eburnea*, Lesser Black-backed Gull *L. fuscus*, Great Black-backed Gull *L. marinus*

Flying immatures and adults

Audouin's Gull *L. audouinii*, Great Black-headed Gull *L. ichthyaetus*, Ross's Gull *Rhodostethia rosea*, Kittiwake *Rissa tridactyla*

Immatures

Sabine's Gull *L. sabini*, Sooty Gull *L. hemprichi*

Adults

Laughing Gull *L. atricilla*

Flying adults and second-years

Mediterranean Gull *L. melanocephalus*

First-years and second-years

Anyone with suitable material is requested to contact me by letter or telephone (Ashford 24574).

P. J. GRANT

14 Heathfield Road, Ashford, Kent TN24 8QD

Black Redstart breeding survey Although the colonisation of Britain by Black Redstarts *Phoenicurus ochromus* has been documented in a series of periodic reviews by R. S. R. Fitter (the latest in *Brit. Birds* 69: 9-15) and records are now listed annually in the reports of the Rare Breeding Birds Panel (e.g. *Brit. Birds* 70: 2-23), there has never been a full-scale co-ordinated national census. This omission will be rectified this year, by the British Trust for Ornithology. The Black Redstart is on Schedule 1 of the Protection of Birds Acts, 1954-67, and special permission must be obtained to visit nests. Many breeding sites are in industrial areas, such as power stations and cement works, for which permission is also needed in order to gain access. Anyone wishing to help in this census should contact the joint organisers, c/o BTO, Beech Grove, Tring, Hertfordshire HP23 5NR (telephone 044282 3461).

News and comment

M. J. Everett

Ornithologists honoured Belated congratulations are due to a number of people honoured in various ways in recent months. Eric Hosking, photographic editor of this journal from 1960 to 1976, was created an OBE in the New Year Honours List for his work in the field of wildlife photography, and J. M. Houlder, a

member of the council of the Royal Society for the Protection of Birds, was made a CBE for services to industry. The British Trust for Ornithology has given due recognition to the team which masterminded *The Atlas of Breeding Birds in Britain and Ireland*: in his capacity as chairman of the Atlas Working Group, James Ferguson-Lees was

the recipient of the Bernard Tucker Medal, while Dr J. T. R. Sharroek, who organised us all so well, and Trevor Poyser, who was responsible for the production of the end result, were both made honorary life members of the Trust.

Atlas presentation in Dublin David Scott has drawn my attention to a reception held in Dublin in late January, when over 100 representatives of government departments, business interests and wildlife and conservation bodies saw the president of the Irish Wildbird Conservancy, W. D. Finlay, present a copy of the *Atlas* to the Minister for Lands. It was received on the Minister's behalf by the Secretary of the Department of Lands, who complimented the IWC on the excellent work that it had done and said that this was particularly gratifying in view of the relative scarcity of experienced observers in the Republic, a sentiment that I am sure we all echo.

EEC bird Directive The long-awaited draft European Economic Community Directive on bird conservation was published on 20th December 1976, and is currently being discussed by the nine member states. The draft, if implemented, would mean a considerable improvement in the bird protection situation, particularly in southern Europe, since it seeks to ban hunting by nets, liming, trapping and even repeating shotguns holding over two rounds. The hunting lists are also reduced to exclude larks and other small birds. Probably the most far-sighted part of the Directive is the establishment of 'Annex One', a list of rare birds in need of protection within the Community. This places obligations on the member governments to protect these species and to conserve sufficient habitat to ensure survival throughout their range. One species on the list is the Little Tern, which is threatened because its habitat is subject to constant disturbance: it will be interesting to see, if this Directive is passed, what steps will be taken to preserve species such as this.

The Directive is similar in concept to British legislation, since all birds are protected, but game and pest species may be hunted by approved methods. Another improvement, however, which would also lead to a change in British legislation, is the banning of the sale of all dead birds except for those species commonly reared

for shooting (Partridge, Red-legged Partridge, Pheasant, Red Grouse and Mallard) and the Woodpigeon, which, it is felt, can withstand commercial exploitation.

This could represent an enormous step forward in international bird protection; the Directive deserves the whole-hearted support of all conservationists. It is gratifying that the British Government apparently intends to press forward with the Directive during the course of its presidency of the council. (Contributed by Alistair Gammell.)

'Birds of Libya' Graham Bundy recently wrote to me about the first of a new series of British Ornithologists' Union checklists covering areas not recently documented and lacking suitable journals or funds to publish lists locally. The Libyan booklet consists mainly of a systematic list giving the status and distribution of the 317 species of birds which are known to have occurred there; it also includes four regional maps and 54 maps illustrating the breeding distributions of 61 species. Copies are available from Dr J. F. Monk, Glebe Cottage, Goring, Reading, Berks RG8 9AP, price £3 post free. All proceeds go to the BOU.

'The George' at Cley There was a time, not so many years ago, when 'the George' at Cley was the best-known birdwatchers' pub in Britain: I can even remember the late Professor Maury Meiklejohn solemnly proposing a toast to the health of its regulars on a dark, wet evening when a number of us were in much less salubrious surroundings in a Glasgow bar. The times of pints and bird-talk are coming back again: not long ago, Andrew Lowe took over as the new host. A keen birder himself, he hopes to re-establish the George as a focal point for thirsty ornithologists, with logs and evening call-over, observatory-style. He will welcome your custom at any time (during opening hours, that is) and hopes to encourage you to stay overnight too. The new régime was launched with a party in January, when Andrew's lifelong friend Bill Oddie was among the guests. Nick Dymond, who was there too, was heard to express the hope that rarity-spotters would write up their field descriptions *before* slaking their thirsts!

Bad raptor news from Sweden... I see from the latest issue of *Sveriges Natur* that no young Peregrines were reared in southern Sweden last year. Country-wide, only nine pairs were known, of which seven nested, rearing only six young between them. This is the lowest total since annual counts began in 1972. Six Scottish birds are among 11 destined for a captive breeding project there, but no results are expected before 1978 at the earliest. 'Project White-tailed Eagle' investigated 59 areas on the east coast of Sweden in 1976, but only nine successful nests were found; no fewer than 34 pairs failed to produce young, the outcome was unknown in 11 cases, and the sites of nine former pairs were occupied only by single birds. There was some grain of comfort, however, from the Project's winter feeding programme, aimed at providing uncontaminated food for at least part of the year. During winter 1975/76, more than 73 tons of food put out at over 90 sites was taken by 39 young and 81 older White-tailed Eagles, as well as by at least 97 Golden Eagles.

... and from Crete Some alarming news comes from an Aberdeen University expedition report by John Parrott on the status of Eleonora's Falcon at a small island off Crete. It seems that Cretan gastronomes have a great liking for fat falcon chicks and, on just one day in September 1974, about 30-40 were taken from the small island in question, representing 20-25% of all those there at that time. The locals have probably been eating young falcons for many years, but there are fears that their exploitation is growing, despite Greek laws prohibiting it. Let us hope this report is being followed up. With an estimated world population of only 1,500 to 2,000 pairs, in the Mediterranean, on the Atlantic coast of Morocco and on the Canary Islands (see R. Hudson, 1975, *Threatened Birds of Europe*: page 82), Eleonora's Falcon is a rare species by any standards. It needs all the protection it can get.

Belvide Reservoir The West Midland Bird Club has succeeded in negotiating a reserve agreement for Belvide. This important freshwater site is its first reserve, and important features of the

agreement are the prohibition of water sports and provision for the design and implementation of a full management programme. A car park is to be provided, with access to the reservoir for permit holders; a new hide will also be erected. Profits from a new booklet, *The Birds of Belvide Reservoir*, published by the club at £1, will go to the Belvide Conservation Fund. For full details of permit arrangements and for copies of the guide, write to the Secretary, WMBC, 1 Lansdowne Road, Studley, Warwickshire.

Turkish wetland reprieved With the growth in travel beyond the Bosphorus, European birdwatchers have become increasingly aware of the existence of many fabulous wetland areas in Turkey and beyond. One of Turkey's most outstanding areas, 14,000 ha of fresh and saline marshes known as the Sultansazligi, was recently scheduled for drainage, but, following representations from many organisations, the state water authority has abandoned the scheme. This decision will be widely welcomed in view of the numbers of birds which occur—several hundred thousand wildfowl, up to 30,000 waders, as many as 42,000 Greater Flamingos, 3,000-4,000 storks, 1,500-2,000 cranes and 2,000-2,500 herons.

News and comment from Pakistan No doubt Peter Conder will be telling us later in the year something of his travels in Sind, but some news gleaned from a letter he wrote in January may be of interest. He had been looking at five different wetlands, and says that each holds at least 20,000 ducks regularly, while one may have as many as 50,000. Mind-boggling totals of ten heron species at one site and 21 raptor species in a day, plus an aside to the effect that the whole place is 'hotching with Phylloscos and Acros', show that there is a fantastic bird population in Sind in winter. Supplementary studies have apparently included correlating Black Kite numbers and distribution with standards of sanitation and lavatory facilities.

New Chinese checklist I have at last managed to find out something about the recently revised *Distributional List of Chinese Birds*, written by Cheng Tso-hsin and published by the Science Press, Peking, at about £8. It covers over 1,150 species

(and about 900 subspecies) and has 828 distribution maps. There are English and scientific names: by using these, together with the various maps and keys, it is said that about 70% of the book is intelligible to non-readers of Chinese—which means almost all of us! I gather that few copies are likely to be exported, but the main ornithological libraries here will probably be able to obtain copies.

Contributors should continue to send items for inclusion in this feature to M. J. Everett, 3 Gunnings Way, Hemingford Grey, Huntingdon PE18 9EE.

Address for contributions Contributors should continue to send items for inclusion in this feature to M. J. Everett, 3 Gunnings Way, Hemingford Grey, Huntingdon PE18 9EE.

Opinions expressed in this feature are not necessarily those of the editors of British Birds

Recent reports

K. Allsopp

These are largely unchecked reports, not authenticated records

This report covers January and, except where otherwise stated, all dates refer to that month.

The weather during January was mixed, very cold spells alternating with mild ones, resulting in a mean temperature close to the normal. Consequently, as feeding was disrupted for only a few days at a time, hard weather movements were of limited extent. After the post-Christmas influx from the frost-bound Continent, **Redwings** *Turdus iliacus* became very common and many moved farther west into Ireland. By early January, the hedgerow haws had almost vanished.

Heavily fruited hornbeams *Carpinus* at East Wretham Heath (Norfolk) attracted many **Hawfinches** *Coccothraustes coccothraustes*, 35 being present on 23rd. An unusual garden bird, at the turn of the year, was an **Ivory Gull** *Pagophila eburnea*, which fed on kitchen scraps at Westhills of Skene (Aberdeen). Wintering **Chiffchaffs** *Phylloscopus collybita* are usually reported in small numbers, but in Cornwall up to 37 were found at a small sewage-farm at St Erth, near St Ives, and there were smaller concentrations at other favourable localities.

Bean Geese *Anser fabalis*, never very numerous, were reported more frequently than usual. Small flocks of four to 14 were wintering at Cley and at Holkham (both Norfolk), in Lancashire, at Rutland Water (Leicestershire), at Slimbridge (Gloucestershire) and on the Wexford Slobs. The usual flock at Buckenham (Norfolk) was larger than in recent past winters, totalling

120, and an even larger flock of 182 visited Rutland Water on 2nd February. This new reservoir is rapidly reaching its planned Windermere proportions after the autumnal deluge and will undoubtedly soon become a major birdwatching locality. The wildfowl count there this month totalled 12,500, with **Wigeon** *Anas penelope* (4,458) predominating, and included a flock of about 25 **White-fronted Geese** *Anser albifrons*; a **Hen Harrier** *Circus cyaneus* and several **Short-eared Owls** *Asio flammeus* may have been taking advantage of the small mammals displaced and concentrated by the flooding.

Wintering **Mediterranean Gulls** *Larus melanocephalus* have become commoner over the past few years, no doubt partly as a result of observers' increased expertise. Three were reported on the northeast coast, one at Liverpool (Merseyside), the regular one at Covehithe (Suffolk) and, most unexpected, one inland on Epsom Common (Surrey). Seawatches along the northeast coast produced an unusual number of **skuas** in the North Sea, with maxima of 12 **Arctic** *Stercorarius parasiticus*, four **Pomarine** *S. pomarinus* and three **Great** *S. skua* at any one time. On 27th, low temperatures and snow in the North Sea, together with east winds, brought a vast increase in the numbers of **gulls**, including six **Glaucous** *Larus hyperboreus*, in the Teesmouth area (Cleveland). Totals of 350 **Red-throated Divers** *Gavia stellata* and 18 **Black-throated Divers** *G. arctica* passed Filey Brigg (Yorkshire) in three hours on the same day.

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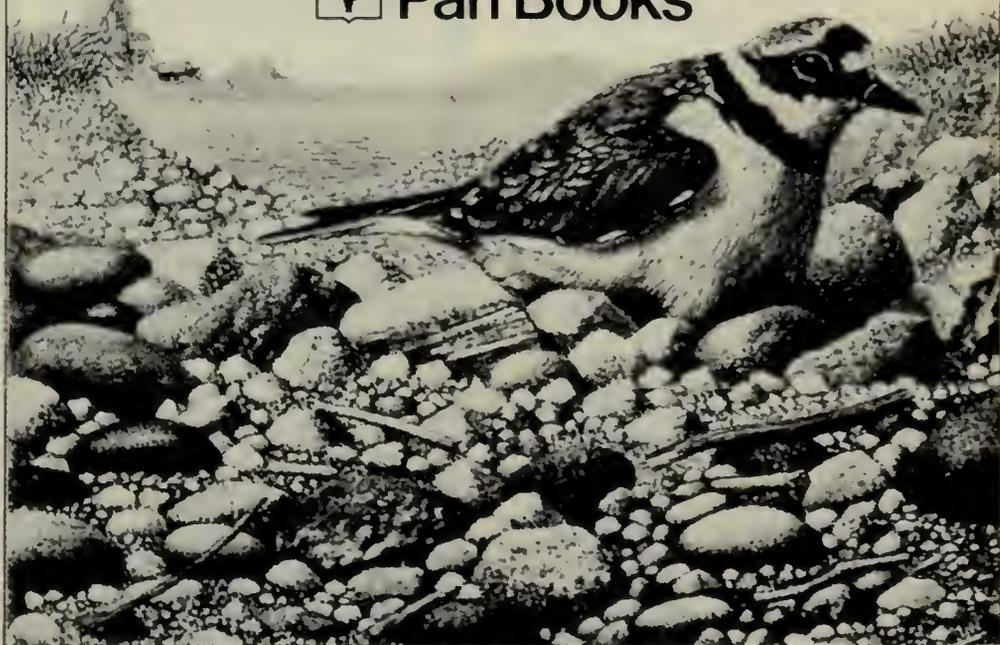
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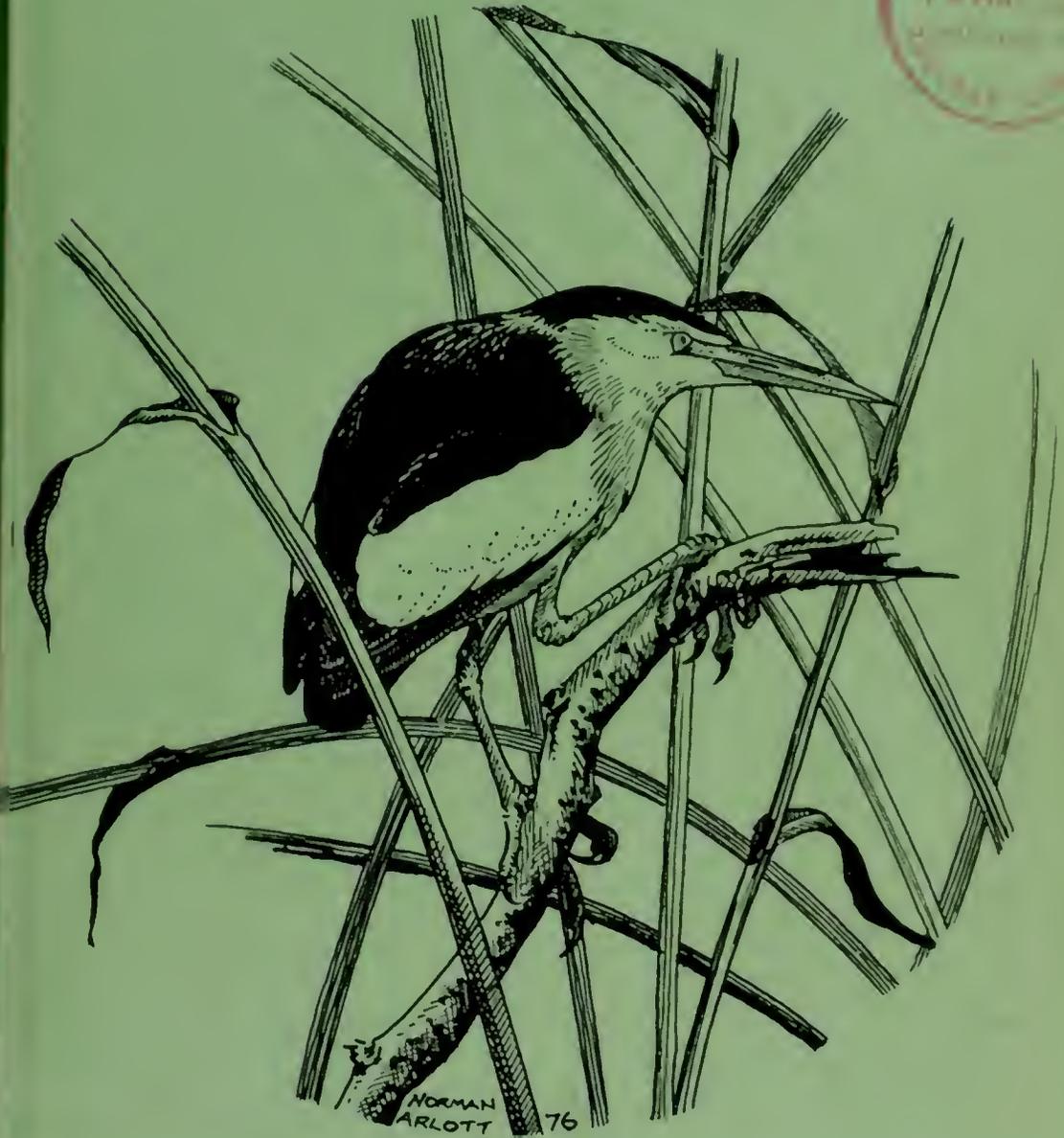
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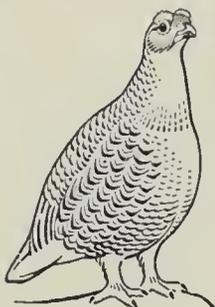
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British Birds



News and comment

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British Birds

VOLUME 70 NUMBER 5 MAY 1977

Wildfowl and waders in Langstone Harbour

Colin R. Tubbs



Counts during 1952-75 at Langstone Harbour, Hampshire, have revealed increases in the numbers of certain wildfowl and waders, which may reflect international trends. Anomalous declines of a few species may be linked with local ecological change

A contribution towards the cost of publishing this paper was made by the Nature Conservancy Council

Frequent counts of estuarine birds began in Langstone Harbour, Hampshire, in 1952 and have continued uninterrupted ever since; there is probably no comparable sequence for any other intertidal system in Britain, or possibly in Europe. The data present a valuable opportunity for determining long-term population trends, although the absence of similar counts on a wider scale limits interpretation. This analysis of the records of 13 species was prompted by the need to determine, for management and conservation reasons, whether wader and wildfowl populations

have responded to ecological changes arising from increased discharge of sewage effluent into the harbour. Comparisons are made with the neighbouring harbours of Portsmouth (which also receives a substantial volume of effluent) and Chichester (which is less polluted). Where relevant, data from Southampton Water and the west Solent are also considered.

The study area

Langstone, Portsmouth and Chichester Harbours are extensive and connected tidal basins on the central south coast of England. Chichester Harbour straddles the boundary between Hampshire and Sussex. The harbours are essentially a single physical and ecological system, whose origin lies in the post-glacial transgression of the sea across low plains, the margins of which were subsequently extended by wave attack to form cliffs up to about 3 m high, while the beds accreted seaborne sediments, the vertical growth of which has been assisted, in some places, by salt-marsh development. Parts of the intertidal area have been reclaimed in recent centuries, so that cliffs are widely replaced at the harbour margins by sea-walls. The sediments exposed at low water are mainly fine silts and organic matter, with exposures of angular flint gravel along the upper shoreline and in channel and creek bottoms. The higher muds in all three harbours were extensively colonised by common cord-grass *Spartina anglica* earlier this century, but the *Spartina* marshes are now in an advanced state of disintegration, die-back being accompanied by erosion and slumping of the mud platforms accreted during their growth phase (Tubbs 1975a,

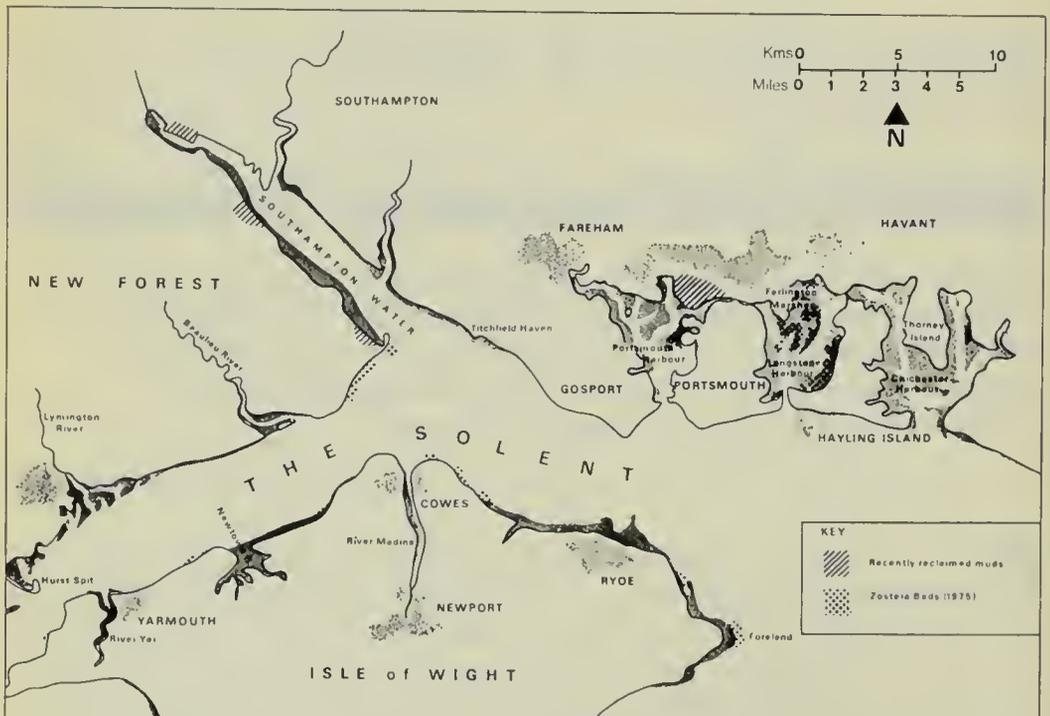


Fig. 1. The study area, showing Portsmouth, Langstone and Chichester Harbours in relation to the Isle of Wight and the Solent. Urban areas are lightly shaded; the key shows two other relevant features

1975b). In the area of maximum turbulence, around the mouth of Chichester Harbour, there are extensive deposits of fine sand, which also occur on a smaller scale in Langstone Harbour, but not in Portsmouth Harbour. At low water, the intertidal areas are drained by complex systems of channels and creeks, which in each harbour unite to form narrow, common exits to the Solent. The harbours and their relationship to the rest of the Solent are shown in fig. 1. Portsea Island, separating Langstone and Portsmouth Harbours, is occupied mostly by the City of Portsmouth, and urban development extends around most of Portsmouth Harbour. The area of mud reclaimed there since 1970 (about 20%) is also shown. The extents of the main intertidal habitats in each harbour are shown in table 1.

Table 1. Areas in hectares of main intertidal habitats in Chichester, Langstone and Portsmouth Harbours at mean low water, 1975

	Chichester	Langstone	Portsmouth
Mud	1,298	1,320	776
Sand	164	72	0
<i>Spartina</i> marsh	611	216	173
Saltmarsh	42	48	0

The whole system and, indeed, each of the harbours individually are of international scientific importance on the criteria propounded by the Ramsar Convention. The joint British Trust for Ornithology/Royal Society for the Protection of Birds/Wildfowl Trust 'Birds of Estuaries Enquiry' data permit some comparisons with the other British estuaries. Taking the sum of annual peak counts for each species, regardless of when they occurred, an index is obtained of the capacity of the area to support a range of species with different foods and feeding behaviour. Data are available for four of the five years of the Birds of Estuaries Enquiry. In two years the three Hampshire/Sussex harbours ranked sixth, in one year seventh, and in one year eighth in order of importance among British intertidal systems for the wader populations they supported. The index for the three harbours was 50,450 in 1970/71, 84,057 in 1971/72, 100,328 in 1972/73, and 88,000 in 1973/74 (Birds of Estuaries Reports and A. J. Prater *in litt.*).

An alternative measure of importance is the number of birds that a system supports per unit area of intertidal sediment. The density of waders in the three harbours (based on the index figures) is at least twice as high as in any of the eight much larger systems which supported larger numbers. This is mainly because the latter include extensive sandflats, which are relatively inhospitable feeding grounds for most waders, whereas the harbours are comprised mainly of soft muds, with a rich invertebrate fauna in the upper horizons most accessible to birds.

Table 2 shows average midwinter peaks of some waders and wildfowl in the three harbours in 1971/72 to 1974/75 (the period for which the data

Table 2. Midwinter peak counts of some waders and wildfowl in Chichester, Langstone and Portsmouth Harbours as proportions of British and European/North African populations, 1971/72 to 1974/75

National and international populations are derived from Prater (1974), Ogilvie (1975) and Ogilvie and St Joseph (1976). International estimates of waders and Shelducks are at best rough approximations. The Shelduck figure marked* refers to only NW Europe

	Average midwinter population	% British population	% European/N African population
Oystercatcher <i>Haematopus ostralegus</i>	2,045	1.0	0.4
Ringed Plover <i>Charadrius hiaticula</i>	339	3.2	0.8
Grey Plover <i>Pluvialis squatarola</i>	1,518	18.9	3.5
Curlew <i>Numenius arquata</i>	2,134	2.8	1.4
Black-tailed Godwit <i>Limosa limosa</i>	1,189	8.5	1.7
Bar-tailed Godwit <i>L. lapponica</i>	1,460	2.4	0.5
Redshank <i>Tringa totanus</i>	2,007	2.0	0.8
Dunlin <i>Calidris alpina</i>	61,721	9.5	4.4
Dark-bellied Brent Goose <i>Branta bernicla bernicla</i>	9,844	28.0	16.6
Shelduck <i>Tadorna tadorna</i>	4,644	6.6	1.9*

are most complete) as proportions of British and European/North African midwinter populations. During 1971/72 to 1974/75, these peaks represented more than 1% of the British midwinter populations of ten species and more than 1% of the midwinter populations of six species in the European and North African flyway. Internationally, the harbours are of special importance for Grey Plovers*, Black-tailed Godwits, Dunlins and Brent Geese.

Changes in intertidal ecology

Since the mid 1950s, Langstone Harbour has received increasing quantities of sewage and other effluent. The volume discharged fully treated from Budds Farm sewage works in the northeast of the harbour increased linearly from 1.5 million gallons per day (mgd) in 1954 to 4 mgd in 1968 and then more steeply to 8.4 mgd in 1971; since then the rate of increase has declined, 9 mgd being discharged in 1976. About 13 mgd are discharged untreated into the harbour entrance on the cbb, and radioactive tracer surveys have shown that some re-enters the harbour on the next flood. In addition, other substances, notably ammonia, enter

*The scientific names of birds mentioned in the text are listed in appendix 1.

the harbour from a refuse tip. These discharges and their ecological effects have been studied since 1971 by Portsmouth Polytechnic, under successive contracts from the Hampshire River Authority and Southern Water Authority (Dunn 1972, Southgate 1972, Portsmouth Polytechnic 1976). The main conclusions may be summarised as follows:

1. Nutrient levels in the harbour have been elevated by increased effluent discharge.
2. Experiments confirmed that green algae respond favourably to increased concentrations of effluents.
3. The average effluent concentration in the harbour now lies within the range of maximum stimulation of algal growth.
4. Since the 1950s, the area of mudflats covered by the green algae *Enteromorpha* and, locally, *Ulva lactuca* has greatly increased. Air photographs showed that in 1961 there was comparatively little; by 1967 it was widespread; and in 1974 it was abundant everywhere above the level of low water neap tides, with a 75% cover over 264 ha (20%) of the mudflats. These data support subjective recollections of the dramatic spread of green weed since the early 1960s.
5. The mud beneath dense weed is anaerobic and remains so after the mats break up in the autumn. It supports few invertebrates except for small threadworms (not yet identified) and the bristle worm *Capitella capitata*. The weed blankets themselves, however, support moderate numbers of animals, notably laver spire shells *Hydrobia ulvae*, the amphipod *Gammarus locusta*, the ragworm *Nereis diversicolor* and common shore crabs *Carcinus maenas*.
6. From September onwards, the area of alga-covered mud declines and is at a minimum in January/February. Although residual green plants remain, much material becomes incorporated into the mud, while some accumulates in deep drifts in sheltered places. The fate of the animals sheltered by the weed in summer is unknown.
7. These ecological changes are likely to affect bird and fish numbers by (a) reducing the number or availability of invertebrate prey, and (b) increasing the amount of food available for grazers.

The spread of green algae in Langstone Harbour has been paralleled by the spread of various eelgrasses *Zostera* over a similar period. *Zostera* was reputedly abundant in the harbour until the catastrophic decline of the beds on both sides of the North Atlantic in the 1930s. It is now uncertain which form or forms occurred in Langstone Harbour, but, from verbal descriptions, the eelgrass *Z. marina* occurred profusely in the channels and a smaller form occurred on the mudflats. In the early 1950s, all that remained were two small patches of *Z. marina* in permanent water and a small area of dwarf eelgrass *Z. noltii* and narrow-leaved eelgrass *Z. angustifolia* (or *Z. marina* var. *angustifolia*) on the muds. Starting in about 1960, *Z. angustifolia* began to spread, rapidly since about 1968; in 1975, it occurred over a minimum of 445 ha of soft muds, while *Z. noltii* remained confined mainly to about 81 ha of high, firm mud. The *Z. angustifolia* beds are thought to be the most extensive in England south and west of the Maplin Sands, Essex. The period of most rapid spread coincided with the greatest increase in effluent discharge. *Zostera* beds have also become re-established in Portsmouth Harbour, which has also received large and increasing quantities of effluent since the 1950s. One small patch was found in 1974 in Chichester Harbour, where discharges have been small, but this had expanded to cover an area of at least 50 ha by 1976 (R. F. Porter *in litt.*). These events may be unrelated, however, and, indeed, in Japan a decline in some *Zostera* beds during the

same period was attributed to pollution by untreated sewage (Kikuchi 1974).

The locations of the Solent *Zostera* beds in 1975 are shown in fig. 1. Those in the harbours refer to *Z. angustifolia*, with some *Z. noltii* in Langstone Harbour. The beds on the more exposed shores with firm substrates can generally be referred to *Z. marina*, though the plants exhibit great morphological variation and a wide range of forms occurs.

Portsmouth Harbour resembles Langstone in that *Enteromorpha* occupies large expanses of the mudflats. Sampling by the Southern Water Authority in 1974 revealed only small populations of invertebrates in the muds closest to the effluent discharge and, indeed, immediately down-channel of it, bottom-dwelling animals were absent. The *Zostera* beds have become established on the east side of the harbour, farthest from the source of effluent. Neither *Zostera* nor *Enteromorpha* blankets were present in the harbour in the early 1960s. Chichester Harbour receives two effluent discharges, but both are small in relation to the size of the receiving system and there are no blankets of algae comparable to those in the other harbours.

Sources and treatment of data

Counts of intertidal birds began in Langstone Harbour in 1952. Until 1959, the occasions on which waders were counted depended on opportunity, inclination, tide, weather and other variables. For each species, however, there was usually at least one count each month. Since 1969, counts have been made monthly, on nationally arranged dates for the BTO/RSPB/WT Birds of Estuaries Enquiry, although intervening opportunistic counts have also been made. Wildfowl have been counted in the harbour since 1952, both opportunistically and on monthly dates arranged for the national wildfowl counts by the Wildfowl Trust.

Since 1969, monthly counts of waders and wildfowl have been made throughout the Solent, while the *Hampshire Bird Report* gives information for earlier years. The *Sussex Bird Report* shows the results of organised counts of waders and wildfowl in Chichester Harbour from March 1964 onwards, though, until winter 1971/72, only the high water roosts in the Sussex sector of the harbour were counted, and, after 1969, there were few counts between June and August, with September counts in only three of the five years 1970-74.

For Langstone Harbour, monthly maximum counts of the 13 most numerous species of waders and wildfowl were tabulated and graphs of average monthly maxima for each of four periods between June 1952 and May 1975 were prepared. In interpreting these, three factors demand attention:

1. Most of the post-1968 counts were made on pre-arranged dates, which sometimes coincided with unsuitable tides or weather, whereas most pre-1968 counts were made on occasions when conditions were suitable. There may thus be a bias towards lower recorded numbers after 1968.

2. In the 1950s, the main wader roosts in Langstone Harbour were on the four islands, and counts were usually made as flocks dispersed on the ebb. Towards the end of the 1960s, the islands became less important as roosts, because of increased disturbance, and were partly replaced

between 1967 and 1969 by others on Hayling Island and, in the 1970s, Farlington Marshes (see fig. 1). It is uncertain precisely when Hayling Island was first used, and it is possible that some roosts there were missed during 1967-69.

3. Until 1968, a variable number of Curlews, and less often Redshanks, from Portsmouth Harbour flew into Langstone to roost on high water spring tides when the Portsmouth Harbour saltmarsh roost flooded. These were included in the Langstone Harbour counts.

Table 3. Average peak counts of some waders and wildfowl in Langstone Harbour during four periods from 1952/53 to 1974/75

Seasons: A = autumn (June-November); W = winter (December-March)

	Season	1952/3- 1957/8	1958/9- 1963/4	1964/5- 1969/70	1970/1- 1974/5
Oystercatcher	A	129	245	512	833
<i>Haematopus ostralegus</i>	W	84	227	507	814
Ringed Plover	A	305	268	428	398
<i>Charadrius hiaticula</i>	W	560	158	193	141
Grey Plover	A	184	275	249	551
<i>Pluvialis squatarola</i>	W	112	220	275	533
Curlew	A	1,440	1,896	1,405	1,182
<i>Numenius arquata</i>	W	875	1,037	812	676
Black-tailed Godwit	A	344	377	553	488
<i>Limosa limosa</i>	W	230	533	452	459
Bar-tailed Godwit	A	77	83	217	183
<i>L. lapponica</i>	W	191	226	313	255
Redshank	A	2,310	2,633	1,711	1,306
<i>Tringa totanus</i>	W	975	1,140	716	573
Knot	A	109	213	137	135
<i>Calidris canutus</i>	W	243	313	243	576
Dunlin	Jun-Sep	507	2,500	1,852	2,808
<i>C. alpina</i>	Oct-Dec	8,167	8,917	13,600	17,020
	Jan-Mar	5,583	7,600	15,667	23,920
Brent Goose <i>Branta bernicla</i>	W	368	823	2,033	5,013
Wigeon <i>Anas penelope</i>	W	542	790	784	1,290
Teal <i>A. crecca</i>	W	227	198	473	749
Shelduck <i>Tadorna tadorna</i>	W	1,673	2,617	3,258	1,671

It is unlikely that the first two factors significantly affected the trends shown, but the third may have exaggerated a downward curve in Curlew numbers: this is evaluated later.

The average autumn and winter peaks for each species during each of the four periods (table 3) provide a crude measure of population changes. The table excludes a variety of species (e.g. Greenshank, Spotted Redshank and Whimbrel) which occur in relatively small numbers for transitory passage periods, the Turnstone, which occurs in some numbers, because data for the species are fragmentary, and migrant flocks of certain waders (notably the Bar-tailed Godwit) which sometimes appear for only a few hours in spring.

Results

Oystercatcher *Haematopus ostralegus*

Average monthly maximum populations in Langstone Harbour for four periods since 1952 are shown in fig. 2. A relatively small non-breeding population is present in May-June, and numbers then build up to a peak in September-October. In the earlier two periods, late autumn and winter numbers tended to be smaller than in summer and autumn, but, subsequently, numbers have been maintained through the winter, although there is probably some movement in and out of the area. Fig. 2 shows a sustained increase in all months, confirming the trend in table 3.

In Chichester Harbour, summer-autumn (July-November) populations have fallen somewhat over the 1964/65 to 1974/75 period for which counts are available, but winter

(December-March) populations have shown no significant trend. Average peaks for 1964/65 to 1969/70 and 1970/71 to 1974/75 are:

	1964/65 to 1969/70	1970/71 to 1974/75
Autumn	1,160	777
Winter	706	750

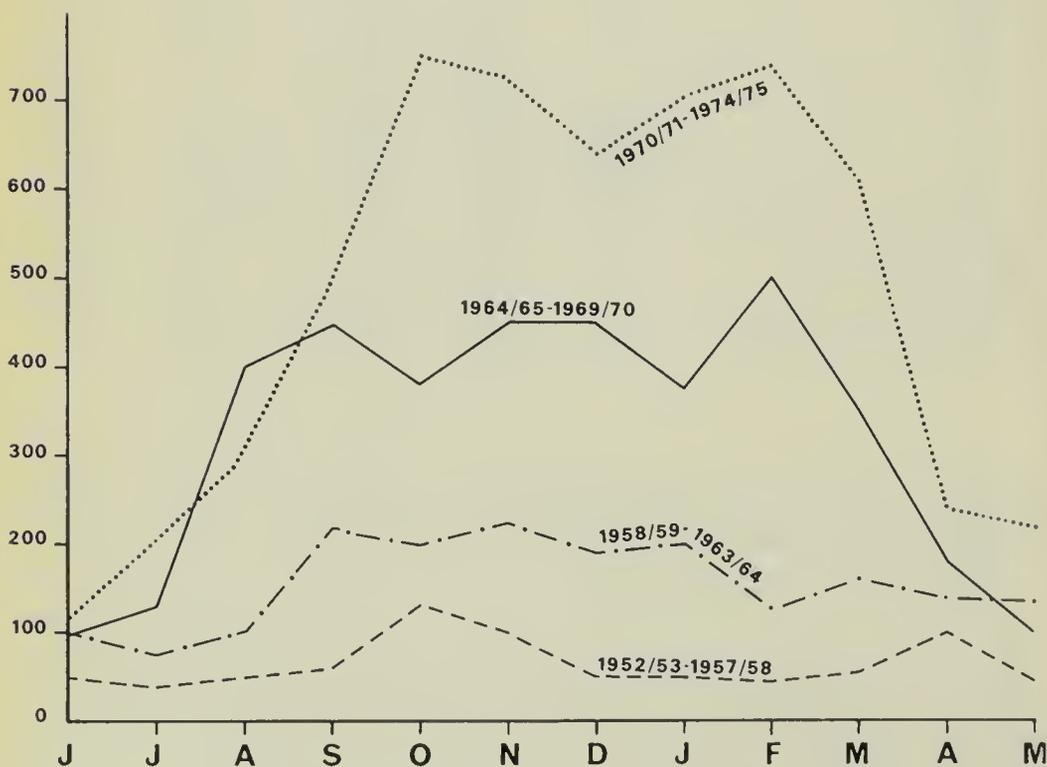


Fig. 2. Average monthly maximum numbers of Oystercatchers *Haematopus ostralegus* in Langstone Harbour during four periods from 1952/53 to 1974/75

Portsmouth Harbour counts are available only for 1970/71 to 1974/75, during which time they have shown no clear trend. Average autumn (July-November) and winter (December-March) populations were 422 and 503 respectively. No clear trends are discernible from the Birds of Estuaries Enquiry data for other parts of the Solent.

Ringed Plover *Charadrius hiaticula*

In Langstone Harbour, numbers reach a peak in August, there is a trough in November, and then a second peak in December-January, which is sometimes sustained in February. In the late 1960s and the 1970s, the low November levels were obscured by sustained autumn populations. In at least some winters in the mid-1950s, winter populations were much larger than they have been at any time since, reaching 900-1,000 in 1953/54, 1954/55 and 1956/57, since when, post-November populations have been much smaller than pre-November populations. The latter have fluctuated between 300 and 600 since 1963, with a tendency to increase towards the higher figure.

Counts are available from Chichester Harbour for 1965/66 onwards, but are too incomplete to permit conclusions. Counts in Portsmouth Harbour, Southampton Water and the west Solent for 1970/71 to 1974/75 show relatively wide fluctuations, but no clear trend is discernible.



Grey Plover *Pluvialis squatarola*

In Langstone Harbour, there is a small non-breeding population in May-June. Numbers increase from the end of July to a peak in September-October; midwinter numbers are usually somewhat lower. In April-May short-term fluctuations and records of departing birds reflect passage. No interchange of populations during autumn-winter is apparent from the numerical data, but a consistent slight fall in November-December may indicate movement.

Graphs of average monthly maxima for four periods since 1953 show steadily increasing populations (though the summer non-breeding numbers have changed little): this confirms the trend shown in table 3. The increase, however, has not been continuous.

Fig. 3 shows that the upward curve of autumn peaks has been punctuated by dips in the late 1950s, 1965-67 and 1969-71. The 1972-75 upswing has transcended previous levels. The winter peaks have followed a similar trend since the mid-1960s, before which there was a gradual increase, terminating in an all-time low during the hard winter of 1962/63.

Data from other Solent estuaries and harbours before 1970/71 are incomplete, but do not conflict with the picture from Langstone Harbour, although in Chichester Harbour, where numbers appear always to have been larger than in Langstone, population growth may have been relatively less marked. The 1972-75 increase is reflected in recent counts throughout the Solent.



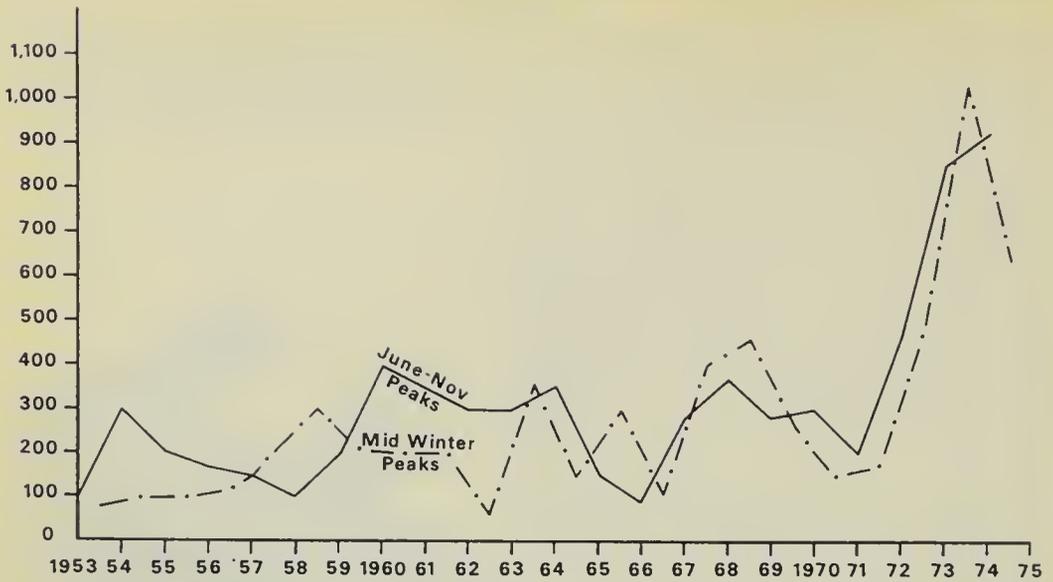


Fig. 3. Maximum counts of Grey Plovers *Pluvialis squatarola* in Langstone Harbour during June to November and in midwinter in each year during 1953-75

Curlew *Numenius arquata*



In Langstone Harbour, there is a large summer-autumn assembly, but a lower winter population. In the 1950s and early 1960s, the peak numbers occurred in July-August. For most of the 1960s, they tended to be maintained until November. Since the late 1960s, the peak has generally been in September. There was an increase in numbers in all months until the early 1960s, but a general decline since. Interpretation of graphs of monthly maximum numbers over four periods since 1952 is complicated, however, by the inclusion in an unknown number of counts of a variable proportion of the Portsmouth Harbour population, which flew into Langstone Harbour to roost on high water spring tides when the Portsmouth

Harbour roost became partly untenable. This habit ceased in 1968. Unfortunately, there are few counts of the numbers involved, but it may be that the absence of Portsmouth Harbour birds after 1968 accounts for the apparent continuation of the decline. In fig. 4, the 1970/71 to 1974/75 monthly average populations in Portsmouth Harbour have been added to the number in Langstone to produce a total not very different from that in Langstone during 1958/59 to 1963/64. Numbers flying from Portsmouth to Langstone were variable, however, so there is some doubt whether the pre-1970/71 figures are wildly misleading. Moreover, after 1970, about 20% of Portsmouth Harbour was reclaimed, which might have been expected to increase the number feeding in neighbouring Langstone, whereas Langstone counts remained low. There is no evidence for a decline in the Portsmouth Harbour numbers, either in autumn or winter since regular counts started in 1970/71, but there are few indications of the size of the population before then. Chichester Harbour data are inconclusive, because of incomplete or discontinuous counts, but suggest an increase since they started in 1964/65. Numbers in the west Solent and Southampton Water have increased since at least 1970/71, and probably since the mid 1960s.

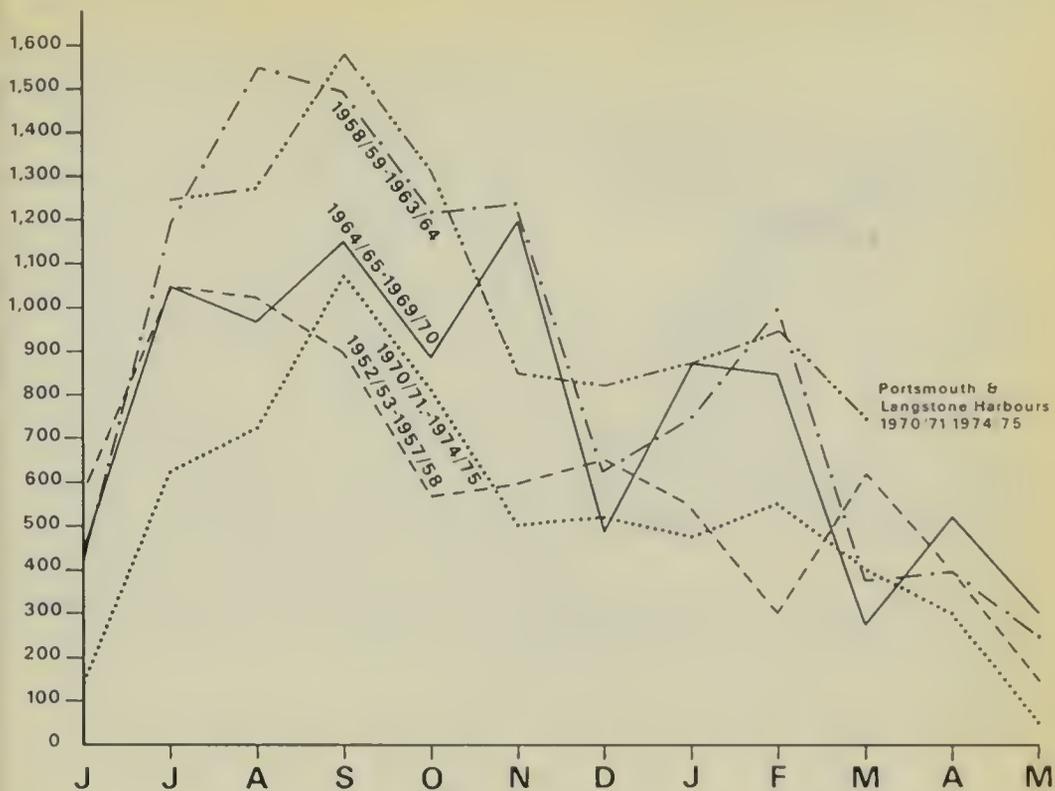


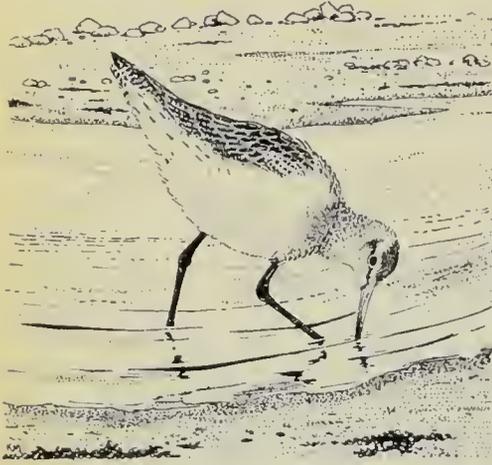
Fig. 4. Average monthly maximum numbers of Curlews *Numenius arquata* in Langstone Harbour during four periods from 1952/53 to 1974/75, and in Portsmouth and Langstone harbours combined during 1970/71 to 1974/75

Black-tailed Godwit *Limosa limosa*

Flocks begin to arrive in the Solent in July and are present (although not necessarily the same birds) until the following April. They are notoriously prone to erratic local movements between estuaries and no consistent pattern of annual occurrence emerges for Langstone Harbour, peaks having occurred in every month from August to March. In the Solent as a whole, however, peaks can be distinguished in October and December. There is generally a small non-breeding population in Langstone.

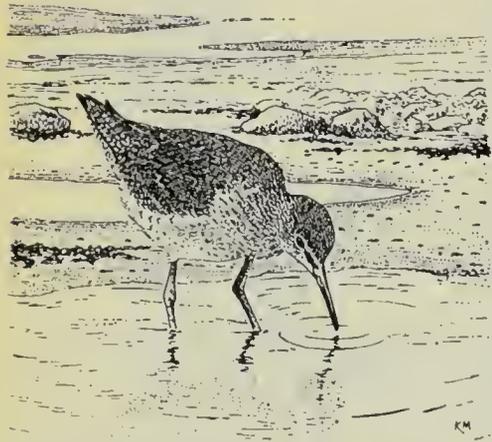
The figures in table 3 do not adequately reflect the continuing upward trend in Langstone Harbour because, in each period for which an average is given, summers or winters when the flocks forsook the harbour have tended to depress averages. Ignoring these periodic troughs, summer (July-September) maxima have risen from 300-400 in the mid 1950s to 500-700 in 1972/74; and winter maxima from 200-275 in the mid 1950s to 500-600 in the early 1970s. A similar trend can be distinguished for Chichester Harbour since regular counts began in 1964 (though the erratic upward curve is probably exaggerated by incomplete cover of possible roosts before 1971). The winter population in particular has risen sharply in the 1970s, with a maximum of 1,400 in 1972/73. Since counts started in Portsmouth Harbour in 1969, the population has been sustained, but has shown no definite trend.



Bar-tailed Godwit *Limosa lapponica*

the sandy deposits near the harbour mouth, although the birds also feed widely on mudflats. It is likely that some Langstone Harbour flocks have been temporarily displaced from Chichester Harbour. Flocks which appeared briefly in the harbours on spring passage have been discounted in preparing table 3.

In Langstone Harbour, both autumn and winter populations (the former reaching a peak in September-October, the latter in December-February) were consistently lower before 1963 than after. Peaks have tended to be larger since 1963. The highest numbers recorded in autumn were in 1974 (410), and in winter were in 1965/66 (700) and 1974/75 (635). Counts in Chichester Harbour since 1964 showed wide fluctuations before 1971/72, owing to variable cover of the roosts, but counts in excess of 1,000 were frequent, and numbers have tended to increase: the recorded maximum was 1,535 in 1971/72. There has been no regular autumn or winter flock in Portsmouth Harbour. In Chichester Harbour, the flock is closely associated with

Redshank *Tringa totanus*

five out of 11 years between 1964 and 1974. As in Langstone Harbour, winter numbers tended to be half or less of those in summer.

Large summer assemblies occur in Langstone Harbour, with numbers often sustained or increasing during July-November, after which they fall to a much reduced winter population. The 1962/63 winter severely reduced numbers and they have remained depressed since, although there is some evidence of a decline in winter numbers before 1962/63 (fig. 5). In Chichester Harbour, cover of the roosts was incomplete before 1971/72, and in succeeding years there were few counts before September, so that the large summer numbers were inadequately monitored. Nonetheless, the figures suggest a population sustained at a much higher level than in Langstone Harbour and tending to increase: summer populations of between 3,000 and 4,000 were recorded in

In Portsmouth Harbour, the maximum numbers in 1969-75 suggest that a decline may be occurring there, especially in winter:

	1969/70	1970/71	1971/72	1972/73	1973/74	1974/75
Autumn (Jul-Nov)	1,350	1,200	1,900	1,300	928	1,000
Winter (Dec-Mar)	1,472	880	700	300	330	385

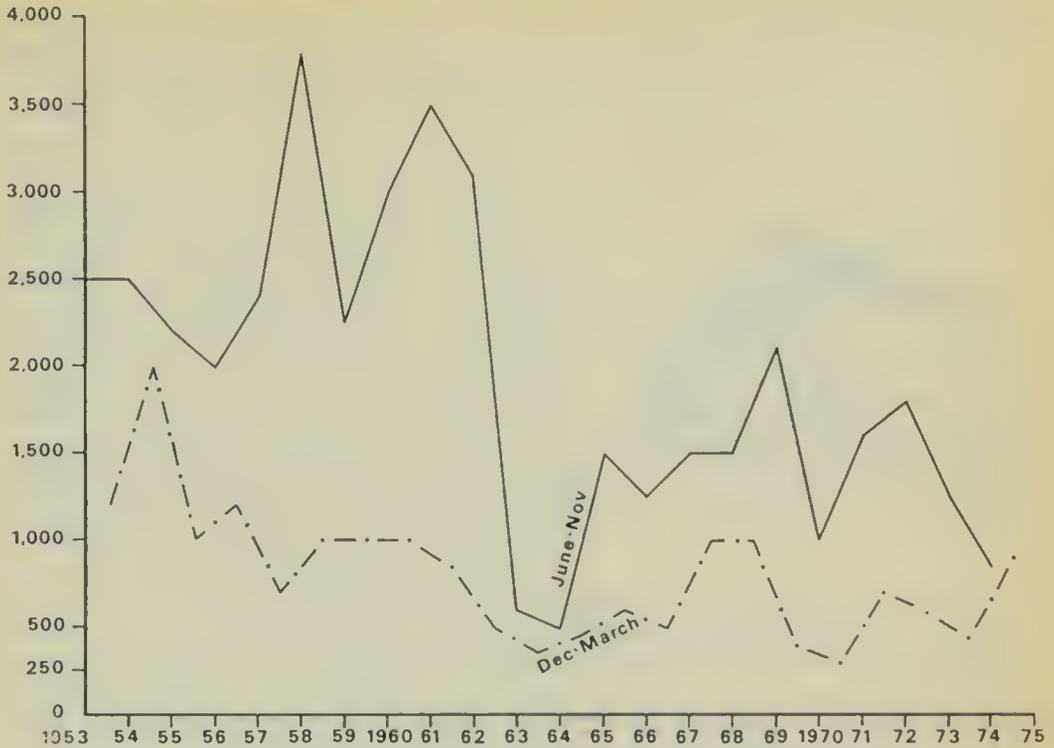


Fig. 5. Maximum counts of Redshanks *Tringa totanus* in Langstone Harbour during June to November and December to March in each year during 1953-75

Knot *Calidris canutus*

Small numbers are present in the three harbours in August-September. Larger numbers arrive from October onwards, reaching a peak in January-February (sometimes March). The extent of interchange between autumn and winter populations is unknown. In Langstone Harbour, both have fluctuated widely since 1952 (autumn, 19-403; winter, 60-1,000). Autumn numbers show no long-term trends, but winter numbers have increased since 1970/71. Autumn counts in Chichester Harbour are probably incomplete, but the regular roost has been counted in winter since 1964, and winter maxima show a steady increase since then (average maximum 1964/65 to 1969/70, 328; average maximum 1970/71 to 1974/75, 955; highest count, 1,370 in winter 1972/73). Numbers in Portsmouth Harbour since 1969/70 have varied widely in both autumn and winter, with the largest totals in winters 1969/70 and 1970/71 (1,350 and 950 respectively) and smaller numbers since.



Dunlin *Calidris alpina*

In Langstone Harbour, July-September numbers are relatively small (maximum 5,000, in 1972). Large numbers arrive in October-November, and, at one time, the annual maximum was reached in December, subsequent winter numbers being smaller. Since the mid 1960s, however, the December peak has been eclipsed by higher numbers in January or February. Both the October-December and January-March levels have increased dramatically since the 1960s, but April-September numbers have changed relatively little. Average monthly maxima for four periods since 1952/53 are given in fig. 6. Fig. 7 shows maximum winter populations since 1952/53, and indicates the depressive effects of the 1962/63 winter (though it is evident that there had been something of a

decline in winter populations before then) and the subsequent increase.

Information for Chichester and Portsmouth Harbours and for elsewhere in the Solent is fragmentary before 1970/71, but suggests that the picture for Langstone Harbour is generally representative of the central south coast. The period since 1970/71 has seen a steady increase in late autumn and winter counts in the Solent as a whole. This can be illustrated by the following recorded maxima for each of the five winters:

1970/71	1971/72	1972/73	1973/74	1974/75
40,005	59,422	77,680	79,995	88,790

Half or more of the total numbers were in Langstone and Chichester Harbours.

Brent Goose *Branta bernicla bernicla*

The first Brent Geese arrive in Langstone Harbour in October, and numbers usually reach a peak in February. In Chichester Harbour, the peak has often occurred in January, and there may have been a subsequent movement into Langstone. In 1973/74 and 1974/75, however, the Langstone peaks (6,075 and 5,578 respectively) occurred in December and the Chichester peak in January. Numbers decline from the end of February and the last ones leave between late March and mid April. There is recent evidence from colour marking that the harbours receive part of the autumn assembly at Foulness, Essex.

Data are available for Langstone Harbour since 1952 and for Chichester Harbour since 1954. Annual winter maxima in the two harbours (fig. 8 on page 193) clearly illustrate the dramatic growth in numbers. There was a steady increase from 1952/53 to 1965/66, numbers practically doubled during 1966/67, remained steady until 1969/70, and then climbed steeply. This situation is also reflected in the figures in table 3. Starting in winter 1965/66, Newtown Harbour and the Lymington River estuary, in the west Solent, also began to support Brent Geese, and in winter 1968/69 they were recorded from Portsmouth Harbour. Numbers in the last of these areas have remained relatively small, despite

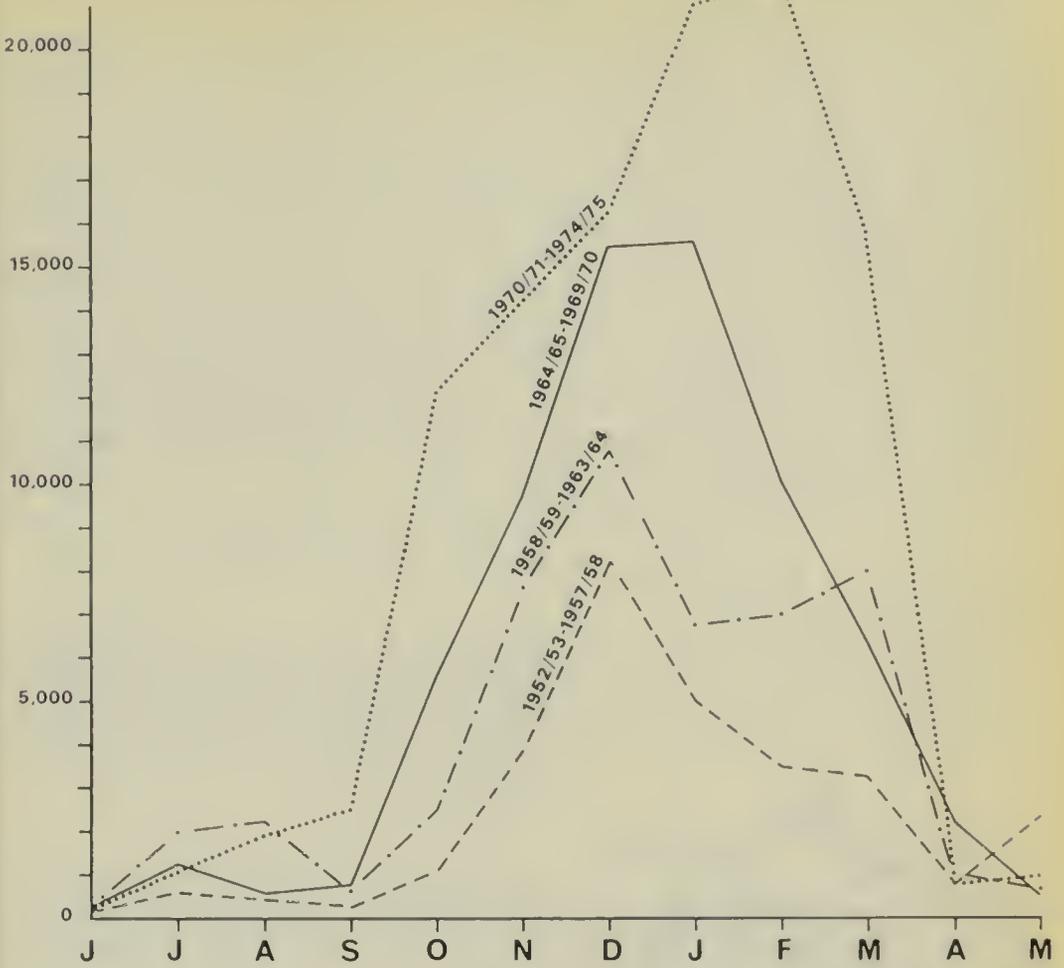


Fig. 6. Average monthly maximum numbers of Dunlins *Calidris alpina* in Langstone Harbour in each year during 1952-75

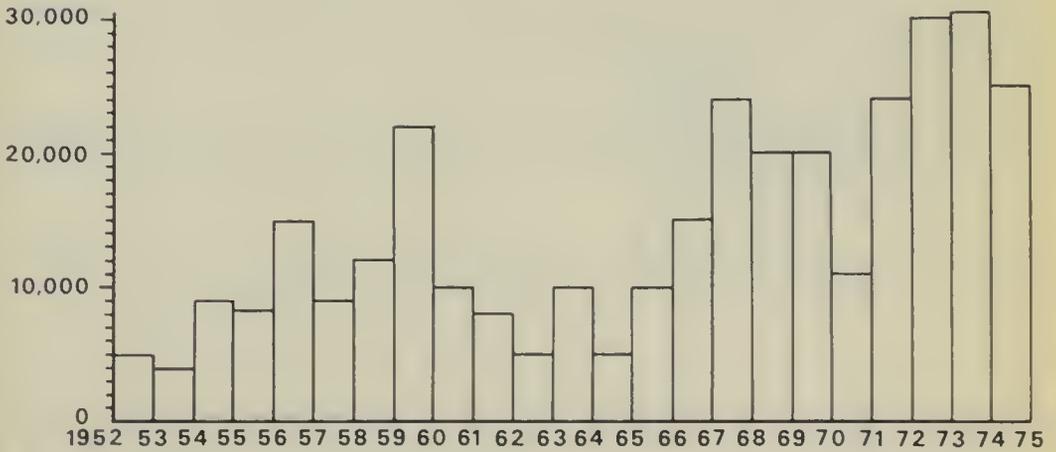
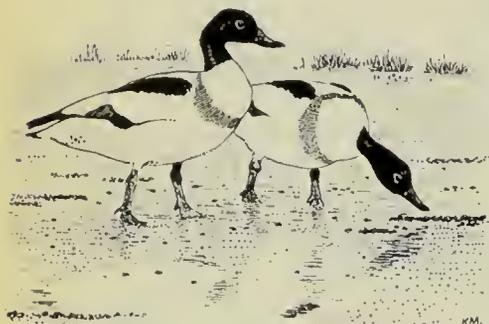


Fig. 7. Maximum winter counts of Dunlins *Calidris alpina* in Langstone Harbour in each year during 1952-75

the substantial area of apparently suitable intertidal habitat, with a maximum of 380 and an average peak of 210 over the five winters 1970/71 to 1974/75.

Fig. 8 also shows the percentage of the estimated world population of the dark-bellied race present in Langstone and Chichester Harbours at peak periods in the winters for which this can be calculated. It will be seen that, after 1964/65, the proportion of the population occurring in the harbours rose from around 6-7% to a maximum of almost 21% in 1972/73, and has since fallen, though the world population has continued to increase. There are now more Brent Geese in the Solent, and especially in Langstone and Chichester Harbours, than at any other time within the memory of the oldest wildfowlers and fishermen. Indeed, a review of the local literature (e.g. Hawker 1893, Kelsall and Munn 1905, Kelso 1913, Cohen 1963, Meinertzhagen 1964, *Proceedings Hampshire Field Club and Arch. Soc.*) reveals no evidence for any number approaching 13,000 (the recent maximum) during this century or last. In such numbers, the geese are highly conspicuous and could scarcely fail to have been remarked upon and shot in large numbers. These conclusions accord with the view of Atkinson-Willes and Matthews (1960) that Brent populations in Britain earlier this century have tended to be exaggerated: hundreds rather than thousands seem more likely to have been normal in the Solent before the population slump in the 1930s and 1940s.

Shelduck *Tadorna tadorna*



In Langstone Harbour, the first post-moult flocks appear in October. The population increases to a peak in February, or less often in January, and thereafter declines, until by late May there is a local summering population which includes a small number of breeding pairs.

From the early 1950s until the late 1960s, winter populations increased steadily, though there were two winters (1956/57 and 1960/61) when numbers were small. In 1964/65, and again in 1967/68, numbers reached 4,000. Since 1969/70, however, there has been a marked decline and, by 1974/75, the maximum population was only 723. These trends are reflected in table 3 and amplified by table 4.

Data are available for Chichester Harbour from 1965/66 onwards. There, too, there has been some recent decline, although it is less marked than in Langstone Harbour. Between 1965/66 and 1971/72, the winter peak ranged from 3,000 (1966/67) to 4,900 (1967/68); in 1971/72, it was 3,900, but, in the succeeding three winters, fell somewhat to 2,925, 3,080 and 2,305.

Numbers in Portsmouth Harbour have declined sharply since the first counts in 1968/69, when there was a maximum of 1,200. The 1969/70 peak was 900. Subsequently, it slumped rapidly to a mere 12 in 1974/75 (though this may represent an incomplete count).

Table 4. Average monthly counts of Shelducks *Tadorna tadorna* in Langstone Harbour during four periods from 1952/53 to 1974/75

	Oct	Nov	Dec	Jan	Feb	Mar	Apr
1952/53 to 1957/58	47	218	850	1,098	1,508	1,133	533
1958/59 to 1963/64	147	438	1,160	1,933	1,917	1,517	379
1964/65 to 1969/70	150	661	1,453	2,842	3,130	2,068	640
1970/71 to 1974/75	122	254	431	1,147	1,567	734	345

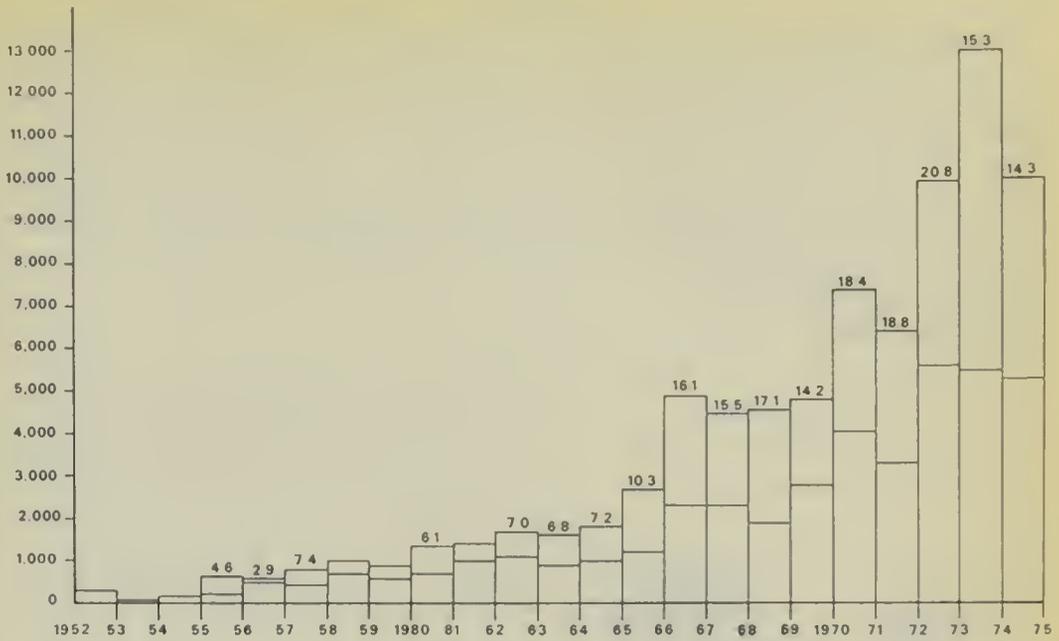
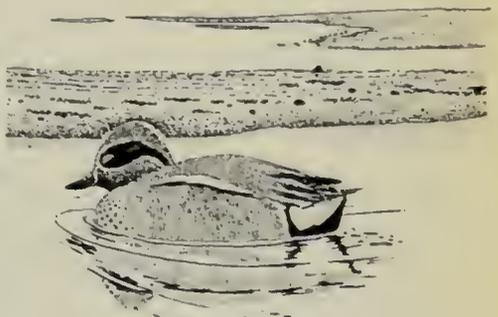


Fig. 8. Maximum winter counts of dark-bellied Brent Geese *Branta bernicla bernicla* in Chichester and Langstone Harbours (upper and lower parts of histograms, respectively) in each year during 1952-75. The percentage of the estimated world population of the subspecies that these counts represent are shown for each winter for which they can be calculated

Although the earlier part of the decline coincided with the reclamation of about 20% of the intertidal area, it seems unlikely that this alone would account for so drastic a decline. Elsewhere in the Solent, there are enough records to suggest that numbers have fallen slightly since 1968, but there has been no decline comparable to those in Langstone and Portsmouth Harbours.

Teal *Anas crecca*

Fig. 3 shows a long-term increase in Langstone Harbour. In the 15 winters 1952/53 to 1966/67, peaks averaged 209 and occurred variously in December, January or February, except in 1966/67, when most were in October. Apart from that year, numbers before December seldom exceeded 100. Starting in 1967/68, however, the population in the harbour rose steeply and, moreover, a high population stayed longer—September-February, compared with December-February in the earlier period. In the eight winters 1967/68 to 1974/75, peaks averaged 749. In three of these winters, most occurred in October, but in most other winters the October population was a little short of the peak, which occurred in subsequent months; from September to February there were consistently more than 500 birds. The maximum recorded during 1952-75 was 1,000.



In Chichester Harbour, the population has also shown an upward trend since counts began in 1967/68, from a peak of 109 in 1967/68 to 820 in 1974/75. There is, however, no large autumn assembly, and peaks occur in December-January. There are no records

of more than a few in Portsmouth Harbour since counts began in 1969/70. In parts of the west Solent and Southampton Water, however, high autumn populations and increased winter populations became regular over the same period as in Langstone Harbour. This trend also corresponded in time with the dwindling, through disturbance, of previously high autumn and winter populations at Titchfield Haven, a freshmarsh adjoining the Solent, so the changes may reflect a local redistribution of populations. In Langstone Harbour, the increase has probably been associated partly with the establishment since 1962 of an increasingly effective, extensive no-shooting zone, which includes Farlington Marshes Local Nature Reserve, a peninsula of freshmarsh and grazing forming an important non-tidal refuge.

Wigeon *Anas penelope*



The data in table 3 reflect an upward growth in numbers in Langstone Harbour. In the 15 winters 1952/53 to 1966/67, the peak population reached or exceeded 1,000 in only three winters. It has exceeded 1,000 in seven out of the eight subsequent winters, 1967/68 to 1974/75. In the earlier period, numbers were small before December and peaks usually occurred in January or February. In recent years, however, there have been large September-November assemblies and, in 1973/74 and 1974/75, the peak occurred in these months, though numbers remained high until February. Thus, since the mid 1960s, the harbour has been used by large numbers for six months of the year (September-February), whereas before then it was used by moderate

numbers for three months (December-February). The maximum recorded population was 1,700 in the hard winter of 1962/63.

The Chichester Harbour population has also tended to grow since counts began in 1967/68, from a peak of 283 in 1967/68 to 1,180 in 1972/73, with reduced numbers in the succeeding two winters. There is, however, no large autumn assembly comparable with that in Langstone Harbour, and peaks occur in December-January. There are few records from Portsmouth Harbour. In the west Solent and Southampton Water, numbers have tended to increase since the mid 1960s, though this may partly reflect local adjustments of distribution as Titchfield Haven (formerly an important resort) became untenable. No autumn assembly comparable with that in Langstone Harbour has developed. Population growth in Langstone has probably been assisted (and conceivably initiated) by the post-1962 establishment of the no-shooting area including Farlington Marshes, which has become an important grazing ground (see Teal).

Discussion

Of the 13 species studied, nine (Oystercatcher, Grey Plover, Black-tailed and Bar-tailed Godwits, Knot, Dunlin, Brent Goose, Teal and Wigeon) have increased in Langstone Harbour since 1952; two species (Redshank and Shelduck) and probably a third (Curlew) have declined; and one species (Ringed Plover) has fluctuated in numbers without exhibiting any definite long-term trend.

The dramatic increase in the Brent Goose population of Langstone and Chichester Harbours, and the colonisation of other Solent intertidal areas, reflects the recovery of the world population of the dark-bellied subspecies. The population increases of the six waders in Langstone mirror recent national trends and, locally, trends in the Solent as a whole (Tubbs in prep.). Unfortunately, the published data before the Birds of Estuaries

Enquiry are inadequate to determine when the trend started. The increased populations of the two dabbling ducks in Langstone Harbour may represent as much a local population redistribution as part of a general phenomenon.

If the Langstone Harbour data reflect more general long-term trends, autumn and winter populations of many waders have been increasing over a much longer span of time than that since the start of the Birds of Estuaries Enquiry. The progressive increase in Langstone of all six waders considered here started as far back as the observations, though there is a discernible check in the trend, associated with the successive cold winters of 1961/62 and 1962/63 (e.g. fig. 7 for Dunlin). The increase in the Dunlin population has been as dramatic as that of the Brent Goose; those of Grey Plover and Oystercatcher have been scarcely less so, although their numbers have been much smaller. A combination of factors is likely to be involved in these increases. A recent run of good breeding seasons has clearly been important. Locally, as in Langstone Harbour, Brent Geese (and Wigeon) may have benefited from increased amounts of *Zostera* and *Enteromorpha*, while a factor perhaps peculiar to the Solent is the increased feeding area following the die-back of the *Spartina* marshes. A fundamental underlying cause may be reduced hunting pressure in north-west Europe as a whole, and conceivably, for some species, reduced persecution on more northerly breeding grounds. Unquantified recollections demand caution, but it is difficult to remember Langstone and Chichester Harbours in the early 1950s during the shooting season as anything but dangerous for a Dunlin and little short of suicidal for a duck. The small gaggles of Brent Geese were chivvied unmercifully by punts and there was neither control over, nor interest in, what was shot, where, or (so long as it was within the season) when. This was not a unique situation and, indeed, it is probable that it marked the close of a long era of even greater shooting pressure which awaits documentation in an objective history of wildfowling. The Protection of Birds Act, 1954, did not see the immediate end of indiscriminate wader and Brent Goose shooting, either here or elsewhere, but the later 1950s and early 1960s saw the emergence of a more rational and conservationist approach to wildfowling, with increasingly responsible and well organised wildfowling associations. There are probably as many or more wildfowlers today, but quarry species are fewer and shooting areas confined, so that the total effects are small compared with those of two decades ago. There is reason to believe that this picture holds good in a general fashion for much of the northwest European coastline, though protective legislation and control has generally arrived later elsewhere than in Britain. It is a reasonable generalisation that the 1950s and the start of the 1960s saw the final transformation of wildfowling from an indiscriminate to a discriminate sport, and it is equally reasonable to postulate that the increasing numbers of many waders and wildfowl since then are a response to reduced autumn and winter mortality from shooting.

A phenomenon of the late 1960s and the 1970s in the Solent has been the increasing tameness of wildfowl and waders. In Langstone and

Chichester Harbours, Brent Goose flocks in particular feed unconcernedly within 15-20 m of traffic or onlookers, and have become a familiar sight to dwellers in the neighbouring conurbations. Such an indifference to man was almost unimaginable in the 1950s. We shall probably never know the relative importance of legal protection (after 1954), and adjustment to food sources other than *Zostera*, in the recovery of the Brent Goose from its all-time low in the 1940s. There is, in fact, little hard evidence for a causal relationship between the decline of *Zostera* and Brent populations; in view of the adaptability to alternative food sources which the species has exhibited in recent years, it is tempting to speculate on the part which shooting may have played in its decline.

Figs. 2 and 5 show that Curlew and Redshank numbers in Langstone Harbour were reduced by the hard winters of 1961/62 and 1962/63 and have remained depressed there since. Some doubt remains about how accurately the data reflect a real trend in Curlew numbers, although there has clearly been no definite upswing since the mid 1960s. The slump in Shelduck numbers in Langstone Harbour has been as dramatic as the increases in those of Brent Geese and Dunlins.

Nationally, and locally in the Solent, both Curlews and Redshanks have increased, in common with many other waders. There is evidence, however, of a recent decline in Redshanks, at least in winter, in Portsmouth Harbour, as well as Langstone. The European Shelduck population also increased during the 1960s and 1970s. The recent slump in the Langstone Harbour population has been eclipsed by that in Portsmouth Harbour, while there has also been some decline in Chichester Harbour and elsewhere in the Solent. Viewed against the wider background, the local declines of all three species are anomalous and one is bound to seek an explanation in the changing ecology of the two harbours and, indeed, to explore the possible or potential effects of change on other species.

It can be hypothesised that the blanketing effect of *Enteromorpha* over the muds has adversely affected Shelduck, Curlew and Redshank populations by reducing both the availability and biomass of the animals in the mud (the infauna). Curlews and Redshanks occur in maximum numbers during the summer and autumn, when the weed is at its greatest extent. The hypothesis, however, assumes also that, later in the year, the diminishing weed mats leave in their wake large areas of anaerobic mud with an impoverished infauna, which make Langstone and Portsmouth Harbours relatively unfavourable habitats for Shelducks, now that population pressure on the south coast of England has eased because of a redistribution of the winter north European Shelduck population, probably associated with the recent run of mild winters. Even assuming however, that the reduced Shelduck population in Langstone Harbour is associated with the spread of *Enteromorpha*, the much greater slump in the Portsmouth Harbour population may demand some additional explanation; it is nonetheless interesting that this is the only other part of the Solent where algae now occupy a large proportion of the intertidal area.

On the face of it, neither Redshanks nor Curlews should experience much difficulty in exploiting the invertebrates of the weed mats in summer and autumn. The Redshank, in particular, employs a wide range of feeding techniques. Observations, however, of at least 26 Redshanks, for a total of 220 minutes, and of 16 Curlews, for 140 minutes, in March, September and October 1974 and 1975, showed that both species avoided feeding actually on weed mats, although they moved between small patches and in runnels of mud among the weed. Curlews were observed feeding on shore crabs, which they caught on the weed as the tide flooded it, and, once, a Redshank was observed deliberately flicking pieces of weed aside to reach prey underneath. No attempt was made to observe other waders on the weed mats systematically, but, at all times of the year, Dunlins commonly fed over them and both Grey and Ringed Plovers also took prey from the weed. Shelducks avoid feeding on weed mats and, indeed, to do so would demand a considerable modification of their accustomed and specialised feeding method. Moreover, in winters 1974/75 and 1975/76, observations, though unquantified, confirmed that most feeding Shelducks were on sites clear of dense algae in the preceding summer (when algal distribution had been mapped by Portsmouth Polytechnic).

The hypothesis would be assisted if other waders dependent on the mud infauna had also declined in Langstone and Portsmouth Harbours: probably all six of the waders which have increased in numbers feed at least partly on invertebrates likely to be displaced from the mud by weed mats. More research is needed and a number of starting points may be suggested:

1. More detailed surveys of the area of anaerobic mud in the harbour in winter.
2. Collection of quantitative data on wader and Shelduck food in the three harbours; none is at present available, although the invertebrate fauna of the muds and sands has been surveyed.
3. Further information about feeding site preferences of the different waders in the harbours.
4. Investigation of what happens to the invertebrates of the algal mats when the latter break up.

Any hypothesis of a causal relationship between increased Brent Goose and increased *Zostera* and *Enteromorpha* populations in Langstone Harbour immediately meets the stumbling block that, in Chichester Harbour, where there was no *Zostera* and no crop of *Enteromorpha* comparable with that in Langstone, the geese increased over the same period, at a similar rate and on a similar scale. The average density of Brent Geese at winter peaks during 1970/71 to 1974/75 was, remarkably, the same in the two harbours—0.28 ha of mudflats per bird. It is also interesting that the geese did not colonise Portsmouth Harbour until 1969, and then in only small numbers, despite abundant food.

There are some indications that Langstone Harbour is able to sustain a higher Brent Goose population, and probably for a longer period, than Chichester Harbour. Feeding on meadow grass and autumn sown cereals near the intertidal area in Chichester Harbour began in winter 1972/73, when the population first exceeded 4,000, and, in succeeding winters, as

many as 1,000 fed in fields after the beginning of January. In Langstone Harbour, this habit began in 1972/73, but the number involved in this and subsequent winters seldom exceeded 350, and the habit developed later than in Chichester Harbour. Saltmarshes in Chichester Harbour, but not those in Langstone, were exploited by feeding geese. In both harbours, the entire intertidal area was explored by small groups of foraging geese after early January. In the late winter, from about mid February onwards, pressure on food resources probably eases, as *Enteromorpha* enters its growing season, but it seems that, since about winter 1972/73, there has been a food bottleneck on the mudflats in January and February, and that this is tighter in Chichester than in Langstone Harbour.

There are surprising quantities of algae to be found on muds which superficially appear bare, and it may be that resources of green algae in the two harbours in winter are more closely comparable than the massively greater summer production in Langstone would suggest. In the meantime, it would be unwise to applaud the input of sewage effluent into Langstone Harbour as a ready means of enhancing the Brent Goose carrying capacity.

On general biological grounds, there is reason to view with great caution any proposal to increase the volume of effluent entering Langstone Harbour, and a similar comment could be made about the neighbouring Portsmouth Harbour, although unfortunately it has been little studied. The harbour's hydrology is such that input of nutrients in effluent is not balanced by losses to the Solent: it is a partially closed, and thus an accumulating, system, so that it is at risk from eutrophication, even if only the present levels of effluent discharge are maintained. It is possible that some of the status changes discussed here are the early reactions of avian indicator species to changes in mud vegetation and invertebrate populations arising from what can be described only as mild eutrophication.

Acknowledgements

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Summary

Counts of waders and wildfowl have been carried out in Langstone Harbour, Hampshire, since 1952. These data have been used to identify changes in the populations of 13 numerous species. Of these, nine have increased in the harbour; two, probably three, have declined; and one has exhibited no long-term trend. Comparisons are drawn with population changes in Chichester and Portsmouth Harbours, which adjoin Langstone and in many respects form with it a single system.

It is suggested that increasing populations of some wildfowl and waders in Langstone Harbour reflect changes occurring on a wider scale and that, although there is probably

a multiplicity of underlying causes, the fundamental reason may be a reduction in hunting pressure in northwest Europe since the 1940s. Tentative conclusions are drawn about the relationship between changing wildfowl and wader populations and changes in the ecology of Langstone Harbour arising from an increased input of sewage effluent since the late 1950s. This has produced an increased cover of green algae, which, in turn, results in anaerobic conditions and a reduced infauna in the intertidal muds. An increase in the amount of eelgrass *Zostera* has also taken place. Potentially, these changes may depress populations of some waders, while increasing food resources for grazing species, notably the dark-bellied Brent Goose *Branta bernicla bernicla*. There are, however, anomalies in such a postulated relationship, and various lines of research to illuminate these are suggested.

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Appendix 1. Scientific names of species mentioned in the text

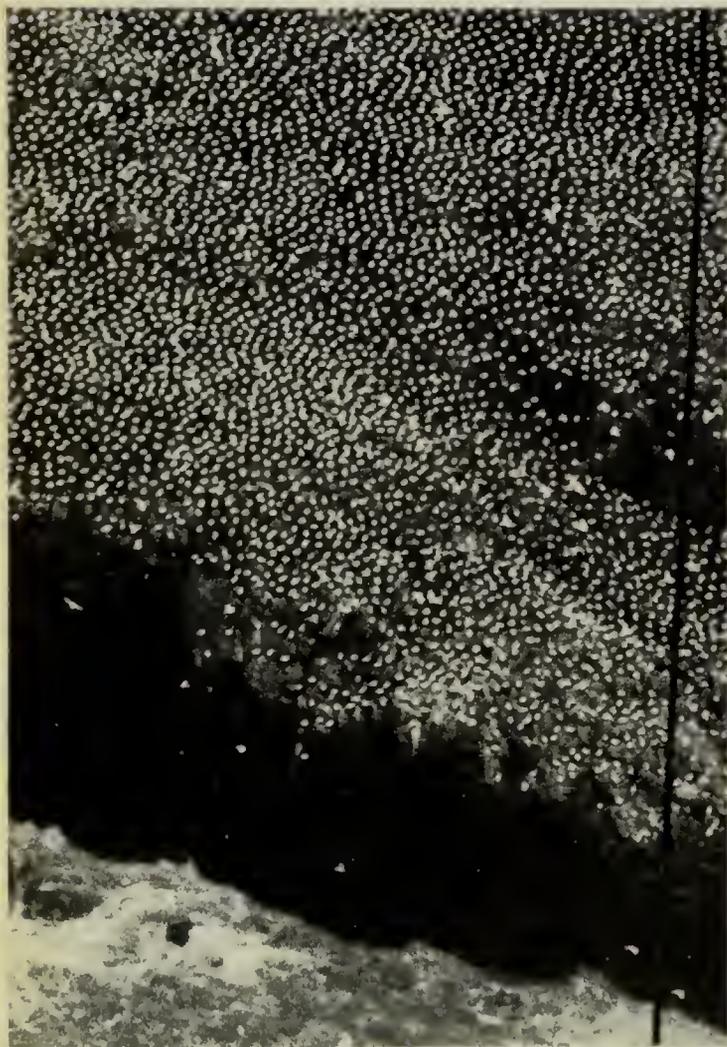
Curlew	<i>Numenius arquata</i>	Plover, Ringed	<i>Charadrius hiaticula</i>
Dunlin	<i>Calidris alpina</i>	Redshank	<i>Tringa totanus</i>
Godwit, Bar-tailed	<i>Limosa lapponica</i>	Redshank, Spotted	<i>Tringa erythropus</i>
Godwit, Black-tailed	<i>Limosa limosa</i>	Shelduck	<i>Tadorna tadorna</i>
Goose, Brent	<i>Branta bernicla</i>	Teal	<i>Anas crecca</i>
Greenshank	<i>Tringa nebularia</i>	Turnstone	<i>Arenaria interpres</i>
Knot	<i>Calidris canutus</i>	Whimbrel	<i>Numenius phaeopus</i>
Oystercatcher	<i>Haematopus ostralegus</i>	Wigeon	<i>Anas penelope</i>
Plover, Grey	<i>Pluvialis squatarola</i>		

Variations in counts of seabirds from photographs

M. P. Harris and C. S. Lloyd

Logically, counts of seabird colonies from photographs ought to be more accurate than those carried out under field conditions. But are they?

There have been several generalised statements on the accuracy of counts of seabirds made from photographs, but little critical information. This paper documents observer differences in counts of Gannets *Sula bassana*, Guillemots *Uria aalge* and Kittiwakes *Rissa tridactyla* made from monochrome photographs. Harris (1976) found that his counts from photographs were much lower than field counts made at the moment the photographs were taken, and wondered whether he was too conservative



39. Part of the colony of Gannets *Sula bassana* on Grassholm, Dyfed. This aerial photograph was taken from an altitude of 600 m and used for the 1964 census of the gannetry (Barrett and Harris 1965). The artificial line defining the area counted (at the left) cuts through about 20 Gannets, which may or may not have been included by individual counters. Counts made from [photos this size (*Royal Navy*)

in his counting of birds on photographs. The present counts were made to determine inter-observer differences; the interpretation of counts is not discussed.

Methods

Identical prints of one or more of three photographs (plates 39-41) were counted by 16 people, nine of whom had previous experience of counting seabirds from photographs. Each of the photographs was the best of a series taken under good conditions for the express purpose of making counts. Several observers voiced misgivings about counting the mass of birds in the lower left hand part of plate 41 and observers 14, 15, and 16 preferred not to count the whole of this photograph. We decided, however, to use these 'working pictures' of average standard, rather than atypically sharp ones, for testing observer differences in counting.

Helpers were asked to count individual Guillemots, pairs or nests of Gannets, and nests of Kittiwakes by the same method that they had used previously. If more than one count was made, it was from a different print and at a different time. All but one person counted the images by blocking them out by a pen mark or pin prick; most used a magnifying lens of some description, though this was not essential for the Gannet photograph. To reduce the chances of more than normal care being taken, observers were assured that specific counts would not be credited to individuals.

Results

Ten observers counted the Gannets in the photograph of part of Grassholm, Dyfed (plate 39, table 1). The mean count was 3,170 nests, with extremes of 2,823 and 3,362, a range of 17% of the mean. Observers 1 and 2 had individual ranges of 8% and 11% of their respective mean totals.

Counts of Guillemots on Moo Stack and Skerry of Eshaness, Shetland, ranged from 28 to 58 (mean 48, although there were actually 54) and from

Table 1. Counts of nests of Gannets *Sula bassana* from an aerial photograph of Grassholm, Dyfed (plate 39)

Counters with previous experience of counting seabirds from photographs are marked*.
The mean count was 3,170 nests

Counter	Number of counts	Mean count	Range	Standard error
1*	10	3,222	3,077-3,323	28
2*	8	3,051	2,852-3,192	38
3	3	2,949	2,823-3,014	63
4*	3	3,359	3,358-3,362	13
5*	3	3,301	3,274-3,315	14
6	2	3,173	3,138-3,209	
7*	1	3,092		
8	1	3,324		
9	1	3,228		
10*	1	3,000		

481 to 1,206 (mean 797) individuals respectively; even on the sharpest portion of plate 41, eight counts by four observers ranged from 387 to 475 Guillemots. Individual counts of Kittiwake nests on Moo Stack and Skerry of Eshaness varied from 110 to 141 (mean 129, although there were actually 161) and from 331 to 713 (mean 531) respectively (see tables 2 and 3).

Discussion

Aerial photography is a recognised useful technique for counting Gannets, because breeding colonies are often on inaccessible islands or cliffs and the birds contrast against the dark background. In his work on the St Kilda gannetry, Boyd (1961) counted the birds in each photograph four times; our examination of his 118 sets of replicate counts shows a range of 8.2% of his mean (standard error = 0.27, maximum 23.2%), which compares with 5.5% in the present study where any observer made two or more counts. Cullen and Pratt (1976) made individual counts of another series of photographs of Grassholm taken from an altitude of 120-185 m and found that the maximum difference between their counts from individual prints was 1¼%. Their counts of our plate 39 varied by over 10%, possibly because the quality was not so good (Dr M. S. Cullen *in litt*). During a photographic survey of wildebeest *Connochaetes taurinus*, 98 randomly chosen photographs initially counted by a variety of observers were recounted and the first totals were found to be 15% too low (Sinclair 1973). We conclude that counts made by different people can vary by at least 13%, but individual observers are more consistent. There are two other sources of error. The first is introduced when delimiting the parts of Gannet colonies occupied by breeding pairs, as distinct from the peripheral areas used by non-breeders; this may be 2% in the easiest cases, where it is possible to visit the colony with the photograph to be counted (Barrett and Harris 1965), but much more where colonies cannot

Table 2. Counts of individual Guillemots *Uria aalge* and nests of Kittiwakes *Rissa tridactyla* from a photograph of Moo Stack, Shetland (plate 40)

Counters with previous experience of counting seabirds from photographs are marked*. When the photograph was taken, there were 54 Guillemots and 161 Kittiwake nests

Counter	Number of counts	GUILLEMOTS			KITTIWAKE NESTS		
		Mean count	Range	Standard error	Mean count	Range	Standard error
1*	5	35	31-38	1.5	115	110-122	2.1
2*	4	45	39-47	1.8	130	118-138	4.3
11*	3	48	47-51	1.3	132	119-141	6.8
12*	2	35	28-42		127	120-134	
13*	1	53			141		
14	1	58					
15	1	57					
16	1	53					
MEANS		48		3.2	129		4.2

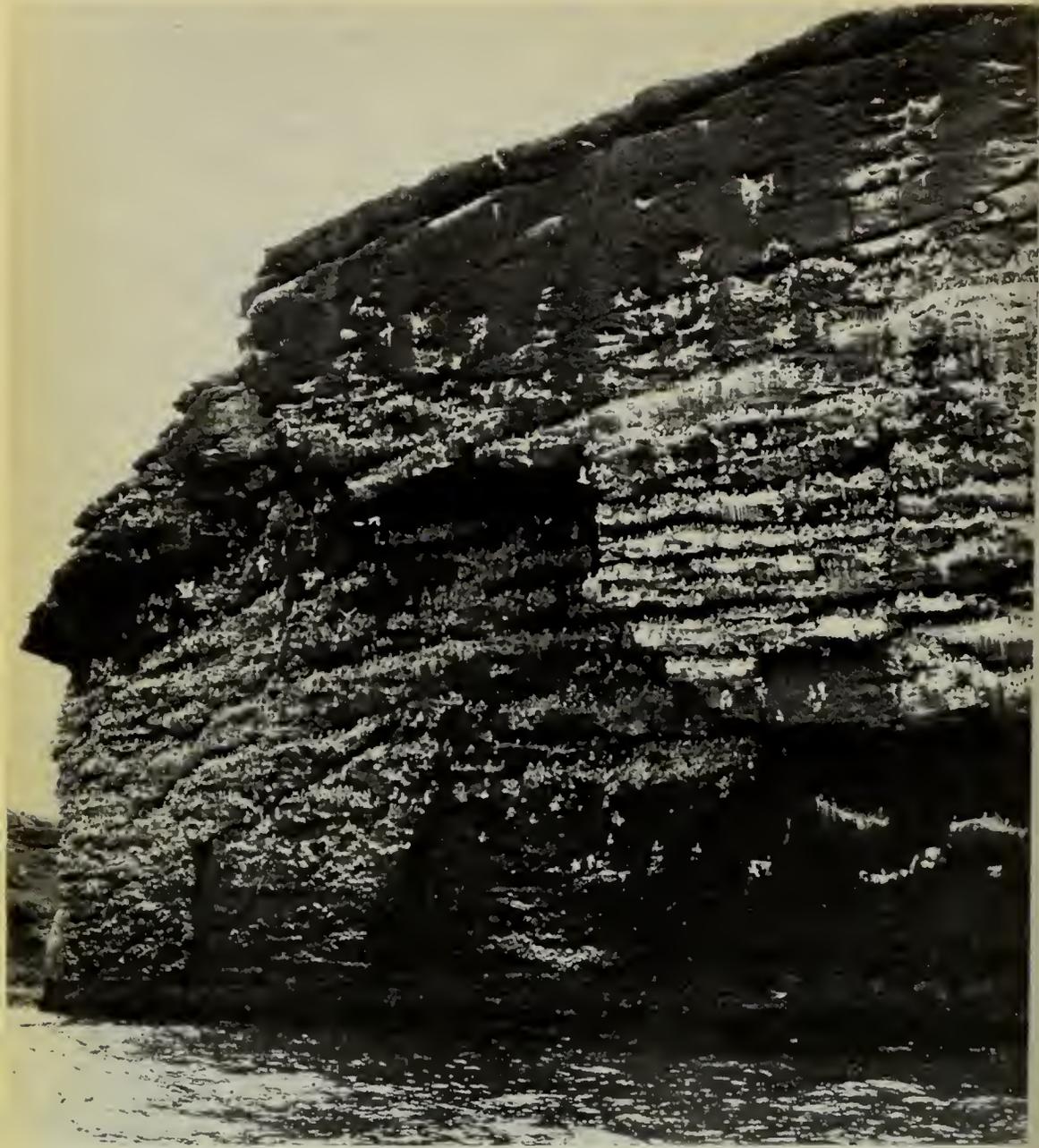
Table 3. Counts of individual Guillemots *Uria aalge* and nests of Kittiwakes *Rissa tridactyla* from a photograph of Skerry of Eshaness, Shetland (plate 41)

Counters with previous experience of counting seabirds from photographs are marked*

Counter	Number of counts	Mean count	GUILLEMOTS		KITTIWAKE NESTS		
			Range	Standard error	Mean count	Range	Standard error
<i>(a) Total photograph</i>							
1*	6	649	569-722	23	521	486-601	18
2*	5	839	796-837	13	562	498-619	28
11*	3	771	745-795	15	388	331-428	29
12*	2	524	481-567		472	467-478	
13*	1	1,206			713		
MEANS		798			531		54
<i>(b) Top right part only</i>							
1*	5	434	405-475	16	221	204-250	10
14	1	387					
15	1	395			355		
16	1	389					
MEANS		401		11	288		67

40. The colony of Kittiwakes *Rissa tridactyla* and Guillemots *Uria aalge* on the main face of Moo Stack, Shetland. This photograph was taken from 100 m with a Mamiya Press camera fitted with a 150 mm lens, using FP4 film, on 17th June 1974. Counts made from photos measuring 10.9 x 15.3 cm (*M. P. Harris*)





41. Part of the colony of Kittiwakes *Rissa tridactyla* and Guillemots *Uria aalge* on the east face of the Skerry of Eshaness, Shetland. Photographed at 60-100 m, from the sea, with the same equipment as plate 40. Counts made from photos measuring 21.3×19.2 cm
(M. P. Harris)

be visited. The second comes when building up a mosaic of pictures to cover a large colony; this has been estimated at 3.6% by Boyd (1961) and 5.2% by Dixon (1972) for the St Kilda colony. Clearly, most counts of nesting Gannets must be less accurate than is normally thought.

Guillemots are far less obvious on photographs: viewed from the front they blend with the guano-covered breeding ledges, and from behind they merge into the rock or shadows; some are often partly hidden behind their neighbours or in deep cracks. Maximum counts from our photographs

were more than double the minimum. The counts of Kittiwake nests similarly varied by over 100%. Individual Kittiwakes show up well on prints, so the differences were probably due to each observer having a different criterion for what constituted a nest. Counts of birds rather than nests might give better results for this species.

There was an obvious ranking of 'performance' among the counters of plates 40 and 41: observer number 13 always counted highest, 2 and 11 came next, followed by the less observant (or more conservative) 1 and 12. The ability of a person to replicate counts accurately over a period of years remains to be tested.

When Moo Stack was photographed, there were 54 Guillemots and 161 occupied Kittiwake nests present. The mean counts from the photographs were 48 (11% lower) and 129 (20% lower), respectively, reinforcing previous reports that counts from photographs are usually lower than field counts made at the same time (Harris 1976). We know of no attempt to correlate photographic and land counts of Gannets.

Conclusion

Photographs of seabird colonies are valuable aids for plotting changes in the extent of colonies, or the distribution of birds within a colony, and for checking unexpectedly high or low counts made under rushed or adverse conditions. In some situations (e.g. Gannets nesting on the tops of stacks or in large colonies where a human intruder would cause unacceptably high disturbance), aerial photography is the only practical way of obtaining a count. For Guillemots and Kittiwake nests, however, counts made from photographs are undoubtedly less accurate than those made in the field, and care must be taken in comparing those made by different people.

Acknowledgements

We are grateful to the following for sparing their time to make counts from the photographs: Dr T. R. Birkhead, Dr M. S. Cullen, T. J. Dixon, J. Fairhurst, N. Hammond, P. Hope Jones, P. K. Kinnear, S. Murray, P. Owen, M. Payne, R. Pratt, M. Richardson, M. Robinson, and S. Wanless. Dr D. Jenkins and most of the above improved the manuscript with their criticisms.

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Studies of less familiar birds

182 Little Egret

Stanley Cramp

Exploited for its elegant plumes, the Little Egret was threatened with extinction in the late 19th century; but public outcry brought protection in time. The Little Egrets that now occur annually in spring in Britain and Ireland reflect the species' recovery in Europe

The Little Egret *Egretta garzetta* has a gleaming white plumage, decorated in the breeding adult with long, elaborate plumes on the upper breast, mantle and scapulars, and with two thin crest feathers hanging down the back of its neck (plates 42-45). The bill and legs are black and the feet yellow (black in the East Indies and Australasian races), but in the breeding season the feet change from yellow to orange, and the bare loreal area and the ring around the yellow eyes from green-grey to orange. The non-breeding adult has fewer, shorter plumes and no long crest feathers (plate 48); the juvenile lacks both plumes and crest feathers. Little Egrets are distinctive as well as elegant, unlikely to be confused with any other species in most of the western Palearctic except, momentarily, with Cattle Egrets *Bubulcus ibis* at a distance, especially when these are in non-breeding plumage, or perhaps with Squacco Herons *Ardeola ralloides* in flight, when the latter's all-white wings may draw attention away from the tawny-buff bodies. There are, however, rarer possibilities of much greater confusion in some areas. The related Reef Heron *E. gularis*, normally dark, has a white morph, with similar all-white plumage and plumes, and dark legs with yellow feet, but its bill is thicker and grey-brown or yellow. Little Egrets have a dark morph (plate 46), exceptional in the western Palearctic but regular in East Africa and Madagascar, which can be even more difficult to tell from the normal dark Reef Herons, except for the thinner black bill and feet of a paler, purer yellow. Lastly, there is the possibility that the closely related Snowy Egret *E. thula* (considered by some to be conspecific) may cross the Atlantic, as the Little Egret has rarely done in the reverse direction. Snowy Egrets (plate 47), though smaller, are indistinguishable in non-breeding plumage, and differ only in having longer crests without the two elongated plumes, and recurved instead of straight scapulars.

The Little Egret has a wide distribution in middle and low latitudes, from southwest Europe and North Africa to the Middle East, India, China, southeast Asia, the Philippines and East Indies to New Guinea and Australia. It is patchily distributed in Africa south of the Sahara (with the Banc d'Arguin and the Cape Verde Islands as isolated outposts) and in Madagascar, but is absent from North and South America. It is found both on the coasts and inland, preferring warm, shallow

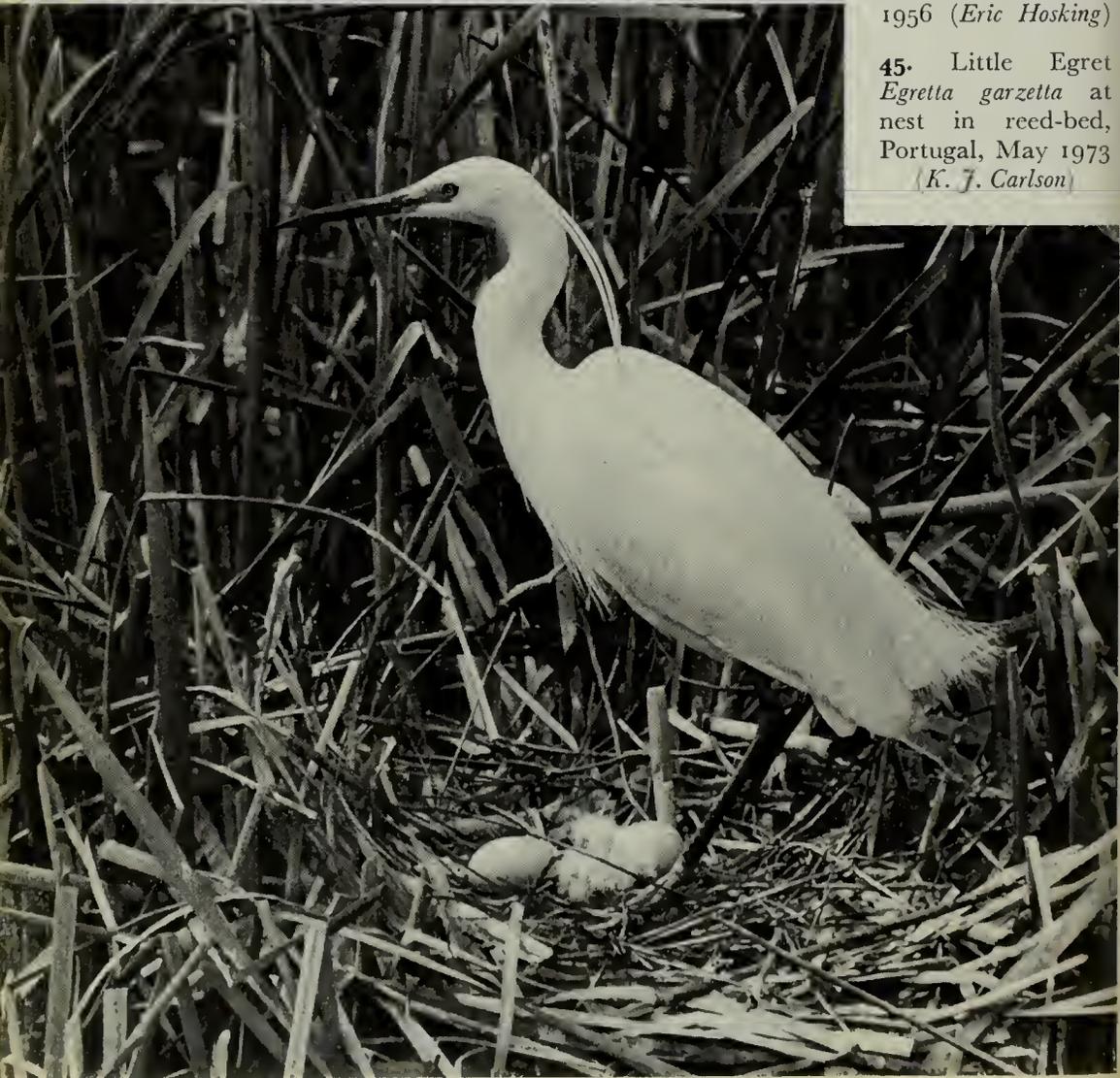
42. Little Egrets *Egretta garzetta* at nests, Spain,
May 1956 (Eric Hosking)



43. Little Egrets *Egretta garzetta* (foreground and right) and Cattle Egret *Bubulcus ibis* (left) at nests, Spain, May 1956 (Eric Hosking)



44. Little Egrets *Egretta garzetta* (foreground and right) and Cattle Egret *Bubulcus ibis* (left) at nests, Spain, May 1956 (Eric Hosking)



45. Little Egret *Egretta garzetta* at nest in reed-bed, Portugal, May 1973 (K. J. Carlson)

waters, whether lakes, pools, lagoons, gently flowing rivers, streams, rice-fields and other fresh water, or saline and brackish waters in estuaries, salt pans or along the coast. It is usually confined to lowlands, but occurs at up to 2,000 m in Armenia. In such habitats, Little Egrets take a wide variety of food, with fish, terrestrial and aquatic insects and small amphibians forming the most important part, though they will also eat small mammals, snakes, lizards, various worms, snails and crustaceans. The species chosen vary widely according to season and locality, and vary in size from 1.2 to 15 cm, with a preference for those around 4 cm (Valverde 1955-56, Sterbetz 1961). Little Egrets feed by day and at dawn and dusk, often while wading slowly in shallow water (plate 48), but they can be active, rushing to and fro snapping at their prey, sometimes running with raised wings. In summer they may often be seen feeding also on dry land, when they may attend grazing animals, though not so frequently as do Cattle Egrets.

Voous (1960) suggested that the present discontinuous distribution of the Little Egret has been partly caused by man's activities, in the form of direct persecution and habitat destruction. Indeed, its elaborate plumes were once a threat to its continued existence in some areas. In the latter part of the 19th century, these plumes were used so extensively in the millinery trade as 'aigrettes' that Little Egrets and related species (such as the Great White Egret *E. alba*, the Squacco Heron and the Snowy Egret) were slaughtered in thousands at their breeding colonies and the young left to die. Public reaction against this carnage played a vital part in the growth of the first bird protection societies in both Europe and North America, and, after a long and bitter struggle, the plumage trade was gradually brought under control. Its effects on the luckless birds have been most fully studied in the case of the Squacco Heron, where Józefik (1969-70) showed that the slaughter reached its peak about 1900, but numbers in the west Palearctic continued to fall, mainly due to habitat destruction, until by 1920-40 there were 6,000 pairs in 80 colonies compared with 16,400 pairs in 1,965 colonies before the plumage trade developed. Since 1940, there has been a slight increase in numbers, despite further habitat loss, to 8,200 pairs in only 71 colonies, though many of these are actively protected in reserves. The general picture is likely to be similar in the case of the Little Egret, but detailed information is much more scanty. In France, it became extinct in the last century, but returned to the Camargue in 1931 and has since spread to other areas, reaching 1,815 pairs in 1974 (Brosselin 1975). Similarly, it vanished from Hungary in 1895, returning in about 1928, although its numbers are still small, fluctuating between 150 and 214 pairs during 1959-68 (Sterbetz and Szlivka 1972). It has nested occasionally in Czechoslovakia in recent years and has increased in Italy. In Romania, despite large decreases in the last 50 years, it is still fairly common, especially in the Danube delta, but the colonies of the Volga delta have had a more chequered history: after almost complete destruction early this century, they recovered markedly under protection (Dementiev and Gladkov 1951), then declined in the lower delta to only nine pairs in 1957 (Lugovoi

1961). Despite some recovery, the Little Egret remains highly vulnerable to the drainage of wetlands.

Although a few Little Egrets winter in the Mediterranean area, those breeding in Europe are basically trans-Saharan migrants, some reaching as far as the equator. Ringing recoveries show that Little Egrets from Russia, Yugoslavia, France and Spain reach West Africa, from Sierra Leone to Nigeria, while Spanish birds have been found in Madeira and the Canary Islands. Some winter in East Africa, and they then occur commonly in the Sudan. The return passage begins in March, with colonies in Hungary and the Volga delta being reoccupied from early April. Little Egrets are prone to overshoot in spring, when single ones and even small parties may appear well north of the breeding range; these influxes, sometimes large, are now regular in south Germany, Austria and Switzerland, where birds may stay for several weeks (Bauer and Glutz 1966). In Britain and Ireland, the species was regarded as a rare vagrant before 1950, but has now become a regular spring visitor (over 40% of recent records have been in May) and exceptionally over-winters.

Little Egrets are colonial nesters in reed-beds, alder thickets, bushes and trees. Colonies may be separate, but more often include other species, such as Glossy Ibis *Plegadis falcinellus*, Pygmy Cormorant *Phalacrocorax*

46. Little Egret *Egretta garzetta*: dark morph, which may be confused with normal dark morph of the similar Reef Heron *E. gularis*, Kenya, June 1976 (J. F. Reynolds)





47. Snowy Egrets *Egretta thula*, Trinidad, June 1976 (colour transparency: M. D. England)



48. Little Egret *Egretta garzetta* immediately after swallowing large shellfish, Portugal, November 1969 (M. D. England)



49. Little Egret *Egretta garzetta* in flight, showing long legs and pale feet, Romania, September 1974 (K. J. Carlson)



50. Little Egrets *Egretta garzetta* at nest, Spain, May 1956 (*Eric Hosking*)



51. Little Egret *Egretta garzetta* regurgitating food for newly-hatched young, Portugal, May 1973 (*K. J. Carlson*)

pygmeus, Night Heron *Nycticorax nycticorax*, Cattle Egret and Squacco Heron. In one mixed colony in the Danube delta, the nests were in a tangle of willows in a large reed-bed, mostly at 2-3 m, and sometimes with those of Pygmy Cormorants in the same tree (Cramp and Ferguson-Lees 1963). Soon after their arrival at the colony in spring, unpaired males frequent small display territories, where they spend much of the time climbing up and down, uttering loud advertising calls, either a gargling 'la-la-la-la-ah-h-h' or a brief, hollow 'dow', or indulge in twig-shaking with extended necks, while uttering a brief, nasal, chattering call. They also make short display flights, flapping their wings to make a thudding sound, or longer, circling flights of up to 300 m. Females and other males will perch near these displaying males, forming a highly vocal group which may move round the colony. Once the pair is formed, both adults defend the chosen nest site vigorously against their own and other species. The pair display to each other by bill-rattling, a rapid movement of the mandibles, often performed above the mate's back or across its neck, and by short, flapping flights (Blaker 1969). There is usually little display preceding copulation.

The nest is built by both sexes, although usually the male brings most of the material while the female builds. The nests, platforms of sticks or reeds, which may be flimsy or quite solid, are built up to 20 m above ground or water, usually not less than 1-2 m apart, with up to ten nests in one tree. The elongated, oval eggs, green-blue in colour, not glossy and soon discoloured during incubation, are usually laid at intervals of 2.4 hours. Most clutches are of three to five eggs, with up to eight recorded; the mean clutch size in Spain was 4.8 (Valverde 1955-56). Both sexes incubate, starting with the first egg, for 21-22 days. During incubation, as in the earlier mating phase and later while small young are in the nest, the arrival of an adult at the nest leads to an attractive greeting ceremony (plate 50). The incoming bird utters a 'da-wah' call, its mate reciprocates, assuming the upright-display posture, then both chatter-call. Then, for several seconds, both assume a less intense version of the antagonistic forward-display with neck raised, bill open and all plumes raised, then slowly subside or rattle their bills.

When the young hatch, they are clad in white down, with greenish bills and legs. They are fed with regurgitated material by both parents (plate 51). The young will beg with open bills pointing upwards, uttering a 'hé-hé-hé' call, but make no serious attempts to seize the parent's bill. Later, adults regurgitate food into the bottom of the nest. The young leave the nest after about 30 days and perch on nearby branches; they show strong mutual attachment and will co-operate in defence against other wandering young or possible attackers. They fledge 40-45 days after hatching and soon become independent. They rapidly disperse from the colony, more or less at random; these movements are related to feeding conditions (Valverde 1955-56), and last from July to September. Some Spanish juveniles have moved up to 400 km north at this time, while Camargue juveniles have been recovered in Iberia and Italy. Two Spanish-ringed nestlings were recovered across the Atlantic, one in

Trinidad in January and the other in Martinique in October. In late August and early September, these early autumn movements of juveniles merge gradually into true autumn migration, involving adults as well, which may last until November or later, especially in the Caspian region.

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Personalities

5 R. H. Dennis

As a boy, Roy Dennis watched birds on the south coast of England from Chichester Harbour to the New Forest and at St Catherine's Lighthouse on the Isle of Wight, undiscouraged by occasional pungent comments on the records he submitted to Edwin Cohen and D. D. Harber, the recorders for Hampshire and Sussex at that time. Now, he lives with Marina and their three children near Inverness, identifies himself completely with the Scots, and can be touchy at suggestions that he has Sassenach roots. With ducks, hens, bees and even a sheep or two, he almost qualifies as a crofter.

An autumn on Lundy, straight from school, and in 1959 he was off north to be assistant warden on Fair Isle. That year, the public discovered Ospreys at Loch Garten, and the next four summers were spent on Speyside, with a variety of jobs to fill the winter months: ringing ducks at Abberton with Major-General C. B. Wainwright, looking at wildfowl on the Beaulieu Firth for the Wildfowl Trust, and two visits to North Rona to study grey seals with the Nature Conservancy.

It was at the Osprey camp that Roy met Marina, who comes from Lochaber, and in 1963 he married and carried her off for seven years on



52. R. H. Dennis

Fair Isle, taking over at the observatory from Peter and Angela Davis. The excitement of the birds, the stream of visitors, and the contentment and close friendship of island life are happy memories for Roy and Marina, and their home is named after the headland outside their Fair Isle windows. Before handing on to Roger and Judy Broad at the end of 1970, they had the rich satisfaction of seeing the magnificent new observatory planned, built and smoothly running.

As the Royal Society for the Protection of Birds' Highlands Officer, Roy has become more and more interested in the Highland way of life, and concerned that, like the birds he looks after, it should not be swamped by development and tourism. Often involved in the routine of conservation planning, and concerned with oil and industrial development, he tries still to be out in the field in the summer. He has many friends and contacts, and feels that good liaison with landowners, keepers and other users of the countryside is a key to the success of his work.

Although no twitcher, Roy has a British tally of some 325 species of birds, mostly in Scotland, and has seen 100 in the Highlands on New Year's Day, all sober. He reckons that, with everything just right, one could find 150 species in a single day in the Highlands (the best yet is 112) and he hopes to try it. He really knows his birds, and everything goes into his field notebooks. Exceptionally good at picking up distant

clues to birds that others miss, and with a tremendous knowledge and experience of field identification, a skill that has greatly interested him since boyhood, he is one of the best fieldmen in Britain. Not surprisingly, he is a member of the *British Birds* Rarities Committee, and is also on the exclusive Rare Breeding Birds Panel.

Since 1970, he has compiled the annual 'Scottish Bird Report'; he is chairman of the Highland Ringing Group, periodically rounding up the 800 Canada Geese from Yorkshire moulting on the Beaully Firth; he serves on the Advisory Committee on the Protection of Birds for Scotland; and he is chairman of the Inverness branch of the Scottish Ornithologists' Club and a member of the club's council and committees.

Each summer, he personally monitors the breeding success of Slavonian Grebes, Black-throated Divers and Ospreys. He has climbed to more Osprey nests in Scotland than anyone else, and followed the birds to Africa to film them fishing in tropical seas. Lecturer, leader of ornithological holidays, broadcaster, and human co-star with the Peregrine of the BBC television film 'The Shadow of the Falcon', travelling throughout the Highlands and frequently south for meetings in Edinburgh and beyond, he leads a life that would exhaust a less energetic birdman. As well as being very good at his job, Roy is a most likeable person and we in Scotland are fortunate that he has made his home with us.

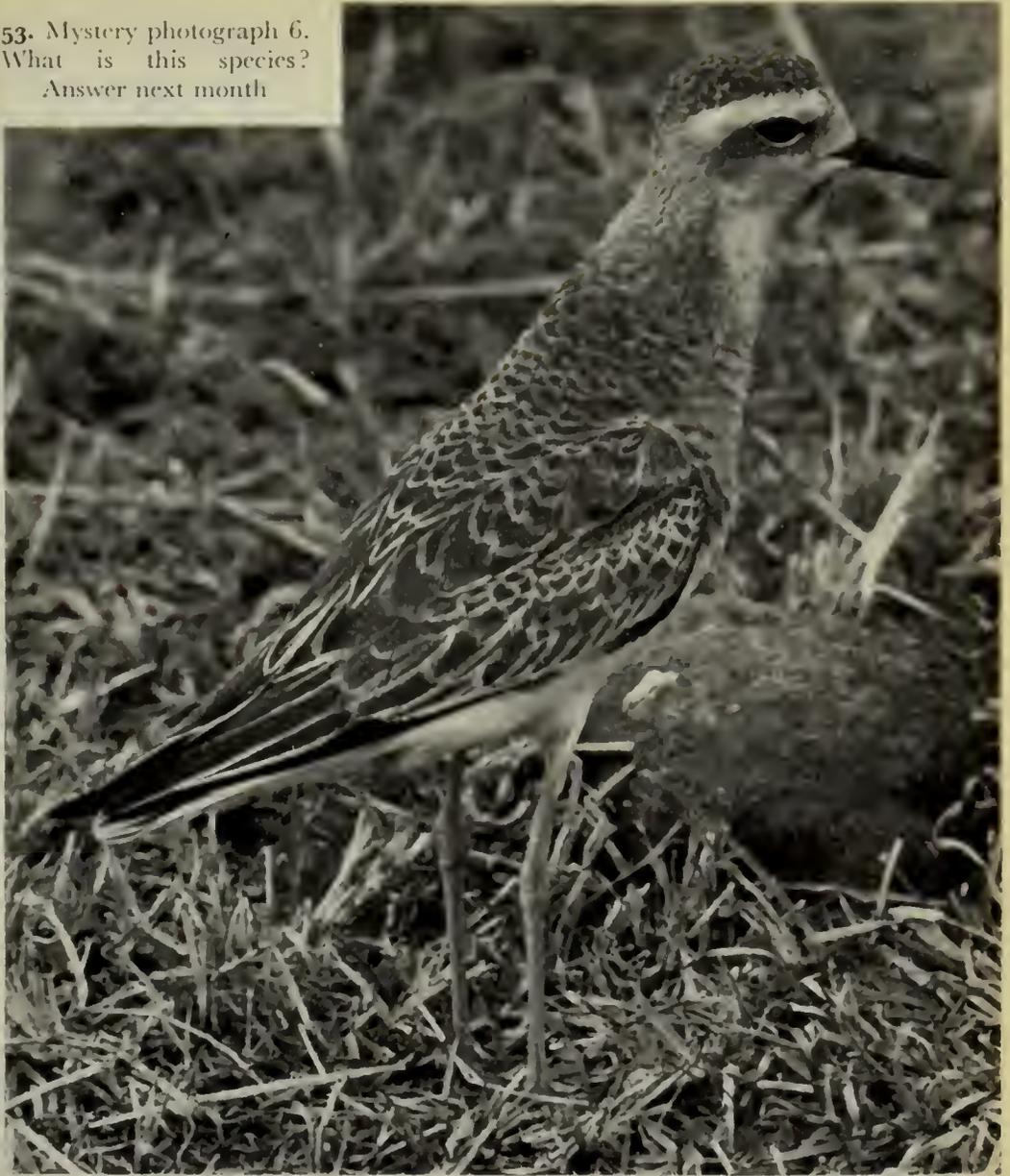
ANDREW T. MACMILLAN

Mystery photographs

5 By comparison with the hand, the warbler (plate 35, page 163) is clearly small; it has a thin, weak bill and thin legs, plain upperparts and looks rather featureless: apart from the long, conspicuous supercilium, it so closely resembles a Chiffchaff *Phylloscopus collybita* that there is little problem in placing it in the same genus. The most distinctive features, however, are the plumage coloration, behaviour and call, none of which can be seen in the photograph: there was ample excuse for those who failed to identify it! Told now, however, that it is brown above and whitish below, tends to feed on the ground and skulk, and has a 'tacking' call-note, it will be recognised as a Dusky Warbler *P. fuscatus*. This one, photographed by Malcolm Wright, was caught on the Calf of Man in May 1970 and found dying near Limerick in December 1970 (*Brit. Birds* 64: 361).

The Dusky Warbler is about the size of a Chiffchaff, but with even shorter wings, at most hardly reaching the tips of the tail-coverts; the tail is slightly rounded, not notched like the Chiffchaff's, and can look short. A drab, skulking and silent Chiffchaff is much more likely to be misidentified as a Dusky Warbler if the plumage coloration, head pattern, wing/tail shape, leg colour and call are not carefully checked. The whole upperparts are brown, cold or warm in tone depending on the light, slightly brighter on the rump, and completely lacking any greenish or

53. Mystery photograph 6.
What is this species?
Answer next month



rufous. The underparts are cold white or creamy, washed with grey especially across the breast. The flanks, underwing and undertail-coverts are washed with buff or rust in varying strength. The supercilium is rather long and whitish, sometimes tinged rusty at the rear, over a dark stripe through the dark eye. The bill is fine and similar in proportions to a Chiffchaff's, the lower mandible has a yellowish base, and the gape is yellow; the legs are pale.

The call-note is quite atypical of the genus, a rather loud, definite, hard 'tack' or 'tek', like the human 'tutting' of disapproval, but harder, with the 't' dominant. Usually uttered singly or sometimes twice, it may also be used in flight in the manner of a Wren *Troglodytes troglodytes*. The calls most often draw attention to its presence, and allow the bird's movements in cover to be followed. My notes on the one at Dungeness, Kent, in

November 1967 refer to a flight shape recalling a Blue Tit *Parus caeruleus*, due to the rounded wings and short tail. These differences were well shown in the picture of a Chiffchaff and a Dusky Warbler together in the hand in East Sussex in October 1974 (*Brit. Birds* 68: plate 45a). This species keeps low in cover, but is also often very active, with much wing-flicking, especially after alighting. This and Radde's Warbler *P. schwarzi* are the rarest of their genus in Britain. Dusky totals 18 records up to the end of 1975, all but one in autumn and 16 in the 29-day period between 13th October and 10th November. The notes on the 17 since 1961 have enabled a thorough assessment of the species' field characters. It is perhaps the most nondescript of a rather plain genus, but, given reasonable views and its call-note, it is fairly easy to identify. Past allusion to its similarity to Radde's Warbler is now widely contradicted, notably by R. J. Johns and D. I. M. Wallace (*Brit. Birds* 65: 497-501): the major points which identify Radde's are the olive or greenish-toned upperparts, yellowish or buffish underparts (without any hint of rusty), longer tail, stout bill and more prominent, cleaner supercilium. The call-note is similar, but usually softer and less far-carrying, and such adjectives as 'quiet' or 'nervous' are often used to describe it.

P. J. GRANT

European news

We hope that this new feature will provide a forum for exchange of up-to-date ornithological news between the countries of Europe. As examples, the first breeding record of a species in one country may be but one sign of a more widespread increase or population shift; bird movements span the continent and an invasion may be noted in many places.

The usefulness of the feature will be in direct proportion to its breadth of coverage. The first report is clearly incomplete and partly out-of-date, but its publication will, we hope, encourage further co-operation, since we have now established contact with correspondents in more than a dozen European countries.

Crane *Grus grus* SWITZERLAND Very heavy autumn passage in 1976, probably most ever: 15 on 15th October, flocks of 45, 30 and 12 on 29th, then flocks totalling 145 during 2nd-9th November, and three in December.

Skuas *Stercorarius* SWITZERLAND Remarkable numbers in autumn 1976, mostly in August-September: 150 sightings, chiefly juveniles. Of 20 examined in hand, ten were Long-tailed *S. longicaudus*, five Pomarine *S. pomarinus*, four Great *S. skua* and one Arctic *S. parasiticus*.

Nuthatch *Sitta europaea* FINLAND Invasion in September-October 1976 about ten times larger than the previous big move-

ment of 1962, when about 400 individuals reported. As then, most in the north; many flying west or northwest; even in south, some reports of 'dozens flying over'. Later in year, Nuthatches with flocks of tits *Parus* over whole country. Winter bird census (directed by Dr Lasse Sammalisto) will help assessment of numbers; invasion being studied by Dr Olavi Hildén and Pentti Rauhala, Zoological Museum, Helsinki University. NORWAY A number of records in the north, apparently of the race *S. e. asiatica*.

Bearded Tit *Panurus biarmicus* SWITZERLAND First proved breeding; several pairs at Lake Neuchâtel in summer 1976.

Red-throated Pipit *Anthus cervinus* NORWAY Unusual number of migrants in spring 1975, followed by nesting in county Hedmark at 62° 20'N, probably the most southerly breeding record ever in Europe.

Siskin *Carduelis spinus* SWITZERLAND Several observers commented on rarity or absence in winter 1976/77.

Redpoll *Acanthis flammea* CZECHOSLOVAKIA Rapidly increasing as breeding bird, not only in mountains (where often the dominant species), but also in the lowlands and in urban areas of towns and villages.

Scarlet Rosefinch *Carpodacus erythrinus* NORWAY Following the first breeding in county Buskerud in 1971, now common in suitable habitats in SE Norway at least

as far north as Lillehammer: 'Will surely start breeding in Britain soon!'

Pine Grosbeak *Pinicola enucleator* DENMARK 'None yet', despite irruption into Sweden and Norway. NORWAY 'Probably largest invasion ever.' SWEDEN Irruption of up to 16,400 in one day (flying west on 13th November at Torö, 60 km south of Stockholm) was mentioned in more detail in *Brit. Birds* 69: 524.

Brambling *Fringilla montifringilla* SWITZERLAND Massive irruption, mainly from mid November to late December. Flocks of 10,000 in several regions and 1 million estimated flying over Gempenach towards roost in Berleid Forest on 13th December. Only small flocks in January.

Correspondents

CZECHOSLOVAKIA	Dr Karel Štastný, Institute of Landscape Ecology, Czechoslovak Academy of Sciences, Bezručova 927, 251 01 Ríčany u Prahy
DENMARK	Lasse Braae, Bistrupvej 145 A, 3460 Birkerød
FINLAND	Kalevi Hyytiä, Kimokuja 4 C 43, SF-01200 Vantaa 20
NORWAY	Geoffrey H. Acklam, Nordliveien 18, 1320 Stabekk
SWEDEN	Dr Sören Svensson, Zoological Institute, University of Lund, S-223 62 Lund
SWITZERLAND	Raffael Winkler, Schweizerische Vogelwarte, CH-6204 Sempach

Notes

Ruddy Ducks on tidal waters In his recent paper (*Brit. Birds* 69: 132-143), Robert Hudson stated that he knew of only two occurrences of Ruddy Ducks *Oxyura jamaicensis* on tidal waters and, by inference, none in a completely marine environment. On 29th

September 1975, four adult male Ruddy Ducks arrived from the north-east in the Landing Bay on the east side of Lundy, Devon; all remained until 1st October, two until 10th and one until 21st October. During their stay, they were never seen ashore. They tolerated heavy surf on many occasions during easterly gales and did not appear to be seriously hindered in their feeding, diving through breakers with surprising agility. When undisturbed, the Ruddy Ducks fed at high tide above the rocky inshore zone, rather than in the deeper, calmer water over sand. Only once was food seen and, surprisingly, this proved to be a small crab. M. ROGERS

Lundy, via Ilfracombe, Devon



Food piracy by Red-footed Falcons On 1st July 1975, I was watching up to 15 Red-footed Falcons *Falco vespertinus* hunting on the Tadten Plain, near Andau, Austria, with about six Kestrels *F. tinnunculus*, two Buzzards *Buteo buteo*, two Montagu's Harriers *Circus pygargus* and a Marsh Harrier *C. aeruginosus*. About 20 m from me a female Kestrel dropped on to what appeared to be a small rodent. Having secured her quarry, she flew some 5 or 6 m, landed in the field again and mantled the prey. Suddenly, a male Red-footed Falcon flew low across the field and approached the Kestrel from behind; on landing, he struck the Kestrel a blow, knocking her over. A scuffle ensued and the Kestrel made off without her prey, which the Red-footed Falcon secured and, having flown some 40 m and settled, began to devour.

J. K. R. Melrose (*in litt.*) has informed me that on 20th September 1971, in the Danube Delta, Romania, he observed a female Red-footed Falcon take prey from a Kestrel in flight, by swooping in at the latter's talons.

RAYMOND H. HOGG

Schoolhouse, Crosshill, Maybole, Ayrshire KA19 7RH

Derek Goodwin comments that he has seen Red-footed Falcons in Libya and south France feeding by robbing Lesser Kestrels *F. naumanni* of prey. EDS

Spotted Redshanks associating with surface-feeding ducks On 28th February 1976, at the wildfowl reserve on the Isle of Grain, Kent, I watched some 40 Shoveler *Anas clypeata* and ten Mallard *A. platyrhynchos* dabbling and upending, respectively, as a close group. Gradually, 20 Spotted Redshanks *Tringa erythropus* waded in and joined them, immersing their heads and mandibles while swimming in the muddy water. This behaviour, which I watched for at least ten minutes, resembled that recorded by O. J. Merne (*Brit. Birds* 62: 495). During autumn 1975, parties of up to 40 Spotted Redshanks had frequently been observed feeding in close groups, but this was the first time that I recorded any association with other species. The only comparable reference I have found is by J. F. Reynolds, involving a Marsh Sandpiper *T. stagnatilis* and two Hottentot Teal *A. hottentata* (*Brit. Birds* 67: 477); others relate to feeding associations between Marsh Sandpipers and other species in shallow water (*Brit. Birds* 68: 294, 295).

T. E. BOWLEY

210 Avery Way, Allhallows, Rochester, Kent

Spotted Redshanks and Greenshanks taking fish The note by N. Riddiford and R. E. Turley on Greenshank *Tringa nebularia* taking fish (*Brit. Birds* 68: 467) prompts me to record the following. On 22nd August 1973, at Upton Warren, Hereford and Worcester, I observed a Greenshank and two Spotted Redshanks *T. erythropus* feeding within an un-vegetated area of about 6 m square in a shallow brackish pool. The Greenshank was wading in about 7-10 cm of water, catching fish 2-3 cm long in the dash-and-lunge manner; having caught a fish, it raced to the

nearby bank where it manipulated and ate it. This behaviour lasted for about ten minutes before the Greenshank moved off. The Spotted Redshanks were feeding in deeper water; they frequently immersed their heads completely, and swam and upended for short spells, sometimes in unison. Each was observed to catch six fish, using the upending, the head-submerging or the dash-and-lunge technique. The size of fish caught by the two species was similar, but fish were manipulated and swallowed more quickly by the Spotted Redshanks, which did not return to the bank and whose success was markedly higher than that of the Greenshank, although neither species was successful at every attempt.

T. A. WALSH

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On 1st November 1975, at Fairburn Ings, North Yorkshire, I observed a Spotted Redshank wading in water, at times up to its belly. For about ten minutes, it fed normally, but then adopted a different method, completely immersing its head and neck while taking five or six rapid steps. The head was then raised and the bird continued for a few steps at the normal rate; the head and neck were then lowered again, the pace quickened while another five or six steps were taken, the head raised, and so on. This continued uninterrupted for about ten minutes, and then the normal feeding method was resumed. Five times while feeding with its head below water, the Spotted Redshank was seen to catch a fish about 40 mm long. It had some difficulty in consuming these and stood stationary, but quivering, with its bill open, for up to half a minute until the fish was swallowed.

I. H. DILLINGHAM

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On 22nd August 1976, on the Camel estuary, Cornwall, I saw two Greenshanks wade into water about 8-10 cm deep as it started to flow up a narrow gully on the incoming tide. The birds, some 20 m apart, dashed 4-10 m against the inflowing water, chasing small fish, then made a final short sprint and lunged forward with neck extended, making stabs at the shoal. Fish were held in the bill for two or three seconds before being swallowed whole, with no apparent difficulty and without manipulation. As soon as the fish had been eaten, the Greenshanks walked quickly up the gully and repeated the action. Both were successful about five times, one fish only slightly smaller than the bird's bill being swallowed in two or three gulps. On the ten or so occasions that the Greenshanks fed in this manner, they remained in the gully; when it filled with water, the behaviour stopped.

V. R. TUCKER

4 Clovelly View, Turnchapel, Plymouth, Devon

The Handbook includes a few records of fish in the diet of Greenshanks, but they are not a common food of Spotted Redshanks. We feel that the methods used are now sufficiently recorded (see also letter on page 225), and the subject is, therefore, now closed. Eds

Bobolink in Shetland At about 09.00 GMT on 18th September 1975, after a period of prolonged westerly and southwesterly winds, I flushed a bunting-like bird from a small patch of docks *Rumex* in a croft on Housay, Out Skerries, Shetland. I immediately noticed a striking head pattern, composed of a yellow-buff crown stripe and supercilium, and general yellowish appearance. The bird perched on a stone wall about 10 m away for a few seconds and then flew off. I relocated it on another stone wall about 300 m away and obtained further brief views, confirmed my first impressions and noted in addition the faintly streaked, yellowish breast and heavily streaked back. It then flew on to a nearby roof, but I failed to find it again after a brief search.

Realising that the bird was almost certainly an American passerine, I informed I. Sandison and C. A. Harbard, who joined me in a fruitless search of all the crofts on Housay. At about 10.30 hours, however, we relocated the bird about 1 km away, on Bruray, the neighbouring island, among a flock of about 70 House Sparrows *Passer domesticus*. A full description was taken at a range of 30 m as it fed in a small patch of stubble. After about 15 minutes, the entire flock flew off to a group of crofts 300 m away, where the visitor remained with the House Sparrows for the rest of the day affording excellent views throughout. The following is a resumé of my notes taken during several hours of observations at ranges down to 5 m.

Size about that of a Corn Bunting *Emberiza calandra*, distinctly larger than accompanying House Sparrows; often appeared squat and bulky, but surprisingly slim and elongated when, for example, it stretched up on a corn-stalk.

Bill conical and pointed, dark with pink base more extensive on lower than on upper mandible. Yellow-buff crown stripe and supercilia separated by dark brown, almost black, stripes. Prominent, dark eye with small, off-white spot on lores and black smudge extending short way behind eye. Nape and sides of neck unstreaked, pale straw-brown. Back heavily streaked

dark brown, with two prominent, off-white stripes, bordered by darker stripes. Rump straw-yellow, contrasting with darker back and tail. Underparts clear yellow-buff, relieved by faint streaking on upper breast, becoming more prominent on sides of breast and flanks, and particularly on undertail-coverts. Median and greater coverts brown with pale edgings, forming two indistinct wing-bars. Remiges similarly brown with pale margins. Tail dark brown and notched, individual feathers pointed. Legs dull pink and rather long. Call, given frequently in flight, a low, metallic 'pink'.

By reference to *Birds of North America* (C. S. Robbins, B. Bruun and H. S. Zim, 1966), after the first prolonged views, the bird was identified as a female, immature or autumn male Bobolink *Dolichonyx oryzivorus*, the fourth to be recorded in Europe. It could be picked out at considerable distances due to its yellow appearance, especially the breast. At closer ranges, the striped head pattern, reminiscent of an Aquatic Warbler *Acrocephalus paludicola*, rendered it very distinctive. Viewed from the rear, or when flying away, the prominent off-white back stripes, emphasised by the dark borders, and the pale-yellow rump were immediately obvious. The pointed tail feathers were poor field features, close views being necessary to see them; indeed, they were seen only after the bird had been identified and this character specifically looked for.

On the ground, the Bobolink hopped and occasionally ran, but it also spent much of its time feeding on heads of corn. Over short distances, the flight was straight, heavy and rather laboured, like a Corn Bunting's, but this gave way over long distances to a strong, undulating action.

At 16.00 hours, CAH, IS and I were joined by Dr B. Marshall and J. Simpson from Whalsay and we all obtained further close views. Towards dusk, however, the Bobolink became restless, circling around and calling. After a fine, clear night, we failed to find it the next day. T. A. WALSH
School of Biological Sciences, University of East Anglia, Norwich NR4 7TJ

Bobolink in the Isles of Scilly On 9th October 1975, while walking past a field of fodder grass on Peninnis Head, St Mary's, Isles of Scilly, a fairly large, dumpy, yellowish-buff bird flew close past me and settled, hidden from view, in the centre of the field. It called once as it flew past: a single, rather liquid 'wink'. I felt sure that it was a Bobolink *Dolichonyx oryzivorus*, so I watched the spot where it had dropped and obtained several views of parts of the bird which strengthened my original opinion, but were not enough for me to be completely sure.

Shortly thereafter, M. J. Rogers and T. Francis joined me and we eventually all obtained excellent views, clinching the identification as a Bobolink. Observers were rounded up from far and wide, until all the birdwatchers present on the islands had good views of it during the next nine hours. The following details were obtained:

HABITS Typical seed-eater behaviour; flew across field, dropped into grass and then rather clumsily climbed grass stems, often flicking wings. When it flew short distances across field, it dangled its legs in the fashion of a Corn Bunting *Emberiza calandra*.

SHAPE AND SIZE In flight, it recalled a short-tailed Corn Bunting; the short tail appeared rounded at the tip and rather spiky, recalling Aquatic Warbler *Acrocephalus paludicola*. When perched, it looked rather larger than a House Sparrow *Passer domesticus*, noticeably flat-crowned, with plump, rounded body; the fairly short tail was again noticeable.

CALL Heard only once, a single, rather liquid 'wink'.

BARE PARTS Eye dark brownish. Bill quite stout and conical, bright pinkish, with grey-horn along culmen. Legs and feet flesh-pink.

PLUMAGE Crown black, with prominent pale yellowy-buff central stripe. Nape medium brown, finely striated with dark brown. Mantle dull yellowy-brown, quite heavily streaked dark brown, with prominent pale creamy-buff line along either side. Rump and uppertail-coverts as mantle, but less obviously streaked. Lesser or median coverts broadly tipped whitish, forming wing-bar. Greater coverts dark brownish, edged and tipped with buffy-white. Flight feathers dull brown, edged and tipped with buff. Tail uniformly dark brownish. Supercilium broad, yellowy-buff. Lores grey-blue, in patch rather than distinct line. Narrow dark line from eye to ear-coverts. Facial area, down to and including upperbreast, quite bright yellowy-buff, with fine, dark streaking on sides of breast. Rest of underparts very pale yellowy-buff, with heavy elongated dark spots along flanks.

Throughout its stay, the Bobolink was remarkably faithful to the one, small grass field. It remained hidden for much of the time, but not infrequently climbed up the grass and sat out in the open on top of the stems of docks *Rumex* and other tall plants among the grass; it was photographed in such a position by K. C. Osborne (*Brit. Birds* 69: plate 35b). I never saw it leave the confines of the grass field, but, during the afternoon,

K. Harrison saw it bathing in a small pool in the centre of Low Moor, about 800 m from the Peninnis field, to which it later returned.

The species migrates in considerable flocks down the eastern seaboard of the United States during September. This was, however, only the fifth record of a Bobolink in Europe, the others also having all been in Britain and Ireland in autumn: two in the Isles of Scilly (1962, *Brit. Birds* 58: 208-214; 1968), one in Co. Wexford (1971, *Irish Bird Rep.* 19: 53) and one, only just over three weeks previously, in Shetland (see above).

D. J. HOLMAN

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Review

Bird Illustrators. Some artists in early lithography. By C. E. Jackson. H. F. & G. Witherby Ltd, London, 1975. 133 pages; 14 colour plates, 3 vignettes. £7.00.

The subtitle defines the subject of this book, the creators of the ornitho-artistic treasures that lie buried in the great bird folios of the Victorian era and the generation thereafter. Since most of these illustrations are now seldom seen, except as rare and expensive saleroom items, a problem is posed for both author and reviewer. The author must carry her readers along in her judgements on the knowledge, skill and style of the artists; the reviewer, having no access to these fabulous originals, must withhold aesthetic opinions. That said, there is much of interest in this account of a spacious age.

Tracing the demand for illustrations of birds—many newly discovered—and describing the complexities of issuing hand-coloured plates in parts to subscribers, Mrs Jackson sets the scene and introduces the men who made lithography so acceptable. Her review of 14 artists and their associates begins with William Swainson, born in 1789, and ends with George Lodge, who died in 1936. Within this period, naturalists and writers travelled the world collecting vast numbers of skins from which artists drew their subjects.

Swainson and Lear, among the first to study lithography, each have a short chapter. With John Gould, the dominant personality of the period comes on to the scene. This dynamic organiser of other men's, and his wife's, talents emerges as none too scrupulous in achieving his ambitions. In her assessment of his influence on others, his treatment of assistants and competitors, above all his heroic output (2,999 plates, most of them seven times the area of this page), the author deploys a wealth of detail. After a brief look at the Meyer family, seven artists under one roof, attention is focused on the next important figure, Joseph Wolf. Although his lithographic work was limited, his agreeable character and stylistic innovations are nevertheless sympathetically revealed.

Wolf, Smit, Keulemans and Grönvold, all foreign born, were esteemed in England and their increasing use of chromolithography—a new development—is chronicled, bringing the story into the present century with Thorburn and Lodge. Throughout the book, there are sidelong glances at many men (and the few women) who built the reputation of British ornithology. So large a subject, so much compressed, inevitably overburdens some of the narrative with detail. The colour plates suffice only to tantalise, representing as they do the thousands which lie hidden. A bibliography of the artist accompanies each chapter and a general bibliography and name index conclude an attractive book.

LESLIE BAKER

Letter

Greenshanks taking swimming prey The note by N. Riddiford and R. E. Turley (*Brit. Birds* 68: 467) contains an accurate description of how Greenshanks *Tringa nebularia* catch and swallow small fish, but implies that the behaviour is unusual. Where Greenshanks are numerous, it is common to see a group in line abreast dashing through shallow water while making stabbing movements from side to side with their bills. This technique is used, not only for capturing small fish, but also, in Africa, for catching the fish-like tadpoles of clawed toads *Xenopus* in extremely turbid water holes and game wallows, where it is most unlikely that prey can be detected visually. This raises the possibility that Greenshanks locate swimming prey by touch, and capture it by a bill snap reflex similar to that experimentally demonstrated in *Mycteria* storks by M. P. Kahl (*Ibis* 114: 15-29).

J. F. REYNOLDS

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Requests

Birds in Lebanon and Syria Information is being collected for check-lists of the birds of Lebanon and Syria. Unpublished notes will be welcomed by Lt Col. A. M. Macfarlane, c/o Lloyds Bank Ltd, Cox's and King's Branch, 6 Pall Mall, London SW1.

Colour-ringed White-tailed Eagles and Peregrines During 1976 and 1977, White-tailed Eagles *Haliaeetus albicilla* and Peregrines *Falco peregrinus* are being colour-ringed in Finland, Norway and Sweden. Each leg carries one ring of a different colour: one indicating geographical area and the other the year of ringing. Reports should be sent to B. Helander (eagles) or P. Lindberg (falcons), SNF (The Swedish Society for the Conservation of Nature), Kungsholms Strand 125, S-112 34 Stockholm, Sweden.

Wing-tagged Herring Gulls During 1974 and 1975, about 350 Herring Gulls *Larus argentatus* were wing-tagged in the Bristol Channel area. The tags were yellow or white, and carried either two or three black hand-painted letter and number combinations. Reports of sightings will be gratefully received and acknowledged. Please send details to G. P. Mudge, Department of Zoology, University College, PO Box 78, Cardiff.

News and comment

M. J. Everett

Dick Bagnall-Oakeley Memorial Appeal Dick Bagnall-Oakeley, who died three years ago, was not only one of Norfolk's best-known and best naturalists, but, through his ability to communicate and to inspire others, a national figure in ornithological circles—and a friend to many of us. A particularly appropriate memorial to him is proposed—an observation and information centre overlooking Cley Marshes. The site is already available, but some £9,000 is needed to complete the project: donations will be gratefully received by the Memorial Fund Committee, via the Manager, Barclays Bank, Holt, Norfolk, and cheques should be made payable to 'Dick Bagnall-Oakeley Memorial'.

Two conferences 'Birds of the Coast' was the subject of the British Trust for Ornithology's annual February conference at Swanwick, held from 18th to 20th. As well as the usual camaraderie of a Swanwick get-together, and notwithstanding some absenteeism on the Saturday afternoon when news of Iceland Gulls at Ogston Reservoir proved more attractive than the lecture programme to some participants, it was a useful and informative weekend, with a wide range of subjects under discussion. We heard John Wilson on Morecambe Bay's waders, Athol Wallis on Bempton and its cliff birds, Bert Axell on Minsmere and Andrew St Joseph on Brent Geese; Martin Ball spoke on Rhum and the Hebrides, Nick Riddiford on monitoring breeding birds through bird observatory results and Pat Monaghan on the increasing problem of gulls on rooftops. I had the misfortune to speak last, on coastal Peregrines, and to follow two particularly entertaining contributions, by John Phillips on coastal Stonechats in Ayrshire and Susan Cowdy on Choughs.

The All-Ireland Conference on Bird Conservation, organised by the Royal Society for the Protection of Birds and the Irish Wildbird Conservancy, took place at Newcastle, Co. Down, from 4th to 6th March. The topic was 'Upland Birds', introduced by Derek Ratcliffe on the Saturday morning, when he spoke on

'Upland Ecology'; Gabriel Noonan followed on Ravens in Dublin and Wicklow. Field excursions and then a sherry reception by Down District Council took the Conference on to dinner, films and—of course—the opening of the bars. Birds breeding in Irish sessile oak woodlands were discussed next morning, and an open forum on recent activities by the RSPB and the IWC was preceded by an account of Highland birds of prey given by Roy Dennis.

Ball clay to be extracted at Arne The Arne peninsula is well-known to bird-watchers for its Dartford Warblers and other heathland birds, and for its RSPB and Naturc Conservancy Council reserves. Today—especially after the disastrous heath fires of 1976—it holds possibly the best and most extensive remnants of southern heathland, with all that that means in terms of rare plants, animals and birds: its value in conservation terms is simply enormous. It was a disastrous day for Dorset wildlife and all its devotees, whether conservationists or observers, when, at the end of February, the result of the Arne Ball Clay Public Enquiry (held in January 1976) was made known: the Secretary of State for the Environment reversed Dorset County Council's earlier decisions and overruled objections from all the local and national conservation and amenity organisations and allowed the winning of ball clay to proceed. Although the area involved is relatively small, and stringent conditions will apply during extraction, one cannot but regret this decision—or wonder precisely what the hackneyed phrase 'in the national interest' really means. It looks like yet another thin end of that inevitable wedge.

House Martins Dr D. A. C. McNeil of the Zoology Department, School of Biological Sciences, The University, Leicester, would be glad to receive details of the distribution and size of any cliff-nesting colonies of House Martins, both coastal and inland. Details are also sought of any

invasions of flat-flies or bugs suffered by people who have martins' nests on their houses.

Seton Gordon It was with deep regret that we learned that Seton Gordon had died in March, just a few weeks short of his 91st birthday. To most of us, he will be remembered for his work on the Golden Eagle, a bird he probably knew better than did most of his contemporaries put together and which he was photographing at the eyrie before most of us were born. He wrote two books on his beloved eagles, the second of which, *The Golden Eagle—King of Birds*, appeared over 20 years ago and remains the standard work on the species. In fact, he wrote two dozen or so books and countless articles on other Highland birds and animals—and on Highland life generally, on which he was an acknowledged authority. Bagpipes are something you dislike, tolerate, or regard as the instrument of the most sublime music known to man: Seton Gordon held the last view and pipers that I know used to speak of his profound knowledge of the pipes with great reverence—he was one of Scotland's foremost experts on the subject. During his very long and active life, he probably did more than any other of his countrymen to bring Highland wildlife before a wide public and to convey the deep love and understanding that he felt for it. He was an inspiration to a great many who followed in his footsteps. Perhaps, most of us will remember him as he was in his later years—still going on to the hill to look for eagles when much younger men had given up through 'old age', appearing in his inevitable ancient woollen bonnet, kilt and venerable sporran to delight us with his lectures and, above all, simply being a Highland gentleman of a kind now, alas, almost extinct. In his own distinctive way, he gave us much to be grateful for: he will be sorely missed.

More bird of prey news From the February issue of *Oryx*, I see that Peregrines had a bad year in Finland in 1975: only 16 pairs nested, all in open bog habitats; no cliff sites were occupied at all. Twenty-five years ago, the population was somewhere between 800 and 2,000 pairs.

Also in Finland, a survey of 900 traditional Osprey sites in 1975 showed that 673 were occupied, but there was successful breeding at only 394.

Looking much farther south, to Morocco, *Oryx* also quotes a World Wildlife Fund project undertaken by S. P. Mills, who states that the Spanish race of the Imperial Eagle is now extinct there. It used to breed between Tangier and Rabat and in the Rif. It seems that this endangered subspecies now survives only in Spain, where the current population is estimated at about 60 pairs.

La Albufera de Alcudia, Mallorca

Once again, this superb marsh on Mallorca is under threat of development and destruction. It is unique in the Balearic islands and deserves to be saved: to this end, the Grup Balear d'Ornitologia i Defensa de la Naturalesa is organising a petition which seeks to establish La Albufera as a national park. Anyone who knows the area or who would like to help should get in touch with me as soon as possible at 3 Gummings Way, Hemingford Grey, Huntingdon PE18 9EE.

Congratulations—again! Peter Conder, in that quiet way of his, has occasionally been heard to say that he is not an educated man. Personally, I always thought that was a matter of opinion, so it gives me considerable pleasure to be able to report that he has been awarded an Honorary MA by the Open University. The blurb I received said 'for services to the University', but it recognised particularly his work as Director of the RSPB too, and went on to say 'the degree recognises Mr Conder's achievement as a largely self-taught scientist and conservationist who has made a significant contribution to scientific policy and to a wider understanding of science by the public.'

Uncovered Having praised the regular author of this feature, I must now say something about our managing editor. According to the bi-monthly Belgian newsletter *Feuille de Contact* (March-April 1977, page 63), he and his wife have written a book entitled *Bare Birds in Britain and Ireland*. No wonder they can afford to move to a new house!

Recent reports

K. Allsopp

These are largely unchecked reports, not authenticated records

This report covers February and the first part of March. Unless otherwise stated, all dates refer to February.

The weather during February was very wet, but, although cold periods occurred with some snowfalls, they did not last long and mean temperatures were higher than usual in the south and about average in the north. In consequence, the wintering populations remained relatively static.

Coastal reports

Good feeding conditions in the North Sea were probably responsible for the continued presence of greater numbers of seabirds than usual off the northeast coast. Many **Red-throated** *Gavia stellata* and up to 17 **Black-throated Divers** *G. arctica* were reported from Yorkshire. **Razorbills** *Alca torda* and **Guillemots** *Uria aalge* were returning to Bempton Cliffs (North Humberside) by the end of February, and a few **Little Auks** *Plautus alle* were seen in the same area. Small numbers of **Great Stercorarius skua**, **Pomarine** *S. pomarinus* and **Arctic Skuas** *S. parasiticus*, **Iceland** *Larus glaucoides* and **Glaucous Gulls** *L. hyperboreus* were also present. The last two species were also seen regularly at gull roosts on reservoirs from the Midlands northwards. The south coast, however, produced the rarities, with an immature **Ross's Gull** *Rhodostethia rosea* at Dungeness (Kent) on 15th and a **Ring-billed Gull** *L. delawarensis* for the second February running at Radipole (Dorset). Single **Little Gulls** *L. minutus* were reported from Scarborough (Yorkshire), Hartlepool (Cleveland) on 24th and Dungeness on 27th. A **Grey Phalarope** *Phalaropus fulicarius* was present at Filey Brigg (North Yorkshire) from 5th to 26th.

Wintering species

Bitterns *Botaurus stellaris*, outside their normal localities, were seen at Dungeness, Hornsea Mere (Humberside) and Denaby Ings (South Yorkshire). Some species which birdwatchers normally expect to find have been very scarce this winter: the only record of a **Waxwing** *Bombicilla*

garrulus was from Ainsdale (Merseyside) on 4th, and **Siskins** *Carduelis spinus* and **Bramblings** *Fringilla montifringilla* were absent from many areas. In contrast, **Blackcaps** *Sylvia atricapilla* were very common, many visiting bird tables in the late winter, following the large late autumn migration. **Cetti's Warblers** *Cettia cetti* were singing in many localities in Devon and Cornwall in March.

Early spring movements

By early March, the **White-fronted Geese** *Anser albifrons* had deserted Slimbridge (Gloucestershire). The mild, southerly weather coming directly from North Africa produced the earliest spring arrivals for some years. **Wheatears** *Oenanthe oenanthe*, **Black Redstarts** *Phoenicurus ochruros* and **Chiffchaffs** *Phylloscopus collybita* appeared on the south coast and inland, with **Little Ringed Plovers** *Charadrius dubius*, **Ring Ouzels** *Turdus torquatus*, **Sand Martins** *Riparia riparia* and **Swallows** *Hirundo rustica* in smaller numbers; a Swallow was even seen as far north as Northern Ireland. Even more unusual were four **Cuckoos** *Cuculus canorus* in Devon and seven **Hoopoes** *Upupa epops* in the southwest. Finally, a **Sandwich Tern** *Sterna sandvicensis* was seen at Portland Bill (Dorset) on 13th March.

Latest news

Late March and April occurrences included a marked influx of **White Storks** *Ciconia ciconia*: at least half a dozen scattered from Cornwall to Essex and Yorkshire. **Ring-necked Ducks** *Aythya collaris*, more in evidence than usual all winter, were seen in Somerset, Hertford, Cambridge and Kent. Records from Spurn (Humberside) included a **Serin** *Serinus serinus* on 23rd April and a **Whiskered Tern** *Chlidonias hybrida* the following day. There was another **Serin** at Portland (Dorset) and a **Richard's Pipit** *Anthus novaeseelandiae* at Redcar (Cleveland). The first Kentish **Savi's Warblers** *Locustella luscinioides* had returned and were singing by 2nd April; most migrants, however, were late and few during April, in striking contrast to the March picture.

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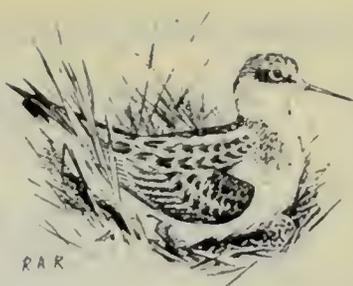
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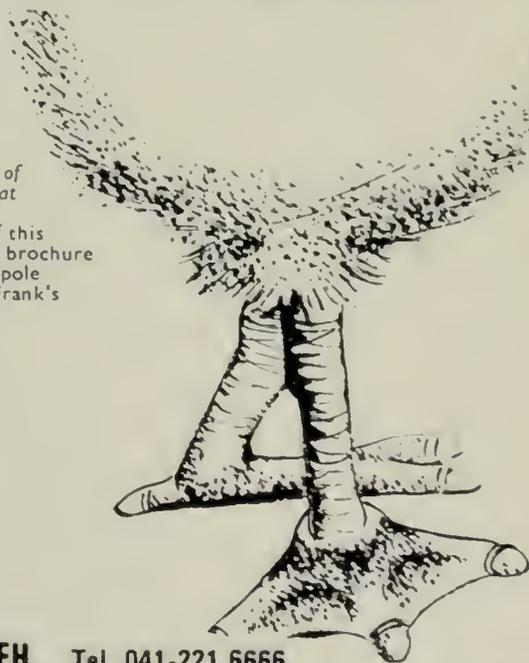
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Spread of the Goosander

Identification and status of eastern Stonechats

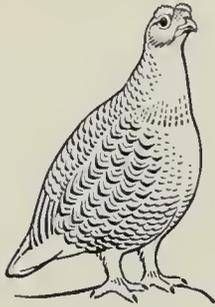
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News and comment

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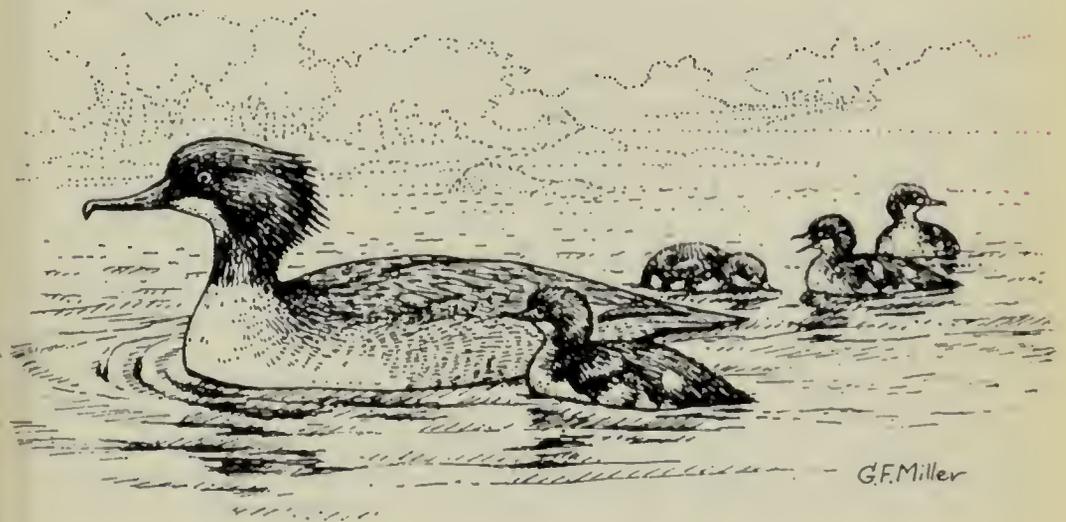
British Birds

VOLUME 70 NUMBER 6 JUNE 1977



The spread of the Goosander in Britain and Ireland

E. R. Meek and B. Little



Despite persecution within its main British range, the Goosander continues to spread. How many now breed in Britain and Ireland?

The Goosander *Mergus merganser* is a relatively recent addition to the list of British breeding birds, first being proved to nest in Scotland in 1871. It has since spread widely in Scotland and, mainly as a result of its feeding habits, is not on the list of protected species there. The spread has continued into northern England and breeding currently occurs in Northumberland, Cumberland, Westmorland, Durham, Lancashire and Yorkshire. Although protected in England, it is still persecuted in the breeding areas and there is some pressure for the species to be removed from Schedule 1 of the Protection of Birds Act, 1954-67. In recent years, there have also been breeding records in Wales and Co. Donegal; the species is fully protected by law in Wales, but, at present, only during the breeding season in the Republic of Ireland, although new legislation will soon give it protection throughout the year.

The county names in this paper are those used before the boundary reorganisations which took effect in England and Wales on 1st April 1974 and in Scotland on 16th May 1975. Tables 1 and 2 also summarise the data using the new county boundaries, but it was impracticable to achieve total accuracy in this exercise.

History and present status in Scotland

It is usually stated that the first breeding by Goosanders in Britain was in 1871, at Loch Erich (Perth) and at Loch Awe (Argyll) (Baxter and Rintoul 1922). As early as 1858, however, there were claims that a duck had been shot off a nest in South Uist and, in 1862, that eggs had been obtained in North Uist (Gray 1871). Considerable doubt was thrown on these two records by Harvie-Brown and Buckley (1888), but Harvie-Brown himself (1880) stated that he had known of breeding at a Perthshire locality since 1864. In any event, before 1870, the species was little more than a scarce winter visitor to Scotland, although from then on it became increasingly common, a large number arriving in the winter of 1875/76. Thereafter, breeding became regular and, by the end of the 19th century, Goosanders were nesting commonly in western Scotland, from Eddrachillis (Sutherland) to Loch Awe (Argyll), as well as in the Upper Tay and the Moray Basin. During the early part of the present century, the species spread gradually to Aberdeen, Angus, Dunbarton, Stirling and Renfrew, with southward 'leaps' to Dumfries (1926) and Selkirk (1930) (Mills 1962a; *Brit. Birds* 20:252 and 24:111). When Mills wrote his paper in 1962, the breeding status of the Goosander in Caithness and Banff was uncertain, while nesting was believed to have taken place in Berwickshire in the late 1940s but to have ceased as a result of intensive shooting. Single breeding records were known for the Outer Hebrides (Loch Maddy, North Uist) and for the Inner Hebrides (Loch Scridain, Mull), but nesting had not been noted in Kinross, Fife, Clackmannan, Lanark, the Lothians, Peebles or Roxburgh.

Intensive persecution of Goosanders by fishing interests has undoubtedly played a part in controlling the spread and increase of the species in many areas, not just Berwickshire, and in fact Mills recorded a considerable decline in southwest Sutherland and Wester Ross, probably as a result of 'super-efficient river keeping'. Annual culls are still carried out on a number of rivers, such as the Tay, where a bounty of 20p per head is paid. The species seems to have been able to withstand the onslaught, however, and Watson (1966) stated that, in the Cairngorms, the number of birds returning each spring is fairly constant despite heavy persecution. Indeed, Goosanders have continued to increase and colonise new areas and, in an attempt to assess the present situation, the local ornithological recorders in Scotland and northern England were asked to estimate the breeding populations in their areas. The results of this survey are detailed below for Scotland and in the subsequent section for northern England. It must be stressed that, in most cases, the figures given are estimates and that detailed censuses have not been carried out.

SHETLAND AND ORKNEY No breeding records, the species having only vagrant status in the northern isles (D. Lea and R. J. Tulloch). Evans and Buckley (1899), however, recorded two to three pairs at Collafirth in June 1890, although no nest was ever found.

OUTER HEBRIDES The only breeding record appears to be that referred to by Mills (1962a) in North Uist and, as in Orkney and Shetland, the current status is only that of a vagrant (W. A. J. Cunningham).

CAITHNESS Nesting has still not been confirmed, although a few males have been seen in the summer months (Mrs P. M. Collett).

SUTHERLAND AND ROSS-SHIRE Breeding first occurred in these two counties in 1875-76 (Baxter and Rintoul 1922). The current population is estimated at 50-75 pairs (D. Macdonald), and the decline noted by Mills (1962a) appears to have been arrested (R. H. Dennis).

INVERNESS-SHIRE R. H. Dennis and M. Harvey estimate a total of 100-120 pairs for mainland Inverness-shire, where breeding was first proved in 1892 (Baxter and Rintoul 1922). Possibly six to ten pairs nest on Skye, where the species first bred in 1939 (*Scot. Nat.* 68: 8).

NAIRNSHIRE, MORAYSHIRE AND BANFFSHIRE The first proof of nesting in this area was in Nairn in 1895. Today, the total population in the three counties is 50-100 pairs, thinly distributed on the rivers up to 450 m above sea level (J. Edelsten).

ABERDEENSHIRE AND NORTH KINCARDINESHIRE The population is estimated at 60-100 pairs, probably in the upper part of this range (A. G. Knox). Breeding began in the area between 1903 and 1921.

SOUTH KINCARDINESHIRE AND ANGUS G. M. Crighton estimates the breeding population at 12-25 pairs, nesting having first occurred in Angus in 1949 (*Scot. Birds* 4: 175).

PERTSHIRE An estimate of 200 pairs is thought by the local recorder to be conservative, since the species breeds even on small streams in the remotest hills (R. L. McMillan).

ARGYLLSHIRE AND INNER HEBRIDES M. J. P. Gregory estimates the population in this area at about 50 pairs. The majority

are on the mainland, but breeding was proved on Mull in 1937 (Baxter and Rintoul 1953) and on Tiree in 1963 (*Scot. Birds* 2: 485).

DUNBARTONSHIRE, WEST STIRLINGSHIRE, RENFREWSHIRE, LANARKSHIRE, Ayrshire, ARRAN AND BUTE The population is thought to be 10-20 pairs, most being in the region of Loch Lomond and in southern Ayrshire. Breeding first occurred in the former area in 1922 (Baxter and Rintoul 1953) and in the latter in 1950 (Dr I. P. Gibson and *Scot. Birds* 4: 292).

CLACKMANNANSHIRE AND EAST STIRLINGSHIRE There is only one recent breeding record, on the River Forth above Stirling in 1974. A few pairs, however, may breed in the Gargunnoch Hills (Dr C. J. Henty).

KINROSS-SHIRE Winter visitors only, with no breeding records (B. H. Gray).

FIFE No breeding records, but a marked increase in winter in recent years (D. W. Oliver).

WEST LOTHIAN AND MIDLOTHIAN No definite breeding records, although in the last two years some have been noted in summer at Gladhouse Reservoir (R. W. J. Smith).

EAST LOTHIAN AND BERWICKSHIRE Not known to have bred in East Lothian, but the Berwickshire situation is not clear. K. S. Macgregor believes that there could be about 12 pairs.

PEEBLESSHIRE, ROXBURGHSHIRE AND SELKIRKSHIRE A. J. Smith gives a 'very rough estimate' of 35 pairs and mentions that nests are frequently destroyed by fishermen or gamekeepers. Nested in Selkirk as early as 1930, but the first confirmed breeding in Roxburgh occurred as recently as 1967 (*Scot. Birds* 4: 566).

DUMFRIESHIRE Breeding was first recorded in 1926 and it is thought that about 100 pairs now nest in the county (D. and J. Skilling and R. T. Smith).

KIRKCUDBRIGHTSHIRE AND WIGTOWNSHIRE A. D. Watson estimates the population in Kirkcudbright, where breeding was first definitely recorded in 1946 (*Brit. Birds* 42: 153), at 50-100 pairs, but describes the Wigtown numbers as 'negligible'. Persecution of nests and broods is frequent.

Table 1. Estimated numbers of pairs of Goosanders *Mergus merganser* breeding in Scotland in 1975

Scottish recording areas used in this paper	Breeding pairs in recording areas	Equivalent areas using new boundaries	Breeding pairs in new areas
Shetland	0	Shetland	0
Orkney	0	Orkney	0
Outer Hebrides	0	Western Isles	0
Caithness	0	Highland	166-225
Sutherland and Ross	50-75		
Inverness and Skye	106-130		
Nairn, Moray and Banff	50-100	Grampian	105-190
Aberdeen and north Kincardine	60-100		
South Kincardine and Angus	12-25	Tayside	192-205
Perth	200		
Kinross	0		
Fife	0	Fife	0
Argyll and Inner Hebrides	50	Strathclyde	45-50
West Stirling, Dunbarton, Renfrew, Lanark, Ayr, Arran and Bute	10-20		
Clackmannan and east Stirling	1-5	Central	31-35
Wigtown and Kirkcudbright	50-100	Dumfries and Galloway	150-200
Dumfries	100		
West Lothian, Midlothian and East Lothian	0	Lothian	0
Peebles, Selkirk and Roxburgh	35	Borders	47
Berwick	12		
TOTALS	736-952		736-952

Totalling the Scottish population from the above data, we arrive at a figure of 736-952 pairs (table 1). Sharrock (1976) stated that 'the solid blocks of confirmed breeding in southern Scotland and northern England [see fig. 1] suggest that this region, though colonised for less than 40 years, is now the species' stronghold in Britain'. The above figures appear to 'refute this, the original strongholds of the species in the north still holding large numbers. Southwest Scotland, however, is certainly the area in which the most noticeable increase has occurred and, as will be seen in the following section, this has also been reflected in northern England. Since Mills wrote in 1962, there has also been a spread into other areas of Scotland, which had, at that time, no breeding Goosanders. Only Kinross, Fife, Clackmannan and the Lothians are now without breeding records.

The spread in northern England

Although summering birds were present in Northumberland by the late 1920s, breeding was not proved until 1941, when a nest was found in

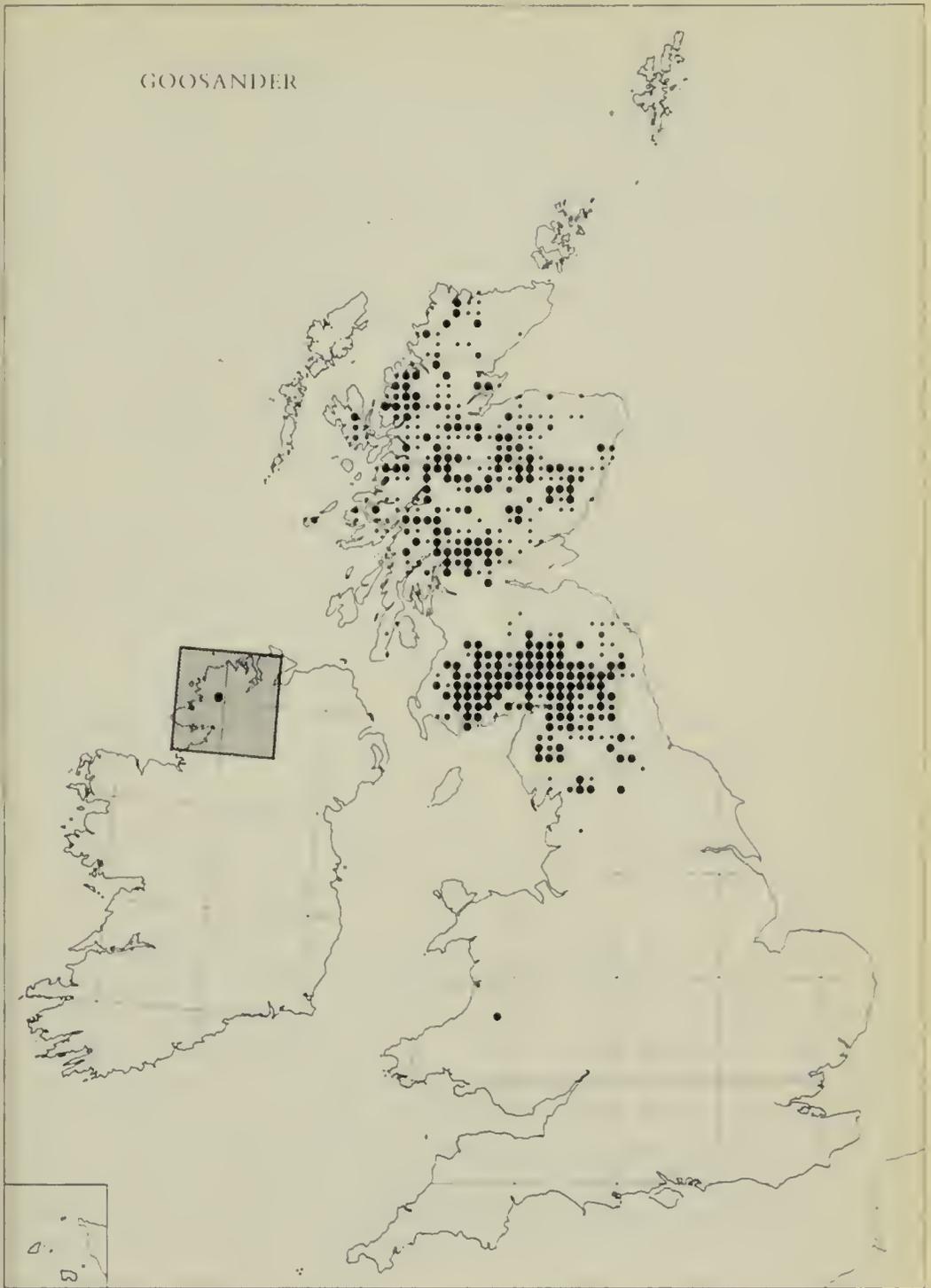


Fig. 1. Breeding distribution of the Goosander *Mergus merganser* in Britain and Ireland during 1968-72 (reproduced, by permission, from *The Atlas of Breeding Birds in Britain and Ireland*). The smallest dots indicate possible breeding, the next probable, and the largest confirmed breeding, within each 10-km square. To protect vulnerable sites, one dot has been moved by one 10-km square, and the dot within the shaded square is conventionally placed centrally

Upper Coquetdale. North Tynedale was colonised in 1956 and some had also bred in South Tynedale by the end of that decade. The species has continued to spread and increase within the county. A survey conducted by the Tyneside Bird Club in 1967-68 (Macfarlane 1971) suggested a total of 35 pairs, while we have estimated 90 pairs in 1973 and 130-150 pairs in 1975. Breeding now occurs on virtually every river system in the county and, in 1975, on the River Tyne, a pair bred as far downstream as Prudhoe, only 30 km from the river mouth. Holes in trees are still the most favoured nest sites, the original 1941 nest in an alder *Alnus glutinosa* being still in use in 1975. In addition, crag sites are not uncommon and a failed nest was found in open heather moorland near a burn on the Northumberland/Cumberland border in 1975. Illegal persecution of the species occurs on some rivers, especially the Coquet and the Rede, but, in the main, breeding success appears to be quite high.

Although E. Blezard was quoted (*Brit. Birds* 45: 294) as saying that breeding had occurred on the River Eden 'for some seasons', it was not until 1950, when a pair nested near Brampton, that there was a definite breeding record for Cumberland. By 1961, Goosanders were also breeding on the Pennine rivers in that county. As in Northumberland, the species has spread and increased, but an accurate assessment of breeding numbers has so far proved to be impossible. All that can be said at present is that the population is between 20 and 100 pairs (R. Stokoe).

The history of colonisation in Westmorland and Lancashire is a little confused. Atkinson-Willes (1963) stated that the breeding distribution then included Lancashire, and this was reiterated by the British Ornithologists' Union (1971), regular breeding being said to occur in Westmorland and north Lancashire. Parslow (1973), however, stated that numbers had increased in both Northumberland and Cumberland, but that the species had not spread farther south. Nesting was, in fact, proved on Coniston Water (Lancashire) and on Windermere (Lancashire/Westmorland) in 1961, and in the spring of the same year parties were seen on the River Lune, although there was no indication of breeding (R. Stokoe). At present, in Westmorland, two pairs breed on Rydal Water, where nesting first occurred in 1973 or 1974 (K. Atkinson). Single pairs nested on the River Dee, a tributary of the River Lune, near Sedbergh in 1971, and on the River Lune itself in 1973, although breeding had been suspected earlier. The town of Sedbergh lies in Yorkshire, but most of the Lune basin lies in Westmorland and Lancashire. The river was carefully checked from Sedbergh to its mouth in 1974, when 12 broods were found, and again in 1975, when 13 broods were located. The range has now extended south to the River Hodder (Lancashire/Yorkshire), where some adults were recorded in spring 1974 and a brood seen in 1975 (K. G. Spencer and J. Wilson).

Atkinson-Willes (1963) stated that Co. Durham was at that time within the species' breeding range. Although breeding had been suspected in earlier years, it was, however, not until 1967 that confirmation was obtained, a pair nesting on the River Tees. By 1971, five broods were found on the Tees and breeding was recorded for the first time on the

River Wear. A brood was probably reared on Tunstall Reservoir in 1974, and in 1975 the population of the county was put at 10-20 pairs.

Apart from the records on the River Tees, the first breeding record in Yorkshire was that already noted near Sedbergh in 1971. Although Goosanders were seen in summer on the River Swale in 1972 and 1973, breeding has still not been confirmed there. The southward spread has, however, reached the River Ure, where one to three pairs have nested since 1972. Young have now also been reared on Leighton Reservoir (1975), a locality where copulating birds had been observed as early as 1969 (J. R. Mather).

By totalling the above figures, the English breeding population can be estimated at 179-291 pairs (table 2).

Table 2. Estimated numbers of pairs of Goosanders *Mergus merganser* breeding in northern England in 1975

Old county	Breeding pairs in old county	New county	Breeding pairs in new county
Northumberland	130-150	Northumberland Tyne and Wear	130-150 0
Co. Durham (including River Tees)	10-20	Co. Durham	10-20
Yorkshire (including River Hodder)	4-6	Cleveland North Yorkshire	0 4-6
Cumberland	20-100	Cumbria (plus Lune basin in Lancashire)	35-115
Westmorland and north Lancashire	15		
TOTALS	179-291		179-291

Breeding elsewhere in Britain and Ireland

Two remarkable forward leaps have occurred in the colonisation process. In 1969, a pair bred for the first time in Co. Donegal in northwest Ireland, and a single pair was still breeding in the same locality in 1975. There is no evidence of any other nesting attempt elsewhere in Ireland (K. Preston). In addition, a few summering Goosanders have been recorded in Wales since 1968, and breeding was confirmed in 1972. One or two pairs may now nest annually there, but as yet they are not firmly established (P. Hope Jones). Thus, only three pairs are known to breed outside Scotland and northern England.

Conclusions

Parslow (1973) described the Goosander's breeding status as 'scaree' (his 'order 3'), implying 100-1,000 pairs, while Sharrock (1976) gave a wide range of 1,000-2,000 pairs. The figures that we have gathered (summarised in table 3) tend to confirm that the species has crept into 'order 4', since several local estimates were said to be conservative.

Table 3. Estimated numbers of pairs of Goosanders *Mergus merganser* breeding in Britain and Ireland in 1975

	Minimum	Maximum
Scotland	736	952
England	176	291
Wales	2	2
Ireland	1	1
TOTALS	915	1,246

Although the Goosander is expanding its range in Britain, its numbers are not as great as many people believed. A maximum population of 1,246 pairs is not particularly large, yet many continue to be shot, legally in Scotland and illegally in northern England. There is a great need for a definitive study of the feeding ecology of the Goosander in Britain. The only work of this nature was that carried out by Mills (1962a and 1962b), although much research has been carried out in Canada, notably by H. C. White (1937, 1939a and 1939b, quoted in Mills 1962b) and P. F. Elson (1952, 1957 and 1962, quoted in Mills 1962b). All of these studies, however, have been on rivers rich in salmon *Salmo salar*, while the main game fish in most of the rivers of northern England is the brown trout *S. trutta*. A study of Goosander predation on non-migratory fish is much needed, since there is pressure to remove the species from Schedule 1 of the Protection of Birds Act, 1954-67. This has, of course, come chiefly from angling interests, but has so far been resisted. We feel that resistance should be maintained pending a satisfactory study.

Acknowledgements

We should like to thank the local ornithological recorders in Scotland and the northern counties of England for their invaluable help in assessing the status of the Goosander in their particular areas. R. H. Dennis provided information for Scotland as a whole, while P. Hope Jones and K. Preston sent data for Wales and Ireland respectively. B. Galloway, J. A. Ginnever and Colin Bibby commented constructively on an early draft.

Summary

The spread of the Goosander *Mergus merganser* as a breeding species in Britain and Ireland is traced and, by totalling estimates by county and regional recorders, the total breeding population is calculated to be 915-1,246 pairs. Although the range of the species is expanding, it is felt that the population is not large enough to warrant the destruction which occurs in certain areas. A thorough study of the species' feeding ecology is urged before protection is removed in northern England.

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- Scot. Birds* 2: 485; 3: 175; 4: 192; 4: 566; 5: 314; 6: 76; 6: 267; 6: 359; 7: 340; 8: 227.
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Identification and European status of eastern Stonechats

Iain S. Robertson



The eastern races of the Stonechat look very different from the familiar west European ones. Some might even be dismissed as Whinchats. Of 25 in western Europe, more than half have been in the last three years

There are about 24 races of the Stonechat *Saxicola torquata*, all breeding within the Palearctic or the Ethiopian regions (Vaurie 1959). Eight breed in the Palearctic: two west European races, *S. t. rubicola* and *S. t. hibernans*, and six eastern forms, which are distinct from those of western Europe, but cause identification problems.

Although at least 25 eastern Stonechats have been recorded in west Europe since 1883 (see later section), there is little information available to

help the average birdwatcher. Those works which do contain descriptions tend to concentrate on adult males, but it is the female or immature plumages that are most likely to cause difficulties. This paper attempts to simplify the problem of field identification; it is based on a study of skins in the British Museum (Natural History), the descriptions of British and Continental records, the available literature and correspondence with observers who have experience of the eastern subspecies.

General features

Eastern Stonechats show wide variation throughout their ranges, but there are features common to most races: the most important is the unmarked rump and uppertail-coverts. The colour of the rump patch varies considerably, and is dealt with in detail under the individual races, but it is always unmarked by dark streaks or spots. In autumn, it tends to be ginger or orange, gradually abrading to white; some may have become white by early autumn, but others may still be orange in spring. As the orange or ginger tips wear off, there may be a patchy appearance, with the few remaining tips showing as blotches. The rump patch is generally larger than that of a west European Stonechat, and may have a 'wrapped around' effect, making it the most conspicuous feature.

Adult male eastern Stonechats are similar above to those of western Europe, but the black feathers have buff rather than reddish fringes, although these wear off by the spring. The amount of white on the inner wing-coverts is usually greater on eastern birds and may be massive, but this is a very variable character, depending on wear, age and the individual, as is the white neck patch, which may sometimes form a white collar around the nape. In most races, the underparts are paler and less rufous than those of west European birds, being sometimes reduced to a pale pink or orange wash on the upper breast, which may be demarcated from the white belly. The axillaries are jet black, a character confined to the eastern races. Some show white at the base of the tail feathers, but this may be obscured in the field by the uppertail-coverts.

Females and immatures of all the eastern races are paler than any normal west European Stonechat, although *S. t. przewalskii* and *S. t. stejnegeri* may be less distinct. The pallid appearance gives a similarity to a Whinchat *S. rubetra* or, in extreme cases, a Desert Wheatear *Oenanthe deserti*. The pale mantle is conspicuously streaked with brown, and there may be a darker streaked cap. Many have a pale supercilium, which may be conspicuous, again recalling a Whinchat. The underparts show little or no rufous and are usually pale orange or sandy, with a paler belly, and buff or white throat, often demarcated from the upper breast. There are conspicuous pale buff or white edgings to the secondaries and tertiaries, which may show as a pale panel on the closed wing, similar to that on an Icterine Warbler *Hippolais icterina*. The amounts of white in the inner wing and on the neck are even more variable than in males and are of little value as field characters. The black tail is bordered and tipped with buffish, and some white may be present at the base of the tail feathers.

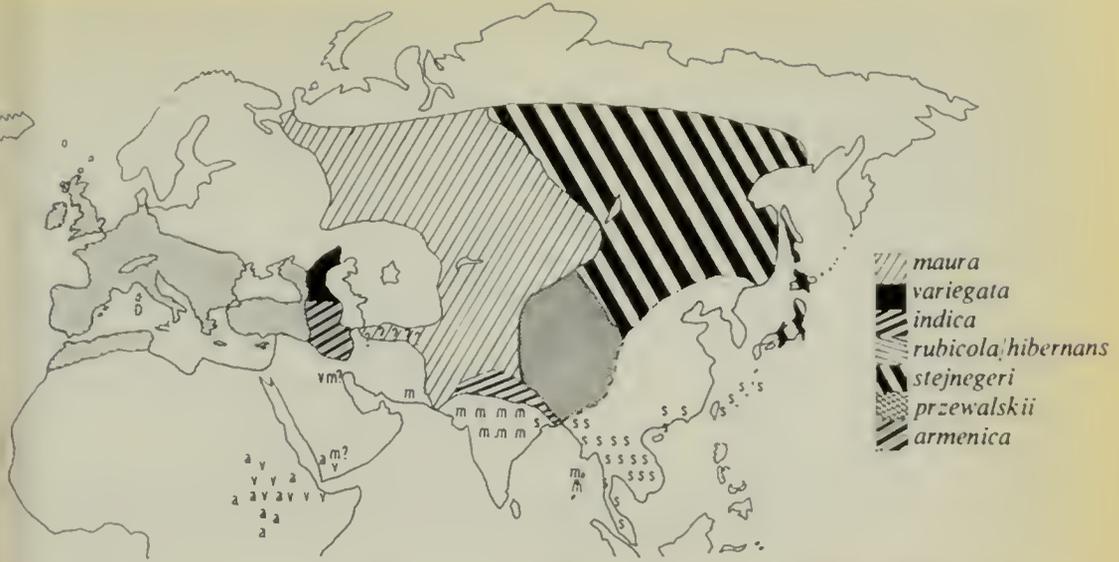


Fig. 1. Breeding ranges of Palearctic Stonechats *Saxicola torquata*, with wintering areas of the four most migratory eastern races indicated by their initial letters

Subspecific identification

The distributions of the eight Palearctic races are shown in fig. 1. I have combined the Continental *S. t. rubicola* with the race *S. t. hibernans*, which breeds in Britain and Ireland, western Brittany and coastal Portugal, for reasons explained later. The map shows the breeding ranges so far as they are known, but it must be stressed that the boundaries are not well defined and some intergradation between races occurs, particularly in Afghanistan and Baluchistan (Dementiev and Gladkov 1968). The wintering areas of four eastern forms are shown, but, again, this is merely a guide.

For the purposes of this paper it is convenient to split the races into three groups: (1) *rubicola* and *hibernans*, (2) *maura* and *stejnegeri* and (3) *armenica* and *variegata*. Of the remaining two races, *indica* is the least migratory, merely moving down the Indian subcontinent in winter; *przewalskii*, which is virtually inseparable from *stejnegeri* in immature plumage, breeds in the southeast of the region and, on geographical grounds, is unlikely to reach western Europe.

GROUP 1 *S. t. rubicola* and *S. t. hibernans*. These are the typical breeding Stonechats of western Europe. The two races are extremely similar and, indeed, Meinertzhagen (1953) doubted the validity of *hibernans*, while E. D. H. Johnson (*in litt.*) has been able to demonstrate a cline between the two forms: during my work on skins in the British Museum, I found them indistinguishable.

In this group, the small rump patch may be deep orange to white, but is always spotted or streaked with black. There is no white in the base of the tail. The axillaries are buff or white, with grey centres to the feathers, even in old males. The females and immatures have the black replaced by

dark brown. The underparts are rich orange or russet, this colour usually extending to the belly. Some individuals may show a pale supercilium, but this is usually ill-defined. Familiarity with these birds in all plumages is a great help when trying to identify eastern Stonechats.

GROUP 2 *S. t. maura* and *S. t. stejnegeri*. These two races, colloquially known as Siberian Stonechats, have both occurred in western Europe.

The race *maura* tends to be smaller than the others and has a pale orange or white rump patch. Males have a little white (no more than 5 mm) at the base of the tail feathers, but it is obscured in the field by the uppertail-coverts. Females show less white or none at all. Adult males have jet black axillaries; young males may show this feature as early as September. The underparts are paler than those of the races in group 1, being pale orange or sandy. Females and immatures are also paler on the mantle, and have orange, sandy or white rump patches, and buffish axillaries. The throat is usually white and there is often a pale supercilium (but this is a difficult feature to examine on skins).

The race *stejnegeri* is the most migratory; it is a little larger than *maura* and the bill is longer and broader. The 2nd primary is longer than the 7th (Dementiev and Gladkov 1968). There is no white in the base of the tail. The orange underparts tend to be paler than those of *maura* and the colour may be reduced to a pale wash on the upper breast. The mantle has long

buffish fringes and the rump patch is larger and is usually orange, even in adult males. Some males show a marked extension of the neck patches to form a collar around the nape, which may be broken in the centre by a few dark spots; the amount of white in the wing similarly tends to be greater. As in *maura*, the axillaries are jet black; young birds may show this by September. In autumn, males are very pale below, and have a pale supercilium and a buffish or white throat, which is usually demarcated from the upper breast. The white on the rump does not show through until October at the earliest, and may still be obscured by orange tips as late as April. The tail is tipped by a band of pale orange or buff up to 2 mm wide. Females have an orange rump patch with little or no white. The throat is pale and the axillaries are buffish. The underparts are pale buff, paler than *maura*. Skins of this race from Japan, which I examined in the British Museum, have rich rufous underparts, a feature apparently not commented on previously.



54. Three views of a Stonechat *Saxicola torquata* of one of the two group 2 races, probably *S. t. maura*, Texel, Netherlands, October 1973. Note general similarity to a Whinchat *S. rubetra*, the wing panel, supercilium, demarcated throat and streaked upperparts (P. Meeth)

GROUP 3 *S. t. armenica* and *S. t. variegata*. These two races are not known to have occurred in western Europe, but, as they are migratory and come from an area which is the origin of several other vagrants, it is possible that they will be recorded in the future.

No skins of *armenica* were available for examination at the British Museum, so the details given here are from the literature, mainly Dementiev and Gladkov (1968). It is a distinctive race. Adult males are similar to *maura*, but have more white

at the base of the tail (up to a quarter of the length of the feathers), in the wing and on the neck. The underparts are a deep, rich chestnut, contrasting with a pure white belly: a striking combination. It is also the largest of the Palearctic races,



55. Stonechat *Saxicola torquata* of one of the two group 2 races, probably *S. t. stejnegeri*. Utsira, Norway, October 1974. Moulting in progress and tips of rump feathers abraded (R. Lofstad)

with a wing length of 70-75 mm. Females and immatures are probably similar to group 2 birds, but with darker, richer underparts.

The race *variegata* is the most distinctive of all, with up to half of the length of the tail feathers white at the base. The white wing patch is massive and the pale rump patch is also larger than in other races:

It is essential to use a combination of features when identifying an eastern Stonechat. A pale Stonechat may be merely a leucistic or faded *rubicola* or *hibernans*, but not if it also shows the other features, such as an unmarked rump patch, a pale wing panel or a supercilium, listed under the group headings and shown in fig. 2. A detailed description is essential; full measurements and wing-formula should also be noted for trapped birds. It is far from easy to ascribe an individual to any particular race, but not so hard to place it in one of the three groups. Adult males should be racially identifiable, even in the field, but are very rare in western Europe. Reference to table 1 may help to place a bird into one of the groups, and fig. 3 is of value in the case of trapped birds.

West European records

Until recently the records of eastern Stonechats had received little attention in Britain. The problems of subspecific identification, coupled with doubts that eastern races could be safely distinguished from variant or faded west European birds in the field, led to deferment of decisions by the Rarities Committee on a number of British claims of eastern Stonechats, pending further research. In 1974, a remarkable surge in records

it is usually white, but sometimes has a few orange spots. The axillaries are jet black. Females and immatures show a lot of white in the tail and are paler on the mantle than other races, with long buff fringes to the feathers. The rump is usually white, rather than orange or sandy. The second primary is longer than the 5th.

Table 1. Characters of races of Stonechats

	GROUP 1		GROUP 2	
	<i>rubicola-hibernans</i>	<i>maura</i>	<i>maura</i>	<i>stejnegeri</i>
Size	—	Smallest	—	—
Rump patch	Small, reddish-white, streaked or spotted	Large, white, sandy-orange, unmarked	Larger than <i>maura</i> , orange-white, unmarked	Larger than <i>maura</i> , orange-white, unmarked
Tail	All black	White at base	All black	All black
Supercilium ♀	Rare, indistinct	Frequent, quite distinct	Usual, quite distinct	Usual, quite distinct
Breast	Dark	Pale	Pale	Pale
Belly	Darkest	Pale	Pale-white	Pale-white
Upperparts ♂	Reddish fringes	Buffish fringes	Buffish fringes	Buffish fringes
Upperparts ♀	Darkest	Pale, streaked	Pale, streaked	Pale, streaked
Axillaries ♂	Buff-white	Black	Black	Black

led to renewed interest, which stimulated the research summarised here; this enabled the backlog of records to be cleared, and a number were published (Smith *et al.* 1975, Dymond *et al.* 1976). Having examined the descriptions of all the British and most of the Continental records while preparing the identification section of this paper, I can review the status of the eastern Stonechats for the period 1883-1976 (table 2). All but one of the records were during early September to mid November, with a peak in late October. The exception was an adult male in breeding

Fig. 2. Examples of Stonechats *Saxicola torquata* in group 2 (left) and group 1 (right). Note that the paler, eastern, group 2 races (*maura* and *stejnegeri*) show supercilium, pale wing panel and unmarked rump and may resemble Whinchats *S. rubetra* in general appearance (from a painting by the author)



Saxicola torquata and of Whinchat *S. rubetra*

GROUP 3		WHINCHAT	
<i>armenica</i>	<i>variegata</i>		
Largest	—	—	Size
White-orange, unmarked	Largest, white-orange, unmarked	Pale brown, streaked (like mantle)	Rump patch
White at base, like <i>maura</i> or <i>variegata</i>	White at base, usually more than half feather length	White at sides	Tail
—	—	Always distinct	Supercilium ♀
Darkest	—	Buffish	Breast
White	White	Pale	Belly
—	—	Brown, streaked	Upperparts ♂
—	Pale, very buff	Brown, streaked	Upperparts ♀
—	Black	Buffish-grey	Axillaries ♂

plumage (with an almost complete white collar) in Norfolk in May 1972. It was identical with a skin of *stejnegeri* from the Amur River, and had presumably arrived in western Europe the previous autumn and overwintered.

A Stonechat shot at Cley, Norfolk, on 2nd September 1904 was accepted as the first British record of *S. t. maura* by Saunders (1907). The specimen was not available to Witherby *et al.* (1940), but was included on the strength of Saunders's examination. Recently, the specimen came to light in the Castle Museum, Norwich, Norfolk. After seeing slides of the bird, I became suspicious of the identification and arranged for the specimen to be examined by Derek Goodwin at the British Museum. He came

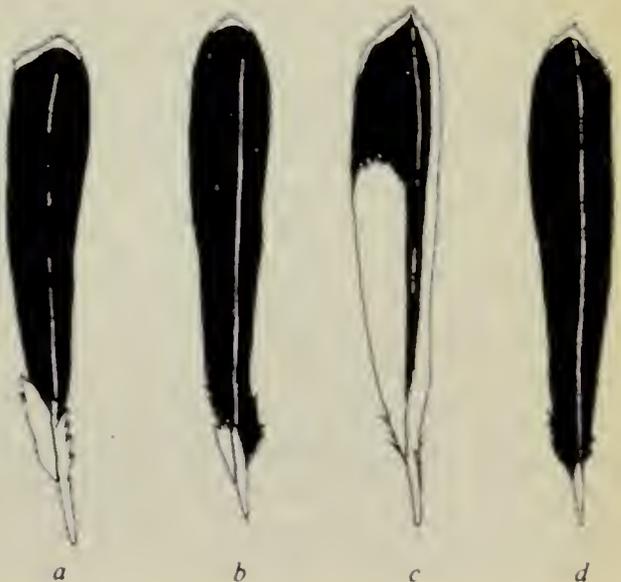


Fig. 3. Outer tail feathers of races of Stonechats *Saxicola torquata*: (a) *maura*, (b) *indica*, (c) *variegata*, (d) *rubicola/stejnegeri/przewalskii* (after Burton and Nisbet 1956)

Table 2. Records of eastern Stonechats *Saxicola torquata* in western Europe, 1883-1976

Races: 'group 2' signifies *maura* or *stejnegeri*; brackets are used when race is probable but not certain. Recording categories: F = field observation, T = trapped, S = specimen. Two records, both probably referring to group 2 birds, were insufficiently detailed for acceptance by the Rarities Committee and are omitted from the table, but deserve mention: Cley, Norfolk, 10th December 1972 to early January 1973 (seen only at long range) and Fair Isle, Shetland, 5th October 1973 (note occurrence in the Netherlands next day)

Year	Date	Locality	Age/sex	Race	Recording category
1883	11 Oct	Heligoland, Germany	Imm./♀	group 2	S
1913	10 Oct	Isle of May, Fife	♀	<i>maura</i>	S
1946	9 Sep	Nolso, Faeroes	♀	<i>maura</i>	S
1955	28 Sep	Blavandshuk, Denmark	Imm./♀	<i>maura</i>	S
1960	26 Oct	Hartlepool, Durham	Imm./♀	group 2	F
1961	13-21 Oct	Fair Isle, Shetland	Imm.	group 2	T
1964	27 Sep	Hesselo, Denmark	Imm./♀	<i>maura</i>	S
1964	1 Nov	Fair Isle	Imm./♀	group 2	F
1965	5-6 Oct	Fair Isle	Imm./♀	group 2	F
1972	2 May	Cley, Norfolk	Ad. ♂	<i>stejnegeri</i>	F
1973	6-7 Oct	Texel, Netherlands	Imm./♀	(<i>maura</i>)	F
1974	12-13 Oct	Holy Island, Northumberland	Imm./♀	(<i>stejnegeri</i>)	F
1974	12-13 Oct	Holy Island	Imm./♀	(<i>stejnegeri</i>)	F
1974	12 Oct	Schiermonnikoog, Netherlands	Ad. ♂	(<i>stejnegeri</i>)	F
1974	12 Oct	Schiermonnikoog	♀	(<i>stejnegeri</i>)	F
1974	13 Oct	Schiermonnikoog	Imm./♀	(<i>maura</i>)	F
1974	16 Oct	Out Skerries, Shetland	Imm./♀	(<i>maura</i>)	F
1974	19 Oct	Utsira, Norway	Imm./♀	(<i>stejnegeri</i>)	T
1974	21 Oct	Portland, Dorset	Imm./♀	group 2	F
1974	4 Nov	Snettisham, Norfolk	Imm./♀	group 2	F
1974	7-15 Nov	Tynemouth, Northumberland	Imm./♀	group 2	F
1975	10-17 Oct	Fair Isle	Imm./♀	group 2	F
1975	18 Oct	Holy Island	Imm./♀	group 2	F
1975	24 Oct	Portland	Imm./♀	(<i>maura</i>)	F
1976	27 Sep- 7 Oct	Fair Isle	Imm./♀	group 2	F

to the conclusion that it is probably an old male *rubicola* or *hibernans*; there are no grounds for supposing it to be *maura*: we recommend that the record be removed from the British and Irish list.

There are now 25 accepted records of eastern Stonechats in western Europe, 16 of them in Britain. All those subspecifically identified have been referred to *maura* or *stejnegeri*, the former being more frequent. The spread of records, from the Faeroes to the Netherlands, is interesting and the increase since 1974 suggests that the pattern of occurrence is changing. As many of the records come from localities where even group 1 Stonechats are uncommon, and so subject to more than usual scrutiny, it seems likely that the increase is genuine and not wholly due to increasing awareness or improving ability of observers. Some eastern Stonechats, however, are undoubtedly still missed, particularly inland and in areas where the species is common.

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Summary

The races of Stonechat *Saxicola torquata* breeding in the eastern Palearctic differ from west European races by having an unmarked rump and uppertail-coverts, a pale wing panel, a supercilium and (males after their first autumn) jet black axillaries. At least 25 eastern Stonechats have been recorded in western Europe (16 in Britain), all but one during September-November and more than half of them in the last three years. All were either *S. t. maura* (the most frequent) or *S. t. stejnegeri*.

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Observations on breeding Barn Owls

D. S. Bunn and A. B. Warburton



This insight into the family life of the Barn Owl reveals fascinating interactions between the two adults, between the pair and their young, and between the differing-aged owlets

During 1963-72, we undertook an intensive study of the Barn Owl *Tyto alba* in northwest England. DSB studied a total of 21 nests: in a remote, young conifer forest in the West Riding of Yorkshire (now Lancashire) (18), in almost suburban surroundings in east Lancashire (two) and in limestone pasture in south Westmorland (now Cumbria) (one); and ABW observed seven nests in southwest Cumberland (now Cumbria): in lowland farmland (three), in a young spruce plantation (three) and in wasteland by the sea (one). Observations were maintained throughout the year. This paper concentrates on those facts hitherto unrecorded. The calls of the Barn Owl have already been described (Bunn 1974).

Early breeding behaviour

The first sign of breeding activity is increased screeching by the males, which begin to exhibit marked territorial behaviour in mild weather as early as February. Outside the breeding season, those in the West Riding study area, where the species was unusually common, frequently uttered a single screech as they flew from the roost at dusk, but in March and April they would utter repeated screeches as they flew to and fro in their territories in a kind of song flight. Occasionally, trespassing males were driven off with furious harsh screeches. In the other areas, the Barn Owls were not so vocal, probably because rivals were fewer. In March 1968, an unpaired male exhibited another form of self-advertisement by perching at the entrance hole to his roosting barn and uttering a loud screech every few seconds. On one occasion, a female, recognisable as such by her

different screech, was heard first to fly to this male and then to be attracted away to another screeching loudly from his territory about 1 km away.

Many Barn Owls remain paired throughout the winter, though it may be the territory that keeps them together. Our observations showed that mild courtship, mainly mutual preening, is indulged in at the roost during winter and that the two owls frequently rest side by side. It was difficult to be sure whether other individuals vacated their territories after the breeding season, because mortality could have accounted for their absence.

Throughout the year, the male Barn Owl greets the female with a combined squeak and chirrup whenever he looks in her direction; she usually squeaks in reply. In March, however, the female becomes sexually active, starting to 'snore' regularly in the male's presence and to greet him by snoring. This is essentially a juvenile call and appears to function as a stimulant to the male, who responds by bringing her prey items. The earliest record of food presentation was on 28th February 1971, in the West Riding study area.

Food presentation is always followed by copulation, during which the female, still holding the prey in the bill, snores loudly and the male utters a staccato squeak. Sometimes, on the male's arrival with prey, the female flies into the future nest site or a dark crevice and calls him to her with a high-pitched purring note; the male may utter the chatter which the female uses when feeding small young. As the presentation is largely ritualised, prey items at times accumulate and may exceed the female's requirements.

56. Female and young Barn Owls *Tyto alba*, Norfolk, June 1953. Although the chick is old enough not to need brooding, the female stays at the nest until the owlets are large enough to be left on their own. This female appears to have recently had a bathe. Note the cache of three dead short-tailed voles *Microtus agrestis* (K. J. Carlson)



On two occasions, ABW witnessed a display in which the male flew to the female and hovered momentarily in front of her; during this brief 'moth flight', two soft wing claps were heard, the second quieter than the first. Deriek Scott, however, has told us (*in litt.*) that on four occasions he observed a similar display accompanied by a much louder wing clap audible at 50 m. From the paucity of records, it seems likely that this display is rather rare. A remarkable display was described by Hosking and Smith (1943): the male stretched his head upwards until his neck was fully extended, puffed out his neck and throat feathers and then, with his bill wide open, and head thrown backwards, swayed and rolled his head in snake-like motions, while the female swayed in sympathy and snored. This must be rare, for we never observed it.

Mutual preening, often preceded by bill-fencing and cheek-rubbing, was much more common. In this, first one and then the other owl lowers its head and nuzzles against its mate to solicit preening; the head, the back and, particularly, the underparts are meticulously groomed to the accompaniment of encouraging twitters from the passive bird, which, in the case of the pair most closely observed, was usually the male.

Sexual chases also take place, the male pursuing the female, sometimes at high speed, around the nesting area. At such times, both sexes utter the most bizarre screeches and wails, but silent chases have also been observed. Frequently, the male suddenly swoops into the nesting barn, whence his screeching attracts the female. This behaviour seems to be particularly important in pair formation and is comparable with the 'in-and-out flights' of some hole-nesting passerines.

From the onset of breeding activity until the eggs are laid, the male frequently searches the roosting barn for suitable nesting sites and, having found a dark corner or crevice, crouches and begins purring, revolving around, poking about with his bill and stamping or scraping with his feet to form a nest hollow. This invariably attracts the female and the two crouch down together, with lowered wings, the female snoring and tongue-clicking in excitement. This behaviour nearly always culminates in copulation, which is extraordinarily frequent: from early March until the first egg is laid, it occurs every few minutes during the evenings. Often, it immediately follows food presentation; at other times, the female simply begins to snore more rapidly and quietly and lowers her body, whereupon the male mounts, balancing with widely spread wings and by holding her nape feathers in his bill. On occasions, he screeches loudly after the act. Sometimes, the male mounts without invitation, but his attentions are always accepted. During the incubation and brooding periods, copulation takes place whenever the male visits the nest; in one case, this ceased only when the oldest owlet was eight days old and, in another, when the oldest was 29 days. It begins again, however, if there is a second courtship period just before the owlets fledge. After the start of courtship feeding, in March, the female becomes much less inclined to leave the roost and then begins to spend much of her time in the future nest, which as a result becomes littered with pellet remains.

Both sexes breed in their first year. One female, the second oldest of



57. Adult Barn Owl *Tyto alba* with owlet aged about four weeks. Norfolk, June 1953. The owlet needs little attention and can feed itself on the store of food deposited at the nest by its parents (K. J. Carlson)

a 1971 brood, laid a total of 16 eggs in 1972, in three unsuccessful nests in a well 25½ km from her birthplace.

Incubation

A Lancashire pair, observed very closely by DSB between September 1971 and September 1972, provided much detailed information on early breeding behaviour. After the laying of the first egg, the female seldom left the nest (never more than once during an evening's vigil), but, when she did, she evacuated an enormous quantity of faeces and then dashed around the barn, exercising herself, before preening for a short time and then returning to the nest. Her longest period of absence was ten minutes. The impressions of the eggs can sometimes be seen clearly on the underparts of an incubating female when she is off the nest.

The incubation period proved to be 30-31 days, whenever accurate checks could be made (at a number of nests), and was, therefore, at variance with the 32-34 days given by Witherby *et al.* (1940). Although only the female is known to incubate, on one occasion DSB witnessed a remarkable incident in which, during the female's absence, the male flew to the nest and began to nuzzle the single egg with his beak or with the feathers down the centre of his facial disc. He then carefully pushed it underneath him, as if to settle down to incubate. Unfortunately, at this moment the female came down beside him and, before he could lower his body farther, sat on the egg. ABW has known a captive male to incubate on several occasions during the first ten days, both sexes sitting side by side, each of them on eggs, but much of the behaviour of captive Barn Owls has proved to be abnormal.

Hatching usually takes place in the small hours of the morning, the first hole appearing during the previous evening. The female can hear the young calling from inside the egg at least 24 hours before hatching,



58. Adult Barn Owl *Tyto alba* with four owlets, the eldest aged about six weeks, West Sussex, June 1972 (A. N. H. Peach)

because at this time she begins to utter the chattering call which she uses to communicate with them until they are able to feed themselves. They respond with a querulous chattering note.

Bühler (1970), observing captives of the subspecies *guttata*, noted that the female actively assisted the young to hatch. His photographs show the female nibbling away the fragments of shell and removing shreds of the membranes. Bühler's owls swallowed the smaller fragments and either left the larger pieces at the edge of the nest or, holding them in one talon, broke them up and ate them piecemeal. Unfortunately, neither of us has witnessed hatching, but circumstantial evidence indicates that eggshell disposal by wild individuals of the race *alba* is essentially the same as that observed by Bühler. Normally, shells are merely pushed into the corner of the nest cavity or to the periphery of the nest hollow. Once, however, ABW saw a male Barn Owl leave the nest with what appeared to be a piece of shell in his bill; and Trollope (1971) recorded a captive male removing eggshells and broken eggs. At one nest that we studied, the

shells were simply dropped from the nest entrance and were littered almost immediately beneath the nest itself, conspicuously advertising its presence. At a nest in a metal trunk, studied by DSB, shells were removed or eaten. Infertile eggs usually remain in the nest until they are broken by the movements of the young or buried in the accumulating debris; in three cases, an unhatched egg was found intact in the nest after the owlets had flown.

Post-hatching behaviour

Appendix 1 summarises the progress of the developing young and the behaviour of young and adults. The young hatch at two- or, less commonly, three-day intervals, according to when the eggs were laid. They are about 5 cm long, markedly pot-bellied and large-headed, the closed eyes making bulbous lumps on the sides of the head; the bill is ivory with a pinkish suffusion at the base; the upperparts are covered with short greyish-white down, the belly is sparsely covered, and the sides of the neck have bare patches. Especially when left by the female, the owlets chitter; they also snore faintly. It appears that the ability of the unhatched chicks to call from the egg has a survival value for the first hatched, for ABW observed that, when two owlets, one and three days old, were accidentally knocked from the nest by the departing female, they were able to find their way back, albeit laboriously, apparently by homing in on the calls from one of the eggs, in answer to their chittering, from a distance of about 23 cm.

After the young have hatched, the female becomes very attentive, continually using the fast, chattering note to stimulate the young to beg. They do not gape, but take food readily from her when she dangles strips of meat that touch the bristles around the base of their bills. When feeding small young, the female raises herself slightly from the brooding position and straddles them. Feeding sessions can be very long: one female took 70 minutes to dispose of a single common shrew *Sorex araneus*. It may be significant that one female stopped her incessant snoring after the owlets had hatched, calling only as the male approached, possibly because the calls of the young are adequate to stimulate the male to bring in food.

During the first fortnight, the female eats any faeces in the immediate nest area, but after this, when brooding ceases, the owlets back out of the nest until either they reach the outer rim of the nest hollow or their rear ends touch an obstruction; they then wave their tails in the air and defecate. When they are too young to move to the edge of the nest, they waggle their tail stumps before defecating; this alerts the female, who then cleans up the droppings.

The 16th day marks an important stage in the life of a young Barn Owl. At about this time, it develops its long, dense second down (mesoptile plumage), so that it no longer relies on the female for warmth. This down is pure white, not creamy-buff as stated by Witherby *et al.* (1940) and Fisher (1951). The owlet can also now swallow whole the common prey species such as short-tailed voles *Microtus agrestis* and common shrews. Consequently, when the youngest has reached this age, the female is able

to leave all the owlets to themselves. Interestingly, one male Barn Owl which brought in a large prey item (a juvenile Starling *Sturnus vulgaris*) made no attempt to dismember it for the young; they were unable to do this themselves and had to await the next visit of the female before they could feed, although one, aged 22 days, vainly tried to swallow it whole. Males probably lack the instinct to dismember prey for the young, although they will decapitate and partially pluck birds.

The female's brooding drive wanes over a period of a few days. During half an hour's vigil at one nest, when the oldest of the five owlets was 17 days and the youngest five days, the female stood over them most of the time. Five days later, on returning, she stood near the nest watching the young for about five minutes, then attempted to brood by walking backwards on to them. Two or three of the family, however, were much too big and she eventually crouched down by the side of them, so that the younger ones could have crept beneath her if they needed warmth; the two largest owlets were standing upright on either side of her. In addition, she left the nest at the slightest suspicious sound. When the oldest and youngest were 25 and 13 days old, the female simply stood by them, feathers fluffed up and wings drooping a little. Four days later, she visited the young only to feed them. The factor controlling the female's brooding drive may be the age of the youngest owlet rather than that of the oldest: she tends to remain at the nest until the youngest is at least ten days old.

The extent to which the now liberated female helps the male to feed the young varies individually, but all females, and to a lesser degree males, develop a tendency to roost away from the nest in a different part of the territory when the owlets near fledging age. This may be to escape harassment by the young, since the parents clearly dislike being approached by begging owlets and fly away at high speed, the male often screeching loudly. Before this stage, when the parents are bringing food to the young in the nest, it is possible to recognise the sexes by the fact that the male approaches with twittering chirrups, whereas the female snores or approaches silently.

A conspicuous feature of the behaviour of young Barn Owls is their noisy greeting ceremonies. The stationary bird behaves as if it is about to be fed, crouching with upturned facial disc, while the approaching owlet extends its beak towards that of the other, as if passing food. The action then develops into bill-fencing and cheek-rubbing, similar to that of adults in courtship. ABW believes that these displays represent a form of ritualised feeding which serves as an appeasement gesture and helps to reduce aggression between members of the brood. Rarely, the older owlets will actually feed the younger ones. In 1971, a 58-day-old chick, the second oldest of a brood of four, was seen to feed the youngest, aged 52 days, after receiving a vole from the female; and in the same year E. Soothill and G. Yates (*in litt.*) observed a family of five in which the youngest, a runt which was not old enough to leave the nest, was fed regularly, first by the two oldest owlets, when they received food from their parents nearby, and then, when these owlets began to spend more time away from the building, by the other two members of the brood.

It is not uncommon for owlets to fall out of the nest when wing-flapping or clamouring for food, but they are remarkably skilful at climbing back, guided by the calls of the rest of the family, by using the sharp claws, the beak and the wings. If they fail, they are ignored by the adults and die of starvation.

The fledged young are positively sociable, although squabbles do occur from time to time during feeds, particularly if the young are extremely hungry. An owlet with prey, if approached by another, will immediately mantle the food with its wings. During the later stages, many adults become hesitant to pass food to the young because of the rough reception they receive: DSB once saw four owlets and the male parent tumble to the ground in a heap when the latter attempted to hand over food in the window where the young were waiting. When several owlets are lined up in this way, the sight of an adult returning with prey causes tremendous excitement. First, the owlet crouches down and stretches out its wings horizontally, turning its facial disc upwards and weaving it from side to side; then, just before the arrival of the adult, it vibrates its wings. Significantly, in this display the wings are supinated to show the white undersides (plate 59), whereas in a somewhat similar threat display they are pronated to show the upperside and are held rigid.

The main call of the young after the first few days is the snore, which has a variety of functions. The owlets apparently become accustomed to the main hunting times of their parents, for snoring as a food call starts just before the beginning of the evening activity and becomes desultory throughout the quieter periods. Nevertheless, the snoring does not have a strong, short-term, stimulative effect on the adult, which would cause it to fly off to hunt whenever it was uttered, but it exerts a weaker stimulus, without immediate effect, which maintains the parents' drive to forage

59. Begging-display of two ten-week-old Barn Owls *Tyto alba* as they see the male approaching with prey, Yorkshire (now Lancashire), September 1965 (W. Palfrey)



for the young: the male sometimes starts to hunt before snoring begins, and may finish while the owlets are still calling lustily. It is comparatively rare for all the owlets to snore loudly at the same time; usually one, or perhaps two, make most of the noise. When the older young first venture from the nest, they inevitably lose themselves, but always manage to find their way back, apparently by homing in on the snores of the young still in the nest. When they start to explore away from the nest site, the snore is then employed as a contact call as they follow each other about. The youngest member of the brood is usually slow to reach independence and to leave the vicinity of the nest; its persistent snoring very probably serves to allay the latent aggression of the adults: at a barn where the female had become intolerant of them, owlets were seen to avert an attack on a number of occasions by begging and snoring loudly.

If the food supply is particularly abundant, Barn Owls often lay again. This is preceded by a bout of energetic courtship. We found three instances in which second clutches were produced just after the fledging of the first brood, in two cases in the same nest. The second brood is, therefore, fledged very late in the year, when the chances of survival of the owlets are likely to be slender. More usually, although many pairs seem to indulge in this revival of courtship behaviour about the seventh week after the hatching of the first egg, it subsides again without a second clutch being produced. Many so-called second broods are probably only replacement clutches, for the female will frequently lay again later in the summer if the first nest fails.

The younger owlets, although slower to reach independence, tend to be enticed from the nest at a slightly earlier age by the activities of the older ones. After fledging, at between seven and eight weeks, the owlets gradually teach themselves to catch prey while still being supported by their parents. After approximately three weeks, they either leave the territory of their own accord or are tolerated for a further week or two before being driven away by one of the adults. At this stage, owlets have been noted to become overtly nervous in their parents' presence. Once the adults have ceased to feed the young, they go into heavy moult and the female stops snoring. Until the following March, she greets the male mainly with squeaking notes, although she will take part in territorial screeching duets at dusk.

The asynchronous hatching of the eggs of most birds of prey is generally regarded as being of survival value, since the food supply is likely to be uncertain: in the event of shortage the stronger members of the brood will survive at the expense of the weaker. We noted, however, that, in several cases, one of the oldest succumbed while the youngest and weakest survived. In one instance, when the owlets were virtually equal in size and almost fully grown, a 50-day-old chick was killed and eaten by its two nest-mates, aged 56 and 54 days.

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and corresponded with us, but we wish to acknowledge in particular the help given to us by Derick Scott, who has allowed us to draw freely from his voluminous notes on the species. Valuable help in the field was given by the late H. Clarke and R. D. S. Wilson.

Summary

Between 1963 and 1972, a study of the Barn Owl *Tyto alba* was undertaken in northwest England, involving a total of 28 nests. Both sexes breed in their first year. Breeding behaviour starts in early March and involves more frequent screeching; snoring; food presentation; copulation; mutual preening; 'in-and-out flights'; the visiting of likely future nest sites; and, rarely, a hovering display with wing-clapping. The incubation period lasts for 30-31 days, during which time the female seldom leaves the nest; the male probably takes no part in incubation. Before hatching, chicks call from the egg; this may have a survival value for those already hatched. The progress of the young, and the behaviour of young and adults, are described. One case of cannibalism is recorded.

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Appendix 1. Development of a young Barn Owl

This brief, week-by-week summary describes the oldest, and normally the most precocious, of the brood. It is biased towards fast development, taking the earliest recorded age for the acquirement of each characteristic, and is, therefore, accurate for those broods which are well supplied with food.

Week 1 Chittering is main call, but snores lustily when hungry by 5th day. Huddles against eggs or other owlets. Cannot lift head for long and grows fairly slowly.

Week 2 Voice strengthens. Will hiss when disturbed, giving feeble tongue-clicks. Can hold up head indefinitely. Eyes opened for short periods; pupils have blue, blind-looking appearance. Sheds egg-tooth. Second down begins to show. Moves freely around nest.

Week 3 Stands upright. Can swallow small voles whole. Second down covers all body except stomach. Eyes fully open when awake. Facial disc begins to show. Primary quills about 2.5 cm long. Snatches food from adult and will give weak defensive display.

Week 4 Facial disc more pronounced. Eyes turning brown. Primary quills and tail feathers start to unfurl. Claws begin to lengthen. One attempt at warning or mobbing scream recorded.

Week 5 Comes to edge of nest to look around. Flaps wings when receiving prey, which it eats immediately; can pull prey to pieces. Peers about with exaggerated head movements; stretches and flaps wings. Facial disc well developed, body feathers growing rapidly, primaries about 7.5 cm long. May leave nest between feeds and wander about, running and jumping. When examined, will roll over, striking with feet. Female no longer stays at nest.

Week 6 Feathers appear on back of head; primaries unfurled for almost full length, secondaries for half length; last 12 mm of tail feathers unfurled; feathers appear on back of tarsus. Facial disc more rounded. May run from nest when examined. Snores often and for long periods. Sometimes tongue-clicks when fed.

Week 7 Primaries about 12.5 cm long. Facial disc white and rounded. Tail extends beyond primaries. When

examined, may give defensive display with loud sustained hisses, roll on back and strike effectively with talons. First mutual preening.

Week 8 Mutual preening increases. First 'play' pounce recorded and first short flight. Starts to roost away from nest, but remains in nest area. May leave building for first time.

Week 9 Still traces of down on lower body, but much resembles adult. 'Plays', pouncing and rushing at inanimate objects. Leaves building at dusk to explore, and sometimes flies towards incoming adults for food. Flies perfectly (63rd day). Adults, particularly female, much inclined to roost away from nest building.

Week 10 First serious pounce recorded.

Roams farther afield. May chase adults for food. Spends long periods alone, away from nest site. Female parent may lay again.

Week 11 First capture recorded. Still roosts near nest, but is often ignored by adult bringing food. May leave parental territory.

Week 12 When hunting or exploring, does not snore often, so more likely to make capture. May roost away from building.

Week 13 Aggression increases. Now independent and no longer receives much food from adult.

Week 14 Last feed by adults recorded.

Week 15 Aggression by adults finally drives off any owlets still in area. Almost perfect screech recorded from young.

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Personalities

6 I. J. Ferguson-Lees

Born in Italy and educated at Bedford, but proud of his Scottish ancestry, James Ferguson-Lees started a career as a schoolmaster, but then joined the editorial board of *British Birds* 25 years ago this month, at the age of 23; for 18½ of those years, until January 1973, he was executive editor. His must be one of the best-known and respected names in ornithology. He has served on the councils of most of the national ornithological societies in Britain and on many committees, often as chairman (in which capacity he has the reputation of taking firm command). During 1968-72, he was president of the British Trust for Ornithology, initiating the successful working conference of European ornithologists at Tring, Hertfordshire, in December 1971 (see *Auspicium*: supplement, June 1973), guiding the execution and production of *The Atlas of Breeding Birds in Britain and Ireland* (1976) from start to finish in his capacity as chairman of the Atlas Working Group, and firmly welding the Trust's professional staff and mainly amateur council and committees into a single team. He received the BTO's highest award, the Bernard Tucker Medal, in December 1976.

James has been much concerned with the international aspects of ornithology and with the conservation movement in Britain, at both local and national levels. In 1973, he gave up the executive editorship of *British Birds* to become deputy director (conservation) of the Royal Society for the Protection of Birds. After just over two years, however, he decided to devote his time to freelance work. He is currently working as general editor

and ornithological author of a series of books on the natural history of northern Europe. He has also been intimately involved, either in the planning or as co-editor, co-author or compiler, with the first volume of *The Birds of the Western Palearctic* (in press), *The Status of Birds in Britain and Ireland* (1971), the second and third editions of *A Field Guide to the Birds of Britain and Europe* (1965, 1974), *A Guide to Bird-watching in Europe* (1975), a forthcoming revised edition of *The Hamlyn Guide to Birds of Britain and Europe*, and *A Field Guide to Birds' Nests* (1972). This last reflects an interest in nest-finding dating from his early birdwatching in Sussex with the late John Walpole-Bond, from whom he learned much but never caught the egg-collecting habit; indeed, James's confidentiality has long been respected and he has been a member of the Rare Breeding Birds Panel since its inception. The formation of the Rarities Committee was largely at his instigation and, although no longer a voting member, he has missed only one of its annual meetings in the 19 years since it began. Apart from one short break, he has been a member since 1960 of the complementary Records Committee of the British Ornithologists' Union, which maintains the British list, and has been its chairman since 1970.

As well as all this (and much remains unmentioned) he regularly

60. I. J. Ferguson-Lees (*Eric Hosking*)



leads ornithological tours abroad, one of his favourite countries being Morocco, which he has now visited four times. He was a member of the expeditions to Spain, Bulgaria and Jordan described by Guy Mountfort in *Portrait of a Wilderness* (1958), *Portrait of a River* (1962) and *Portrait of a Desert* (1965); he has also visited Finland, Russia, the United States, Ethiopia, the Gambia and many of the countries in-between: his favourite continent is Africa, and his favourite habitats are bush and desert. He has always been interested in migration, and his expeditions with Dr C. H. Fry and others to the Nigerian part of Lake Chad led to important papers on fat deposition in migrants preparing to cross the Sahara.

James is one of Britain's foremost field ornithologists and, few would dispute, our most skilled living ornithological editor (he says that he owes much to his predecessor, the late B. W. Tucker); he has had a strong influence on British and European ornithology. But what is James really like?

He avoids personal publicity: he cut himself out of a photograph in *British Birds* (compare plate 54b in vol. 53 with plate VIa in *Portrait of a River*) and often prefers not to be mentioned in the acknowledgements to a paper, even when he has made a major contribution. His work is always meticulous: so carefully researched, checked and double-checked that it is often delayed, to the annoyance of those who do not appreciate the reason. Ever since I have known him, he has also regularly taken responsibility for more projects than can humanly be carried out simultaneously; yet he will never allow himself to drop his standards. He works permanently under great pressure and, for that reason, is always impatient at unnecessary delays: time is precious to him. In the field, however, he will patiently wait for a bird to return to its nest or will painstakingly search a hedgerow, finding nests that most observers would overlook. Between interesting habitats, however, or in the town and city streets that he hates, his walking pace nears Olympic standards, or so it seems. Although ten years a grandfather, he still enjoys climbing trees and rocks, and wading through marshes.

The care that he takes with the written word is equalled in the field: he and I have spent many hours together, particularly on *Atlas* fieldwork in Bedfordshire and Caithness, and on the Common Birds Census that we regularly do each spring and summer, but I have never known a single misidentification (not even the momentary lapse to which we lesser mortals must occasionally admit); and his knowledge is encyclopedic. He has recently become much more interested in the whole spectrum of natural history; but, even 27 years ago, the Royal Horticultural Society awarded the Lawrence Medal, for the best exhibit of any kind in 1950, to him and the late F. M. Wyatt, for an exhibition of the fruiting branches of conifers.

Away from natural history, James relaxes in a new-found hobby of gardening, in doing crossword puzzles, and, with his wife Karen, in playing bridge and watching what he terms 'rubbish' on television; Karen also helps him with his work. James is one of the most competent car drivers that I know, but is a nervous passenger: as in other fields, he

prefers the job that he does himself. I have never known him to lose his temper, and only once to lose his usual calm; but he is often apparently aloof, a sign that his mind is on the current or a forthcoming project. He is not an easy man to know or understand, but his companionship is rewarding, educational and enjoyable. It says much, I think, that he greatly values his high-powered prismatic telescope mounted on a tripod mainly because it enables him to show to his companions birds that they might not otherwise see.

J. T. R. SHARROCK

Mystery photographs

6 The short bill, the shape of the body, the set of the legs and, above all, the square-headed look of the bird in plate 53 (page 217) make one think immediately of a golden plover *Pluvialis*, but the feather patterns are all wrong for that genus. Instead of notched margins (creating a spangled appearance), the bird shows wide, crescentic pale fringes on the larger, longer feathers, reduced to an intricate mottling on the mantle and crown. Could it be a young Dotterel *Eudromias morinellus*? Certainly the clear supercilium suggests so, but the chest is poorly marked, while the lack of tubbiness, the obvious clarity of the underparts and the long wing points also do not fit.

It has to be an even rarer plover, but which? Scaled against the short grass, it is obviously not more than medium-sized and so the choice is probably between one of the two sandpipers *Charadrius leschenaultii* and *C. mongolus* or that vagrant from Asiatic steppes, the Caspian Plover *C. asiaticus*. In fact, the pattern of the upperparts is compatible only with the latter, since even first-autumn sandpipers have almost uniform

61. Mystery photograph 7.
What is this species?
Answer next month



backs and wings. Other points of distinction are the fineness of the bill (bulbous in *Pluvialis* and *C. leschenaultii*), the characteristically erect carriage (with head and chest held up, and backline long and sloping) and, if the bird were suddenly to run off the page, the extraordinary 'bicycling' gait of a species adapted to covering long distances in pursuit of ground prey.

Sadly, the charming Caspian Plover is a very rare vagrant to western Europe. The only record in Britain and Ireland refers to two, one shot and another seen, near Great Yarmouth, Norfolk, on 22nd May 1890; others have occurred in West Germany (Heligoland), Italy and Bulgaria.

This bird, in fresh, first-autumn plumage, was photographed by J. F. Reynolds in Kenya in early September 1973; it is in the bare, heavily grazed, upland savannah of east and central Africa that most of the world population winters. Small parties may reach farther west in Africa and the cut grass of Jos airport, Nigeria, produced the only two that I have seen.

DIMW

Notes

Cormorant killed by dog On 5th October 1975, in St Mary's Harbour, Isles of Scilly, a Cormorant *Phalacrocorax carbo* was fishing in shallow water 2-3 m from the edge. Suddenly, a medium-sized dog ran down the beach and into the sea, barking loudly. The Cormorant attempted to take off, but the dog caught it by the tail and dragged it out on to the mud, swinging it round and throwing it well clear of the water. The Cormorant turned and faced its captor, but, despite considerable aggression, was eventually seized around the belly and quickly killed.

R. A. HUME

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Red-legged Partridges attracted by music In March 1976, while attempting to photograph Red-legged Partridges *Alectoris rufa* from a car at Grainthorpe, Lincolnshire, I found that these birds were affected to a remarkable extent by music from the car radio. Although a close approach was frequently possible, most started to run away as soon as I switched off the car engine. When I then experimented by leaving the car radio on, so that the change in noise level was less noticeable, I was able to photograph several partridges feeding normally. To my surprise, however, some seemed attracted by the 'pop' records being played and, on two separate days, one particular individual approached closely and stood listening intently under the open car window for about ten minutes. Others sang in accompaniment to the records, with a subdued, twittering warble. The rarer Partridges *Perdix perdix* were less approachable and seemed completely unaffected by the music.

KEITH ATKIN

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62, 63 and 64. Above and below left, Red-legged Partridge *Alectoris rufa* listening to music from car radio. Below right, singing with subdued twittering warble in accompaniment to records of 'pop' music from car radio. Lincolnshire. March 1976 (Keith Atkin)



Mistle Thrush incubating after nest and egg independently moved In early May 1975, a pair of Mistle Thrushes *Turdus viscivorus* built a nest at a height of 8 m in the metal gutter of an old barn at North-



65. Barn and dovecote. Nest of Mistle Thrush *Turdus viscivorus* built in gutter (top of picture); moved down to top of dovecote after flooding; thrush resumed incubating (Christine A. Martin)

lew Manor, near Okehampton, Devon. On 8th, after heavy overnight rain, the gutter was flooded and the nest full of water. I wrung out the nest and placed it in the rear corner of the roof of an old square dovecote, about 45 cm below the original site (plate 65). At 16.00 GMT the following day, I found one egg in the gutter where the nest had been; I moved this down into the nest, but by 21.00 hours the adult thrush had still not returned. At 09.00 hours on 10th, however, the Mistle Thrush was on the nest, and was never seen to leave it during 11th-16th May. Unfortunately, I later found the nest empty.

CHRISTINE A. MARTIN

Northlew Manor, near Okehampton, Devon EX20 3PP

Blackbird using tool During a light fall of snow in winter 1975/76, I looked out of the window of my lounge at Diptford, Devon, and noticed a male Blackbird *Turdus merula* behaving in an odd way. I stood and watched his antics for some time before it occurred to me exactly what he was doing: there was a slightly forked twig about 8 cm long in his bill and he was using this to clear the snow away from a patch of soil under the hedge overhanging my roekery, by making flicking, sideways movements with his head and using the twig like a brush. When enough space had been cleared, the Blackbird started searching for food.

After the Blackbird had flown away, I went into the garden to inspect the patch of cleared snow; it had an area of about 900 cm². The depth of snow on the ground was no more than 4-5 cm. My observations were made without binoculars, but at a range of only 4¼ m. MARY W. PRIDDEY
Butterdon Banks, Diptford, near Totnes, Devon

We showed this note to Jeffery Boswall, who commented as follows: 'Mrs Priddey's note at once brought to mind a similar piece of behaviour by another member of the genus *Turdus*. Eloise F. Potter (1970, *Auk* 87: 692-713), while studying the anting behaviour of wild birds, saw a juvenile American Robin *T. migratorius* which held a twig in its beak and swept the leaf-littered ground by rotating its head through 180°. The bird repeated this apparently successful attempt to locate more ants in the leaf litter several times with the same twig, thus eliminating the possibility of chance behaviour.

In reviewing a paper on the tool-using behaviour of the Galapagos Woodpecker Finch *Cactospiza pallida*, Dr K. E. L. Simmons (1968, *Ibis* 110: 586) wrote, "As tool-using of the sort described in this paper is unknown from birds outside the Geospizinae, the reviewer feels constrained to mention a reliable report recently brought to his attention of such behaviour in a wild Blue Tit *Parus caeruleus*; it is to be hoped that this record will be made generally available soon." So far as is known, the record has not been published. The details were told to Dr Simmons at an ornithological meeting; he forgets by whom, but does recall that the record was well documented. One Blue Tit was concerned; it used items such as pine needles to extract food. We should like to trace this record. By a coincidence, Mrs Margaret Coombes wrote to the BBC concerning a Blue Tit which she saw using a tool to obtain food at Barry, South Glamorgan, at about noon on 17th February 1974. I spoke with Mrs Coombes on the telephone to gain additional details: when the tit alighted on the nut hopper in her garden, it had a twig about 2 cm long in its bill. It pushed this through the mesh and among the nuts, persisting for about three minutes until a nut fell through, when it dropped the twig, picked up the nut and flew off.

'A. Landsborough Thomson (1964, *A New Dictionary of Birds*) considered the behaviour of the Woodpecker Finch to be the only fully authenticated instance of tool-using by a bird. Since 1964, however, a number of other wild species have been shown to wield some external object as an implement, including the Egyptian Vulture *Neophron percnopterus*, the Brown-headed Nuthatch *Sitta pusilla*, the Double-crested Cormorant *Phalacrocorax auritus*, the White-winged Chough *Corocorax melanoramphus*, the New Caledonian Crow *Corvus moneduloides*, and another of "Darwin's finches", the Mangrove Finch *C. heliobates*. Among species seen to use tools in captivity are the Bald Eagle *Haliaeetus leucocephalus*, the Striped Owl *Rhinoptynx clamator*, the Blue Jay *Cyanocitta cristata*, and several members of the parrot family (Psittacidae).' Eds

Parula Warbler in Cornwall On the afternoon of 26th November 1967, N. J. Phillips and I discovered a small, brightly coloured warbler at Hain Walk, near St Ives, Cornwall. Notes taken at the time strongly suggested that it was a Parula Warbler *Parula americana*, and this identification was confirmed later by reference to our American literature. The warbler's movements and feeding habits were far quicker than those of the familiar *Phylloscopus* warblers and, indeed, it was this restless behaviour that first attracted our attention. It spent most of the time near the tree-tops, which were approximately 40 m high; only once did it drop down, to within 6 m of the ground. On a few occasions, we saw it catch very small flying insects. After about 40 minutes, it was lost to view among the tall trees and was never re-located. We noted the following details:

size very similar to Chiffchaff *P. collybita*.
 head and nape brownish-grey, with conspicuous white eye-ring. Wings blue-grey, with two white wing-bars, one longer and

far more conspicuous than the other. Chin, throat and breast bright yellow, very conspicuous when viewed from below; a thin dark line could just be distinguished

across the breast. Belly and undertail-coverts completely unstreaked, clear white. Tail short and slightly forked. Bill and legs looked dark, but all views were against

the light; bill weak. Call heard on only one or two occasions, a soft 'weet'. In our excitement, neither of us noticed the back colour.

This was only the second record of a Parula Warbler in Britain and Ireland, the first being one year earlier, on Tresco, Isles of Scilly, on 16th-17th October 1966 (*Brit. Birds* 63: 149-151). There was another in 1968, at Portland Bill, Dorset, on 9th October (*Brit. Birds* 62: 486), making three in three years, but none since. The only other European record was one in Iceland in October 1913.

L. P. WILLIAMS

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Reviews

Les Oiseaux du Zaïre. By Léon Lippens and Henri Wille. Editions Lannoo, Tielt. 512 pages; 570 colour photographs; 1,086 maps. Belg. Fr. 3,000.

This massive and magnificent volume was inspired and financed by General Mobutu, President of Zaïre, as a key part of his plans to safeguard the rich national heritage of his country. He aims to add other reserves to the existing array of national parks in Zaïre to bring the total safeguarded to some 10% of the area of this large, diverse country with its exciting wildlife, and he has seized on the vital fact that, without the support of public opinion, protective measures are of limited value. So he entrusted to two distinguished Belgian ornithologists, Comte Lippens and H. Wille, the task of preparing a guide to the birds of Zaïre, which would be fully authoritative as well as attractive, since, as he says in his introduction, 'We can only protect what we love, and we can love only what we understand.'

Both authors had had previous experience of Zaïre, but an essential part of the preparation for the book was a special expedition which covered large areas of the country in 1973-74 to study and photograph birds and habitats. The expedition, financed by the President, consisted of three Belgians and four citizens of Zaïre; they took pictures of many birds in the wild, while others were mist-netted and then photographed against natural backgrounds. These 570 colour photographs by H. Lehaen, covering 298 species, many never photographed before, are an essential part of the beauty and appeal of the book. The text, however, is no less important. Each of the 1,056 species found in Zaïre (which has the richest avifauna in Africa) is mentioned, briefly for migrants and accidental visitors, but more fully for all others. The accounts cover status in Zaïre, habits, voice and the more important observations made on the expedition. For every species, there is a map showing its world distribution; there is also a list of the birds of Zaïre, giving the number of localities in the four main regions of the country where each species has been recorded, and a table which compares the numbers of species in each family for the

eight countries of central Africa. This book is designed and produced with unusual elegance and, thus, is an attractive as well as essential acquisition for the student of African birds. STANLEY CRAMP

World Conference on Birds of Prey, Report of Proceedings, Vienna 1975. Edited by R. D. Chancellor. Published by the International Council for Bird Preservation, 1977. 422 pages; many tables, figures and maps. £5.50.

This is a wholly absorbing report, since it includes, in addition to the customary meat of such a conference, a feast of original observation and some little known, or perhaps previously unknown, facts and factors relating to birds of prey. After Caen in 1964, when a European conference resulted directly in much-needed legislation in Belgium, Spain, France and Italy, has come Vienna in 1975. Again organised by ICBP, but this time supported by many international bodies, including the Council of Europe, this was the first world event on the subject: there was an attendance from 19 countries. One can only hope, most profoundly, that at least some of the 24 resolutions which emerged will be translated, not just into wordly and pious-sounding statements, but into really effective, enforceable—and enforced—laws and regulations.

Sensibly, after the obligatory formal addresses, the organisers opened with general statements designed to reduce the ambivalence which enshrouds shooting and falconry. The views of 'ornithologists and conservationists', 'hunters' and 'falconers' were the prelude to the first session, which reported on status in Europe (including the USSR, where a Red Data Book is being compiled), North America, East Africa and Ethiopia, South Africa, Greenland, the Indian Ocean islands, and Surinam, the sole South American representative. How depressing to learn from Dr Leslie Brown, in his, as always, detailed and astute reporting from East Africa, of the blessings (*sic*) of formal education replacing the old bush lore with its tolerance of birds of prey. I only wish that I could share his optimism about reversing this trend, for I fear that a little recognised by-product of African development, in the north and west coastal areas particularly, will be increased shooting and poisoning of migrating raptors. On the other hand, how encouraging to read of much-improved attitudes in many European countries, including Spain.

The second session dealt with research (some exceptionally interesting items), protective measures and management, and captive breeding. Finally, came the identification of the main problems, a worthy discussion on future action, and the resolutions.

I am left with two vivid impressions after finishing this well-edited report. The first is the dedication of those who labour on in the most unpromising situations of hostility and apathy; how much easier the tasks of those in, say, the United Kingdom or the Netherlands, where there is a sympathetic public, than in Italy (where more than 80,000 raptors, including 1,000 Ospreys, are killed annually), Malta or Greece. The second is that, while great strides are clearly being made in education, pesticide control and so on to relieve the short- and mid-term pressures,

the real issue continues to be the irreplaceable destruction of biotopes—the wetlands and forests—and, not least, the degrading of wild areas by ever more intrusive, noisy and often irresponsible human beings. On this front, there is indeed little to cheer us.

DEREK BARBER

Letters

Pheasants swimming Roger Mitchell's 1960 observation of a male Pheasant *Phasianus colchicus* swimming (*Brit. Birds* 70: 120) recalls a similar event in 1952 concerning a female Pheasant, noted by P. J. Chadwick and me (*Brit. Birds* 46: 375).

BERNARD KING

Gull Cry, 9 Park Road, Newlyn, Penzance, Cornwall

With reference to the note on a Pheasant swimming (*Brit. Birds* 70: 120), I should like to draw attention to one of the late Professor M. F. M. Meiklejohn's happy notes in the *Edinburgh Bird Bulletin* (3: 12). I quote this in full and believe that *British Birds* readers will relish the authentic MFMM flavour of the final sentence:

'PHEASANT AT SEA On 5th October 1952, about two miles south of Dunbar, I noticed a hen Pheasant sitting out at sea on a small isolated rock which was half awash. Between it and the shore were about a quarter of a mile of rock and rock pools, as well as 20 yards of open water. Presently a wave washed it into the sea and, after floating for a second or two, it took off from the surface and flew successfully to land. This is probably the only known case of a Pheasant doing something interesting.'

DOUGAL G. ANDREW

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Black-headed Gulls foot-paddling on grassland In a recent note (*Brit. Birds* 69: 180-181), Bernard King concluded that Black-headed Gulls *Larus ridibundus* have yet to be seen foot-paddling on grassland, which accorded with Dr N. Tinbergen's statement (*Brit. Birds* 55: 117-120) that 'Black-headed Gulls do not seem to apply paddling at all when catching earthworms . . . it is just possible that they are not heavy enough.'

In the Netherlands, foot-paddling by Black-headed Gulls on damp grassland is common behaviour. In the years following Dr Tinbergen's publication, H. Bresser and I paid special attention to foot-paddling by gulls on the damp meadows around Amsterdam and came to the conclusion that, from October to April, this technique is commonly used by both Black-headed and Common Gulls *L. canus* to catch earthworms (*De Levende Natuur* 68: 201-205). On several occasions, tapping with our fingers on the ground brought earthworms to the surface. These all belonged to the genus *Lumbricus*, in accordance with Mr King's observations.

JOH. J. FRIESWIJK

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The function of mobbing Mobbing is a well-known phenomenon in which a number of birds, often of different species, unite to make an

outcry when they detect a predator, or some other strange or sick bird; the behaviour tends to be most conspicuous when young birds leave the nest. Two obvious functions are to warn potential victims to lie low, while at the same time distracting the predator. The occurrence of mobbing has been widely used in ethological studies as a test of predator-recognition (Curio 1963, Galloway 1972), without much consideration of its function. Simmons (1952) has suggested that it arises as a result of a conflict between tendencies to attack and flee, Hinde (1954) that curiosity may also be involved, Marler (1956) that it may help indicate areas to avoid, and Kruuk (1976) that it is a means of communicating past bad experience. There appears to be a deficiency of accounts of the outcome of natural incidents, and at least one additional function is not mentioned in a review of animal defence mechanisms by Edmunds (1974). It may therefore be useful to describe what happens in nature.

During the fine, sunny afternoon of 29th June 1975, I was walking through a natural wood of Scots pines *Pinus sylvestris* in Glentanar, Grampian, when my attention was attracted by a distant clamour from at least six Chaffinches *Fringilla coelebs*, and a pair each of Willow Warblers *Phylloscopus trochilus*, Coal Tits *Parus ater* and Treecreepers *Certhia familiaris*. Closer inspection revealed that the birds were hopping about agitatedly and approaching within 30 cm of the tail of an adder *Vipera berus* projecting from behind the piece of dead bark covering the Treecreepers' nest, 1 m above the ground on the bole of a pine tree. The snake had already swallowed one fledgling and killed two more when I intervened and allowed at least one more to escape. The birds took no notice of me until then, when they all departed, except the Treecreepers, which continued to express anxiety less obtrusively. I would never have found the snake if the birds had not directed my attention to it, and I doubt if they could have got rid of it in any other way. Doubtless any other predator, such as a bird of prey, would have been similarly attracted.

The function of the classical hue and cry was to embarrass a human malefactor and secure his apprehension by the first person strong enough. In the present case, it seemed unnecessary to warn other birds to lie low, and the snake did not appear in the least distracted, while the curiosity of most of the birds should soon have been satisfied: the birds were making a remarkable fuss if they were merely the prey of conflicting emotions. While it may have been advantageous for them to point out that snakes eat fledglings, this hardly required a racket that attracted my attention several hundred metres away. Usually, when birds express anxiety, they tend to use softer, more ventriloquial notes which render their authors hard to locate (Marler 1957). It seems likely that the outcry under discussion, like that of a captive, was made with the deliberate purpose of attracting a second predator capable of putting an end to the first predator's activities. It seems possible that the discordant bird-calls used by hunters may sometimes also act in the same way, attracting either birds anxious to join in a mobbing, or predators in search of its object.

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Relation between mobbing and honey-guiding Support for the hue and cry function of mobbing suggested by Dr Bourne (see above) comes from an unexpected quarter, namely the guiding behaviour of some African honey-guides, particularly the Black-throated Honey-guide *Indicator indicator*, which was discussed at length by Friedmann (1955). The honey-guide attracts the attention of a person, a honey badger or ratel *Mellivora capensis*, a baboon (*Cercopithecidae*) or a mongoose (*Viverridae*) by flying back and forth within 5-15 m of it, or perching restlessly with wings arched and ruffled and tail fanned, calling continuously with churring and scolding notes. If followed, the honey-guide, still calling constantly, makes short, dipping flights from tree to tree, the tail fanned conspicuously, showing the white outer feathers, towards a goal up to 1 km away, which nearly always proves to be a nest of honeybees *Apis*. As the goal is neared, the bird becomes inconspicuous and perches silently, and, if the bees' nest is torn open for its honey by the follower, the honey-guide reaps its reward by feeding on residual wax, bees and probably honey.

Aspects of guiding behaviour are strongly reminiscent of mobbing. The chattering, restless movements and postural evidence of excitement are alike; other bird species are sometimes attracted to the guide, for instance the Bush-sparrow *Petronia dentata* and the Beautiful Long-tailed Sunbird *Nectarinia pulchella* (my own observations) and the Yellow-rumped Seed-eater *Serinus atrogularis* (Madge and Cunningham-van Someren 1975). Occasionally, guiding seems to lead to a snake, leopard *Panthera pardus*, or other predator; Friedmann dismissed these as accidental distractions from an original bees'-nest goal, but, while I agree, this does not detract from the possibility that guiding behaviour evolved from mobbing, where the mobbing was a hue and cry that effectively enlisted the symbiotic aid of a honey badger or a man.

Friedmann did not explicitly consider such a possibility, but Hoesch (1937) came close to that idea, arguing, from the observation that many species communicate to others the proximity of a dangerous enemy by means of special calls and postures, that honey-guides once regarded bees

as enemies and learned to lead powerful mammals to destroy them, the honeycomb being an incidental bonus. Toschi (1949) made an even closer approach and (to quote Friedmann's translation) thought that guiding 'partook of the same elements as the alarm reactions with which small birds indicate the presence of enemies'. He thought that the honeybee nest was a sufficiently important element in the African avian environment to provoke reactions quite different from those to other sources of food.

Guiding differs from mobbing in being directed at a source of food, not a predator. But the resemblances between the two behaviours are so strong as to indicate their likely phylogenetic affinity and, in so doing, to substantiate the hue and cry theory of mobbing function.

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Status of the Linnet in Shetland Mistaken claims that the Linnet *Acanthis cannabina* bred in Shetland, discussed by P. K. Kinnear (*Brit. Birds* 70: 128), seem to stem from instructions by E. V. Baxter and L. J. Rintoul in 'Notes on the status of birds in Scotland in 1934' (*Scot. Nat.* 1935: 35-36) to change its status from 'occasional visitor, has bred' to 'resident and passage migrant' in their book on *The Geographical Distribution and Status of Birds in Scotland* (1928). There was clearly something wrong, as that book notes the status of the Linnet in Shetland as 'occasional passage migrant'. Perhaps the instruction referred to the Outer Hebrides, the only faunal division in which the Linnet is given the status 'occasional visitor, has bred'. The annual updating of the *Geographical Distribution* was based partly on unpublished records. One may speculate on the original source of this information about the Linnet in Shetland; but I have found no published record.

ANDREW T. MACMILLAN

20 Garscube Terrace, Edinburgh EH12 6BQ

This seems to be a frightening example of the perpetuation of an author's error for several decades. EDS

Request

Corpses of predatory birds To help with research into the effects of some pesticides on predatory birds, scientists at Monks Wood Experimental Station need fresh corpses of the following species: Great Crested Grebe *Podiceps cristatus*, Grey Heron *Ardea cinerea*, Sparrowhawk *Accipiter nisus*, Kestrel *Falco tinnunculus* (and other birds of prey), Barn Owl *Tyto alba* (and other owls) and Kingfisher *Alcedo atthis*. Due to limited resources, other species cannot be examined. Please send specimens, with date, place where found and any other details, by first class letter post to: A. A. Bell, Institute of Terrestrial Ecology, Monks

Wood Experimental Station, Abbots Ripton, Huntingdon PE17 2LS. Postage will be refunded and a report of findings sent to the collector.

News and comment

Peter Conder and M. J. Everett

'The Seas Must Live' Of all the campaigns launched in recent years, the World Wildlife Fund's 1977-78 campaign 'The Seas Must Live', which aims to raise \$10 million, must be the most ambitious. The main programme has been prepared for the WWF by the International Union for the Conservation of Nature and Natural Resources. These two bodies have jointly decided on a strategy of safeguarding the most vulnerable animals, conserving the most precious habitats, stimulating governments and intergovernmental bodies to act on a wider scale, and generating public support for such action.

The launch phase, which ends in June 1977, has been set aside for tackling in three ways the main threats to the life of the seas: conservation of critical habitats; regulation of use; and regulation of competing and other destructive activities. Under each of these sub-programmes, a number of projects is listed, such as the establishment of 'green routes' of effective refuges for the waterfowl of Europe and northwest Africa, the formation of a national park at the Banc d'Arguin in Mauritania, and the improvement of the legal status of the Waddenzee in the Netherlands. Full details of the programmes for birds and for the large number of other marine creatures and habitats can be found in the *IUCN Bulletin* 7: 65-80. The campaign will also include action to see that the proposed international law of the sea takes conservation measures fully into account.

Wetlands campaign The Council of Europe has announced that its campaign for the conservation of wetlands will extend throughout 1977.

Proposed new fishing bye-laws Since the wetlands campaign is to continue, should not the conservation bodies take some concerted action on the proposals to dispense with the close season for freshwater coarse fishing? This plan has been discussed for some time in the angling

press and now the Welsh National Water Development Authority has published its proposals. If the close season were to be abandoned, virtually every river bank or lakeside from which fishing takes place would be disturbed between 14th March and 15th June, the peak period of the breeding season, and the waterside vegetation trampled. In Wales, some individual naturalists' trusts have already lodged protests. But elsewhere a close watch should be kept on the situation: the danger is that each authority will introduce these bye-laws piecemeal.

ICBP World Working Group on Birds of Prey At the World Conference on Birds of Prey in 1975, the World Working Group, under its chairman, Dr R. Fyffe of Canada, reviewed its possible future tasks. Dr Leslie Brown suggested, in the course of discussion, that a list of threatened birds of prey was essential, and has been preparing this on behalf of the group. The Royal Society for the Protection of Birds has been carrying out a survey, based largely on the literature, of the world distribution and status of the Montagu's Harrier *Circus pygargus*, which the conference revealed was in low numbers: a discussion paper is expected shortly. A third project is a programme for the conservation of the Monkey-eating Eagle *Pithecophaga jefferyi* and its habitats.

IOC Canberra Copies of the *Proceedings of the XVI International Ornithological Congress* are now available. Enquiries should be sent to the Australian Academy of Science, PO Box 783, Canberra City, ACT 2601, Australia.

Royal Parks birds in 1975 The latest report by the Committee on Bird Sanctuaries in the Royal Parks has now been published by the Department of the Environment. As always, it makes fascinating reading and will be of special interest to London birdwatchers. Entitled *Bird Life in the Royal Parks, 1975*, it is available from the DoE Shop in Parliament Street,

London SW1, price 25p, or by post (34p) from the DoE, Lafone House, 11 Leathermarket Street, London SE1 3NR.

Short notes HRH Prince Charles has agreed to become the Patron of the Society for the Promotion of Nature Conservation. . . . The British Trust for Ornithology claims that the Roseate Tern *Sterna dougallii* is Britain's most endangered seabird and that garden birds declined seriously as a result of last summer's drought. . . . Did anyone doubt that the RSPB could raise £1 million for land? By Easter, the fund had reached £910,000.

A personal note from Peter Conder I should like to thank Mike Everett for holding this column steady, and even elevating it a degree or two, during my absence in Pakistan; I am pleased to announce that in future he will be joining me as co-author.

My recent trip took me to the Indus flyway, which must be one of the most fascinating bird wintering areas in the world. I spent nearly four months working

with the Sind Wildlife Management Board, funded by a grant from the WWF (International), preparing management plans for five lakes—three of which are Ramsar Convention sites—at the southern end of the Indus flyway, on which thousands of waterfowl winter: the 66-ha Lake Langh, for instance, held 40,000–50,000 ducks. But, in addition to duck, large numbers of cormorants, herons, egrets and rails were present and, with the duck, proved very attractive to a wide range of birds of prey; on one bird of prey 'twitch', four of us found 21 different species in a day. The lakes, and other areas which remained flooded after the heaviest monsoon since 1957, provided wintering places for waders, but their numbers were overshadowed by those on the Indus delta itself. The trees, shrubs and rushes were packed with Palearctic warblers of the genera *Acrocephalus*, *Cettia*, *Hippolais*, *Phylloscopus* and *Sylvia*. The lower Indus is an impressive place for birds . . . and there are some native species too!

Opinions expressed in this feature are not necessarily those of the editors of British Birds

Recent reports

K. Allsopp

These are largely unchecked reports, not authenticated records

This report covers March and the first part of April. Unless otherwise stated, all dates refer to March. During the last few years, warm springs have been few and summer visitors have generally arrived later than average. The cold weather retarding immigration has usually arisen when high pressure in mid Atlantic has brought polar air southwards on its eastern flank. This year was nearly an exception. During the first weeks of March, the wind blew strongly from the south, temperatures were well above average, and migrants began to arrive very early. Hopes of a really early spring were quickly dashed on 20th, however, when the weather reverted to normal; cold northerly winds stopped further immigration until well into April. The variety of species seen during early March was quite remarkable and several earliest records, national and local, were broken.

Passerines

The most numerous species were **Wheat-ears** *Oenanthe oenanthe*, **Chiffchaffs** *Phylloscopus collybita* and **Sand Martins** *Riparia riparia*, all normally early migrants. The first Wheatear reported was at Brandon (Warwickshire) on 27th February and large influxes occurred on 12th and 19th in western areas. Fair Isle (Shetland) reported a pair on 14th and 200 were grounded on the Casquets (Channel Islands) on 20th. Chiffchaffs started appearing from 2nd and were reported in most areas of the country after 11th. Sand Martins were seen in Midland counties from 7th. **Ring Ouzels** *Turdus torquatus* and **Black Redstarts** *Phoenicurus ochruros* were also early, both reaching Fair Isle by the end of March. The following unusually early records are noteworthy: **Swallow** *Hirundo rustica*, several at Clonakilty (Cork)

on 7th, and singles at Dungeness (Kent) on 9th and Hightown (Lancashire) on 20th; **Whinchat** *Saxicola rubetra* on 28th and **Redstart** *Phoenicurus phoenicurus* on 26th, both at Dungeness; **Grasshopper Warbler** *Locustella naevia*, at Venn Ottery Common (Devon) on 2nd April; **Willow Warbler** *Phylloscopus trochilus*, first reported from Lytham (Lancashire) on 16th; **Wood Warbler** *P. sibilatrix*, one on the Casquets on 20th; **Tree Pipit** *Anthus trivialis*, several in east Devon on 11th; **White Wagtail** *Motacilla alba alba*, one at Sandbach Flashes (Cheshire) on 5th and from 16th at Fair Isle. Unusual records included a **Dartford Warbler** *Sylvia undata* at Carlton Marsh (Yorkshire) from 23rd, **White-spotted Bluethroat** *Luscinia svecica cyaneola* at Marshside (Merseyside) on 13th, **Tawny Pipit** *A. campestris* at Holme (Norfolk) from 18th, two **Richard's Pipits** *A. novaeseelandiae* in Merseyside on 9th, and a **Serin** *Serinus serinus* at Dungeness on 20th.



The most exciting event of the period, however, was undoubtedly the **Wall-creeper** *Tichodroma muraria*, with the black throat of full summer plumage, found on the cliffs at Hastings (East Sussex) on 6th April. It gave excellent views to many observers during its five-day stay, before flying out to sea on 10th. This was only the eighth record of this alpine species, the previous ones being in 1792, 1872, about 1886, 1901, 1920, 1938 and 1969-70. The last of these stayed for five months on Dorset cliffs and was even televised.

Non-passerines

In addition to the records of **Hoopoes** *Upupa epops* mentioned in the last issue, further reports came from Leicestershire on 23rd and Cape Clear Island (Cork) on 26th. There was a **Nightjar** *Caprimulgus europaeus* at Venn Ottery Common on 2nd April. The most unusual reports, however, were of **White Storks** *Ciconia ciconia*: two

appeared at Nanjizal (Cornwall) on 18th, one being found dead on 29th; single birds were subsequently reported from Dungeness, Saxmundham (Suffolk) from 20th and Millhouse Green (Yorkshire) on 27th. A **Crane** *Grus grus* was found at Fraserburgh (Grampian) on 22nd. A **Honey Buzzard** *Pernis apivorus* at Reydon (Suffolk) on 5th and an **Osprey** *Pandion haliaetus* at Gibraltar Point (Lincolnshire) on 24th were both earlier than usual. Early wader records included single **Little Ringed Plovers** *Charadrius dubius* at Sandbach on 6th and Colwiek (Nottinghamshire) on 12th, a **Greenshank** *Tringa nebularia* at Ainsdale (Lancashire) also on 12th, 15 **Little Stints** *Calidris minuta* at Southport (Merseyside) on 26th, and 11 and ten **Avocets** *Recurvirostra avosetta* at Dungeness on 23rd and 26th. Large numbers of **Glaucous Gulls** *Larus hyperboreus* were reported: 29 on 12th-13th in Donegal Bay and eight at Fraserburgh on 26th. Three **Iceland Gulls** *L. glaucoides* accompanied the Irish birds and four had been seen at the latter locality earlier in March. Blackpill (West Glamorgan) was visited by yet another **Ring-billed Gull** *L. delawarensis* on 12th-13th. Finally, wildfowl reports included a pair of **Garganey** *Anas querquedula* at Southlake Moor (Somerset) on 6th, and two male **Surf Scoters** *Melanitta perspicillata*: one at Bundoran (Donegal) from 12th to 14th and the other at Clogher Head (Louth) on 19th and 20th.



Latest news

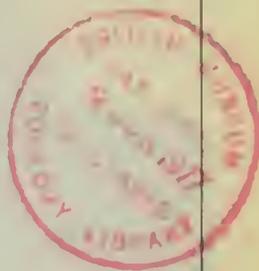
Rarities during the first half of May were few, but included two **White-billed Divers** *Gavia adamsii* and a **Black Stork** *Ciconia nigra* in Shetland, a **Cory's Shearwater** *Calonectris diomedea* at Portland and a **Savi's Warbler** *Locustella luscinioides* at Lodmoor (both Dorset) and a male **Yellow-breasted Bunting** *Emberiza aureola* at Gibraltar Point (Lincolnshire). About 320 **Pomarine Skuas** *Stercorarius pomarinus* (and one flock of 24 **Long-tailed** *S. longicaudus*) passed off Balranald (Western Isles) during 7th-13th May.

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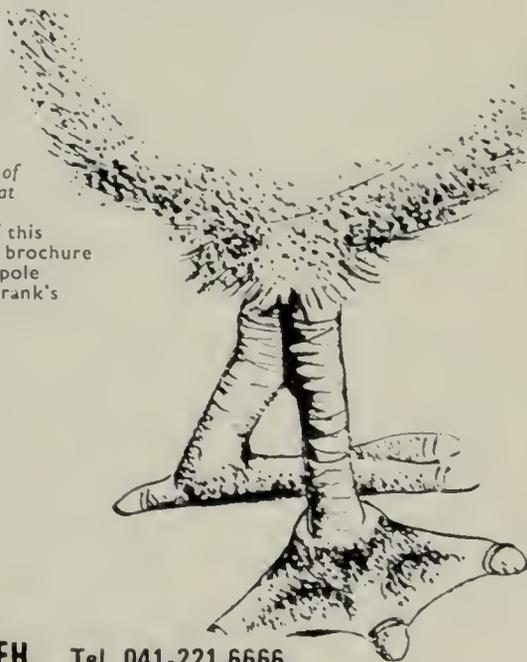
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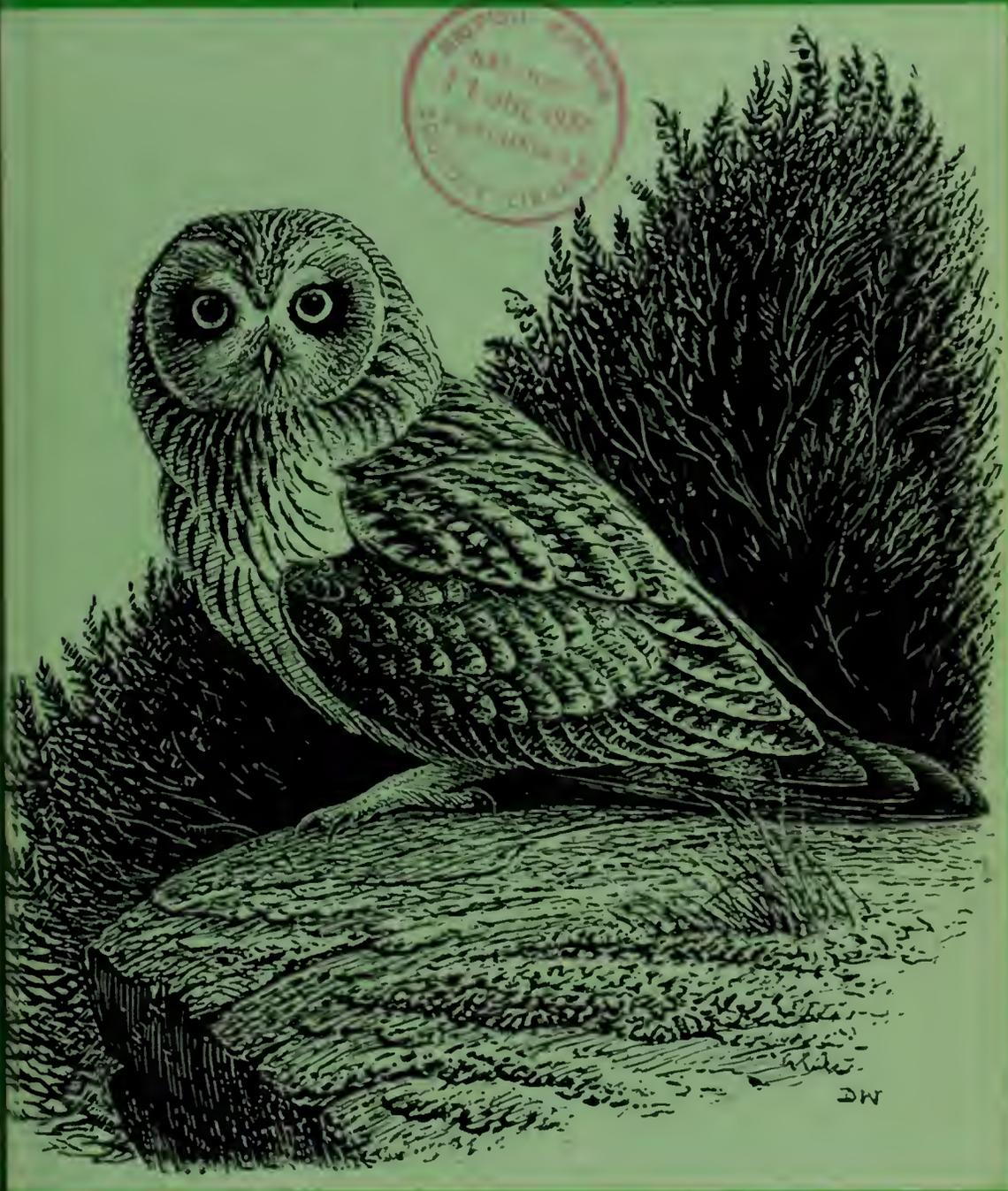
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British Birds

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 Ringing studies of Goosanders
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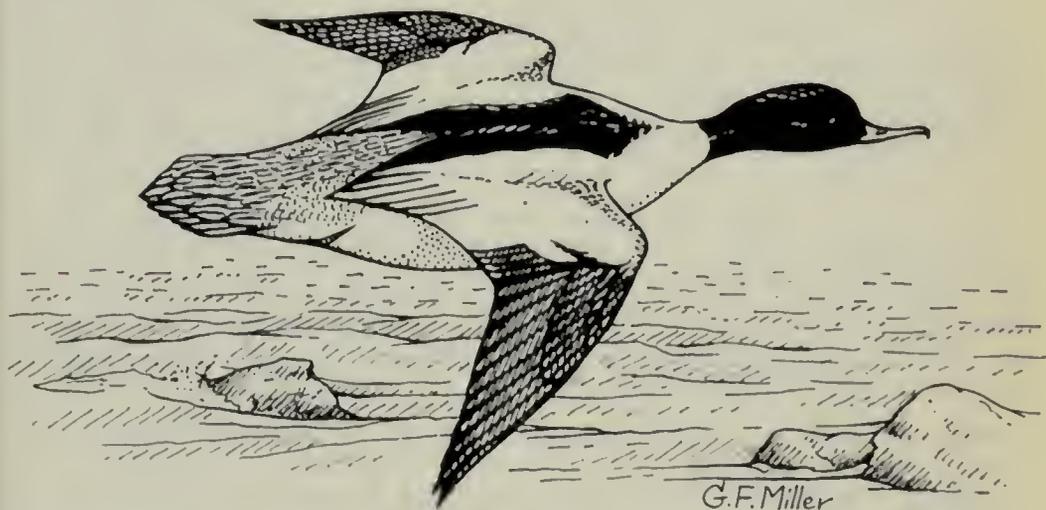
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British Birds

VOLUME 70 NUMBER 6 JULY 1977

Ringling studies of Goosanders in Northumberland

E. R. Meek and B. Little



New catching techniques have revolutionised the ringing of Goosanders in Northumberland. Recoveries have posed several questions, some still unanswered. Where, for instance, do the male Goosanders go to moult?

Techniques for catching broods of young Goosanders *Mergus merganser* have been developed in Northumberland by the Northumbria Ringing Group, and a total of 247 has been ringed during 1967-75. The purpose of this paper is to analyse the recoveries of these birds.

The study began in 1967, when B. Galloway discovered that, when disturbed, broods on the River Coquet made their way up small tributary burns and could be caught by erecting a mist-net across the mouth of such a burn and driving the brood back towards the main river. We have found that, on the River North Tyne, broods always stay on the main river, and in 1970 a catch was made using an 18-m wader net erected across the main channel. As a result of persecution on the River Coquet,

the majority are now caught on the North Tyne, while, in recent years, a few broods have also been trapped on the South Tyne.

More effective catching techniques have been evolved with time. A portable 'river-Heligoland' trap, consisting of two wader nets angled from the river banks to a large bag net attached to a steel frame, was used successfully on a number of occasions. In 1972, however, a 24-m length of salmon netting was obtained from River Tweed fishermen and proved to be the most efficient method of capture. The larger mesh catches the bigger Goosanders, which do not get caught in the smaller-meshed wader nets. To ensure that small individuals are also caught, the salmon net is backed up by a wader net about 1 m downstream.

In Northumberland, Goosanders, the great majority already paired, return to their breeding haunts on the rivers in March and early April, although some are occasionally seen throughout the winter. A proportion of females must begin laying in mid March, since broods have been seen in early May. Most broods, however, appear on the rivers in late May and early June. Newly hatched late broods have been seen in early August, but this may be the result of females re-laying after losing a first clutch. The drakes disappear after mating has taken place and play no part in incubation or rearing the young. They presumably leave the rivers for a moulting ground, but the locality of this is unknown.

For a period of about eight weeks, the young are flightless and the female is continually in attendance. If danger threatens, they run at great speed over the surface of the water until out of sight or, occasionally, they hide in holes in the river bank. Broods tend to move slowly downstream during their fledging period and this results in the congregation of several broods, with their attendant females, late in the season. If a catch is made in these circumstances, it often proves impossible to separate the young of the various broods.

During a catching drive, the female usually flies low over the river, just ahead of her running brood. Only rarely is the duck herself caught, but she remains in the vicinity during the ringing operation, flying back and forth, giving the croaking alarm call. After ringing, the brood is released

Table 1. Annual ringing totals of Goosanders *Mergus merganser* in Northumberland, 1967-75

Year	Ducklings	Adult females	Total
1967	2	1	3
1968	8	0	8
1969	5	0	5
1970	23	1	24
1971	31	1	32
1972	53	0	53
1973	11	0	11
1974	77	1	78
1975	32	1	33
TOTALS	242	5	247

and directed downstream from the catching site; retrapping has shown that the young successfully link up with the female. Despite the somewhat unusual method of trapping, not a single Goosander has been injured in any way. Safety, however, depends on several people, experienced in extracting the birds from the net, being stationed close to the catching site.

The variation in yearly catches (table 1) is chiefly a result of the variation in river conditions in the main catching month, July. The River North Tyne experiences very rapid changes in level as a result of deep drainage operations by the Forestry Commission in the area. These operations result in very rapid run-off from the surrounding hills and a catch has often had to be abandoned in the interests of safety.

Analysis of recoveries

Of the 247 birds ringed, 43 (17.4%) have been recovered to date. These recoveries are listed in table 2 and mapped in figs. 1 and 2.

Ringed as adult females

Two of the five adult females ringed have been recovered. One, ringed in July 1974 with a brood on the River South Tyne, was retrapped, again with a brood, in the same locality in July 1975. This is the only direct evidence we have obtained of adults returning to the same area to breed in successive years.

The second bird was ringed in July 1970 on the River North Tyne and found, partly decomposed, in Wales in May 1973. This recovery is particularly interesting in the light of the recent colonisation of Wales by the species (Meek and Little 1977). The fact that an adult was apparently involved in colonisation, and not a young one, is unexpected.

Ringed as ducklings

The remaining 41 recoveries are all of birds ringed as ducklings. Table 2 classifies these recoveries on the basis of recovery dates. Winter is defined as September-March and summer as April-August.

Of the 41 recoveries, 34 (83%) have been in the winter period (fig. 1); 20 were in their first winter; 14 were reported from Scotland, five from England and one from the 'Solway Firth', the country not being stated. This marked Scottish bias, which was also evident in the winter recoveries of older birds, is discussed below. Three moved 250-260 km; two of these were members of the same brood, ringed on the River North Tyne and recovered, respectively, on the River Spey (Highland Grampian) and at Tomintoul (Grampian); the third was ringed on the River South Tyne and moved to Aberdeen (Grampian), a locality where another, trapped on the North Tyne, was also recovered, 216 km to the north. The average distance moved, however, was 102 km, there being a marked concentration in south and southwest Scotland, with four in central and southern Strathclyde, four in Borders and two in Dumfries and Galloway. The English recoveries involved three within Northumberland (two having moved to different river systems) and singles in Cumbria and Durham.

A further seven recoveries were of individuals in their second winter; their pattern shows a marked similarity to those in their first winter. Five

Table 2. Recoveries of Goosanders *Mergus merganser* ringed in Northumberland, 1967-75

River where ringed	Ringing date	Recovery locality	Recovery date	Distance and direction
RINGED AS ADULTS				
North Tyne	18.7.70	Chirk, Denbigh, Clwyd	5.5.73	250 km S
South Tyne	26.7.74	R. South Tyne, Northumberland	12.7.75	Local
RINGED AS DUCKLINGS				
<i>Recovered in 1st winter</i>				
Coquet	2.7.67	Solway Firth	2.9.67	80 km WSW
Coquet	16.6.68	near Langholm, Dumfries and Galloway	28.8.68	59 km WSW
North Tyne	7.6.70	Caerlaverock, Dumfries and Galloway	10.9.70	67 km WSW
North Tyne	7.6.70	Dalmellington, Strathclyde	26.12.70	118 km W
North Tyne	27.6.70	Aberdeen, Grampian	(20.11.70)	216 km N
North Tyne	27.6.70	near Newcastleton, Borders	2.9.70	21 km WNW
North Tyne	27.6.70	Ochiltree, Strathclyde	3.1.71	115 km WNW
North Tyne	18.7.70	Felton, R. Coquet, Northumberland	9.9.70	38 km ENE
North Tyne	26.6.71	near Musgrave, Cumbria	1.1.72	75 km S
North Tyne	14.7.71	Harbottle, R. Coquet, Northumberland	22.1.72	26 km NE
North Tyne	9.7.72	near Tomintoul, Grampian	2.11.72	250 km NNW
North Tyne	9.7.72	R. Spey, Highland/Grampian	c. 27.9.72	260 km NNW
North Tyne	20.7.72	Dalmellington, Strathclyde	24.2.73	140 km WNW
North Tyne	20.7.72	West Woodburn, Northumberland	(28.9.72)	9 km NE
North Tyne	30.6.74	near Hawick, Borders	9.10.74	35 km WNW
North Tyne	14.7.74	Eckford, Borders	2.9.74	47 km N
South Tyne	26.7.74	Invervie, Aberdeen, Grampian	2.11.74	255 km N
South Tyne	26.7.74	Carstairs Junction, Strathclyde	8.2.75	115 km N
North Tyne	5.7.75	near Galashiels, Borders	20.9.75	65 km NW
South Tyne	12.7.75	near Durham City, Co. Durham	2.1.76	60 km ESE
<i>Recovered in 2nd winter</i>				
North Tyne	7.6.70	Bonar Bridge, Highland	14.10.71	325 km NNW
North Tyne	1.7.72	Ashkirk, Borders	5.1.74	57 km NW
North Tyne	11.7.71	Duns, Borders	(11.9.72)	65 km N
North Tyne	20.7.72	Bellingham, R. North Tyne, Northumberland	17.11.73	Local
North Tyne	14.7.74	Carnwath, Strathclyde	25.10.75	105 km NW
North Tyne	21.7.74	near Melrose, Borders	10.1.76	45 km NNW
North Tyne	28.6.75	Metsakyla, Oulu, Finland 65° 18'N 28° 18'E	30.9.76	—
<i>Recovered in 3rd winter</i>				
Coquet	10.6.69	near Sanquhar, Dumfries and Galloway	22.9.71	114 km W
North Tyne	14.7.74	Afjord, Sør-Trondelag, Norway 63° 57'N 10° 14'E	28.9.76	—
North Tyne	21.7.74	Don Estuary, Aberdeen, Grampian	12.12.76	225 km N
South Tyne	26.7.74	Klepp, Rogaland, Norway 58° 40'N 6° 05'E	4.12.76	—
<i>Recovered in 4th winter</i>				
Coquet	16.6.68	near Kelso, Borders	Jan/March 1972	40 km NW
North Tyne	20.7.72	near Selkirk, Borders	29.1.76	63 km NNW
North Tyne	20.7.72	Blairgowrie, Tayside	24.3.76	175 km NNW
<i>Recovered in 1st summer</i>				
Coquet	17.6.67	Kelso, Borders	3.6.68	51 km WNW
Coquet	16.6.68	Vesteralen, Nordland, Norway 68° 56'N 15° 43'E	24.6.69	—
<i>Recovered in 2nd summer</i>				
North Tyne	14.7.71	Featherstone, R. South Tyne, Northumberland	6.4.73	25 km S
North Tyne	21.7.74	Tomintoul, Grampian	Late 5.76	240 km NNW
<i>Recovered in 3rd summer</i>				
North Tyne	13.7.72	Bellingham, R. North Tyne, Northumberland	5.6.75	Local
North Tyne	16.7.72	Tarset, R. North Tyne, Northumberland (skeleton only)	14.7.75	13 km SE
<i>Recovered in 5th summer</i>				
North Tyne	27.6.70	Thornhill, Dumfries and Galloway	(25.6.75)	76 km W

were in Scotland, one in Northumberland and one in Finland. The Finnish recovery is discussed below, but, of the others, the most distant was one at Bonar Bridge, Highland (325 km NNW). The average distance moved

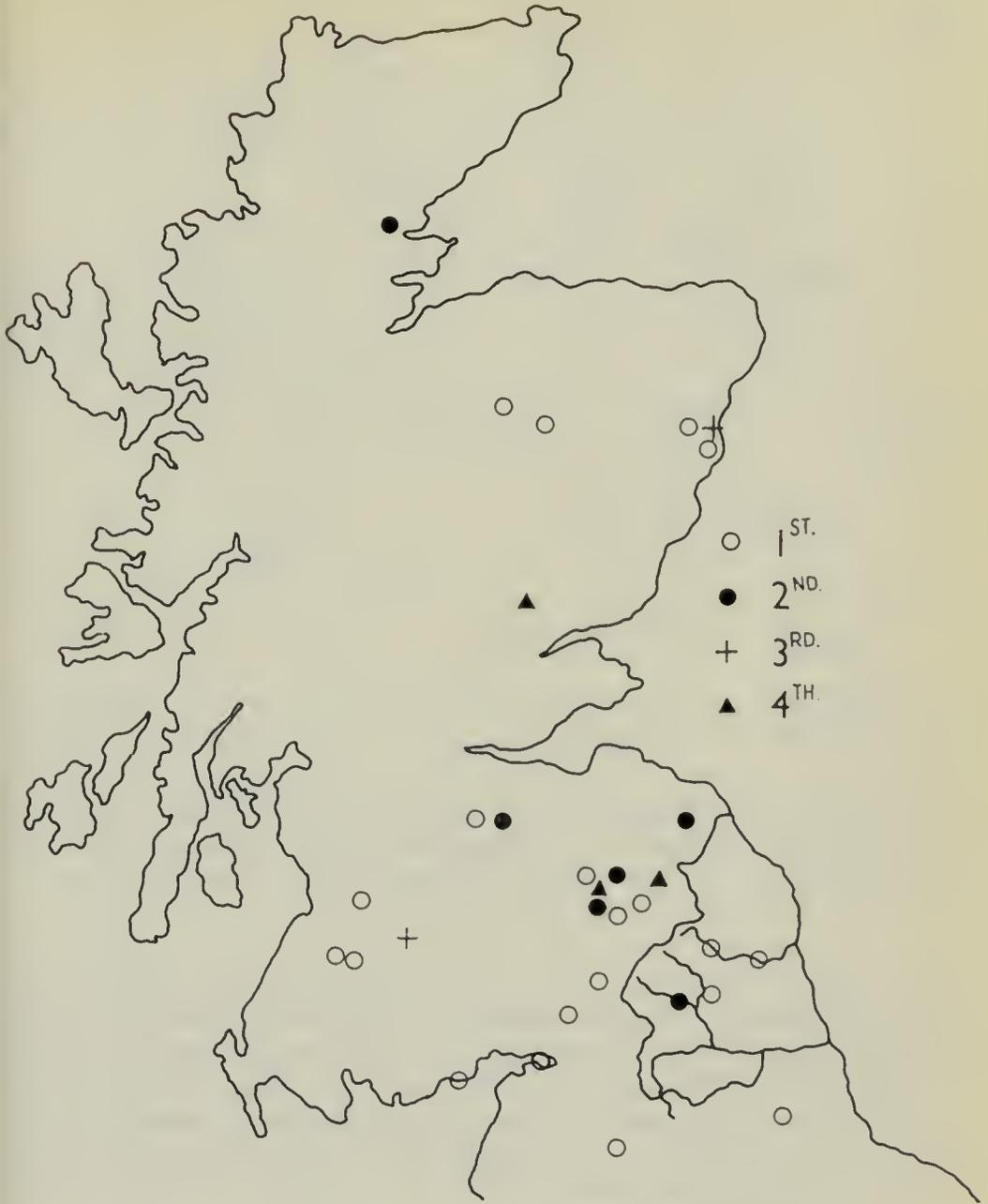


Fig. 1. Recoveries of Goosanders *Mergus merganser* ringed as ducklings in Northumberland and recovered in Britain during the winter (September-March)

within Britain was, however, 100 km; there were three recoveries in Borders and one in central Strathclyde. There are four recoveries of third-winter birds and three of fourth-winter individuals. Two of those in their third winter were recovered in Norway and are discussed below, but the remainder continue the pattern established in the earlier years of life, all being found in Scotland at a maximum distance of 225 km and an average of 123 km. Fig. 3 summarises the direction of movement shown by these 31 winter recoveries within Britain.

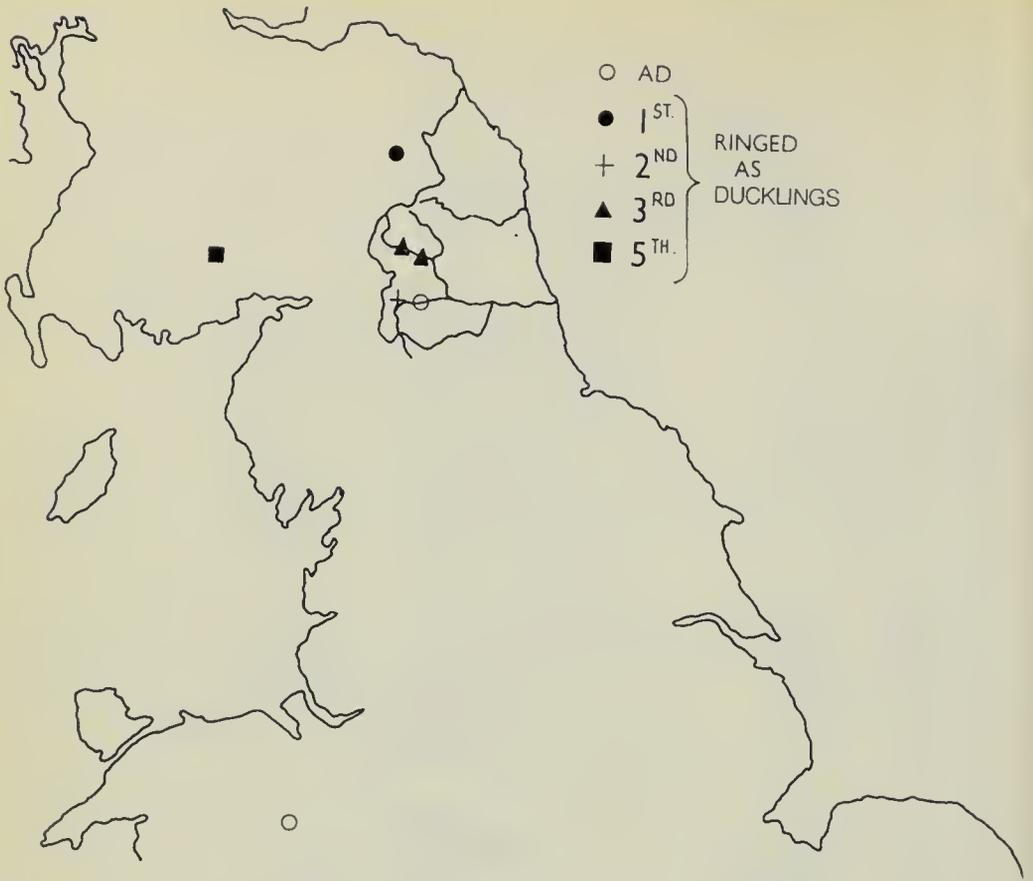
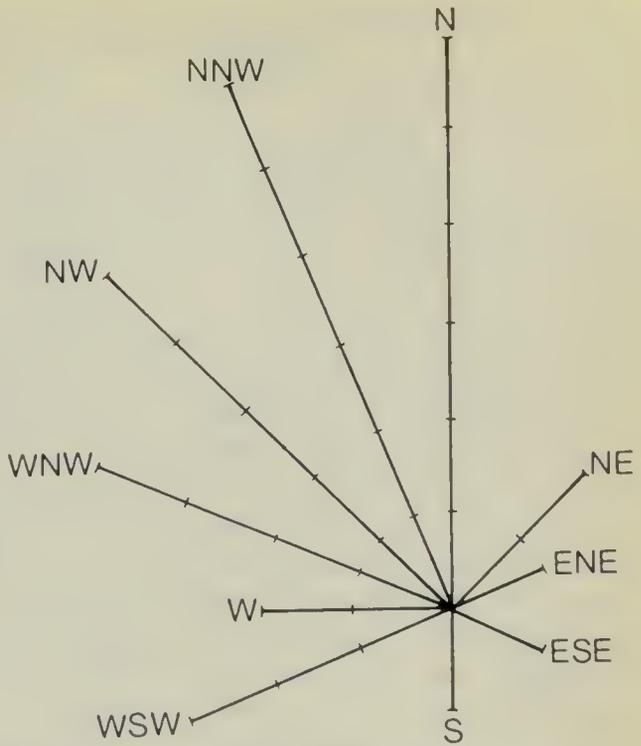


Fig. 2. Recoveries of Goosanders *Mergus merganser* ringed in Northumberland and recovered in Britain during the summer (April-August). (One recovery, of a second-summer male at Tomintoul, Grampian, 240 km NNW is not mapped)

Seven recoveries (17%) have been in the summer period (fig. 2). Two of these have been in the first summer (i.e. during April-August in the year following hatching). One, ringed on the River Coquet, was found wounded 51 km WNW, at Kelso, Borders. The fact that it was wounded may mean that it was unable to move to its preferred summering area, but, as it was found in a known breeding area, the means of recovery may be irrelevant. The other bird in this category was recovered in Norway and is discussed below.

From the second summer onwards, there is some indication that Goosanders return to their natal areas. One ringed on the River North Tyne was found on the River South Tyne in April in its second summer, while two from the North Tyne were recovered back on their natal river during their third summers. One of the latter, however, was found as a skeleton, so that the date of death is not known. Two summer recoveries give rise to conjecture. One was shot 240 km NNW at Tomintoul, Grampian, in late May in its second summer. Perhaps it was breeding a long way from its natal area, but, since it was sexed as a drake when shot, it may have returned to its natal area, bred and then been shot en route to its moulting ground. The date of recovery fits well with the time when

Fig. 3. Direction of movement of Goosanders *Mergus merganser* ringed as ducklings and recovered in winter within Britain. Scale: 1 cm = 1 recovery



the majority of drakes leave the Northumberland rivers. A similar recovery involved a bird in its fifth summer, found dead at Thornhill, Dumfries and Galloway (76 km W). This bird, however, was not sexed, nor was an exact recovery date given, so that no conclusions can be drawn.

To sum up, the pattern of movement of those Goosanders ringed as ducklings and recovered within Britain appears to be a dispersal concentrated between north and WSW during the autumn and winter, with some evidence of a return to the natal area in the summer, at least from the second summer onwards. There is a marked Scottish bias in the recovery pattern. Of the total of 43 recoveries, 27 (62.8%) have been from Scotland, ten (25.6%) from England, three from Norway and singles from Finland, the Solway Firth (England Scotland) and Wales. It is difficult to determine whether this is a truly representative picture, since the species is protected in England and Wales, but not in Scotland. Many more Goosanders are, therefore, likely to be shot in Scotland than in England, but perhaps more important is the fact that gamekeepers and ghillies shooting Goosanders in Scotland are much more likely to report a ringed bird, knowing that they are within the law. The means of recovery of those found in Scotland is compared with those in the rest of Britain in table 3.

Recoveries abroad

Of the 43 recoveries, four (9.3%) have been abroad, all in Fenno-Scandia (table 2 and fig. 4). One, in June of its first summer, was drowned in a fishing net at the Lofoten Islands, Norway (about 69°N). Another, in September of its second winter, was shot, well inland, in the province of Oulu, Finland. Two more were recovered in their third winters in

Table 3. Means of recovery of Goosanders *Mergus merganser* ringed in Northumberland

Area	Found dead or injured	Shot	Drowned, due to fish lines	Controlled or trapped and released	Unknown
Scotland	16	11	0	0	0
England and Wales	4	3	1	2	1

Norway: one in September at about 64°N and the other in December at about 59°N; both were shot, the latter while flying over a fish farm.

Such long-distance movements were totally unexpected when the study began, but a number of explanations present themselves. One possibility involves the phenomenon of abmigration, which has been demonstrated for other species of ducks. Locally-bred Goosanders may pair with others of north European origin while in winter quarters, and subsequently migrate to the breeding area of the Continental ones. The individual recovered in the Lofoten Islands, however, was only one year old, while the Finnish bird had just entered its second winter, and it is not clearly established whether Goosanders ever pair or breed in their first year. Erskine (1971), working in eastern Canada, found that drake Goosanders of the North American race *M. m. americanus* can come into breeding condition when 11 or 12 months old, although no proof was obtained that breeding actually occurred. Moreover, such a condition was attained only when year-round hunting prevailed, so that young birds experienced much less competition from older drakes. First-summer drakes have never been recorded on Northumberland rivers during the present study (first-summer females would be impossible to distinguish from older females in the field). The theory of abmigration could, therefore, be applied safely as an explanation of the movements only of the two birds recovered in Norway in their third winters. The one recovered in September was sexed as a female and that in December as a male, but, as neither was recovered during the breeding season, proof of abmigration is lacking.

Another possible explanation involves a moult migration, as discussed above for one of the Scottish recoveries. Our observations in 1969 established that large numbers of moulting Goosanders, predominantly drakes, are present on certain of the fjords of northern Norway. It is perhaps possible that a proportion of Northumbrian drakes, and perhaps ducks too, once the brood has become independent, move to Scandinavia to moult. It is tempting to suggest that such movements, together with the recoveries in northern Scotland, indicate a retreat, outside the breeding season or before the birds come into breeding condition, to the original centres of the species.

Finally, the four foreign recoveries could simply be the result of dispersal in the early years of life. The oldest of the four was shot when just over 28 months old and it is possible that some Goosanders may not return to breed until their third summer or later. The retrapping of

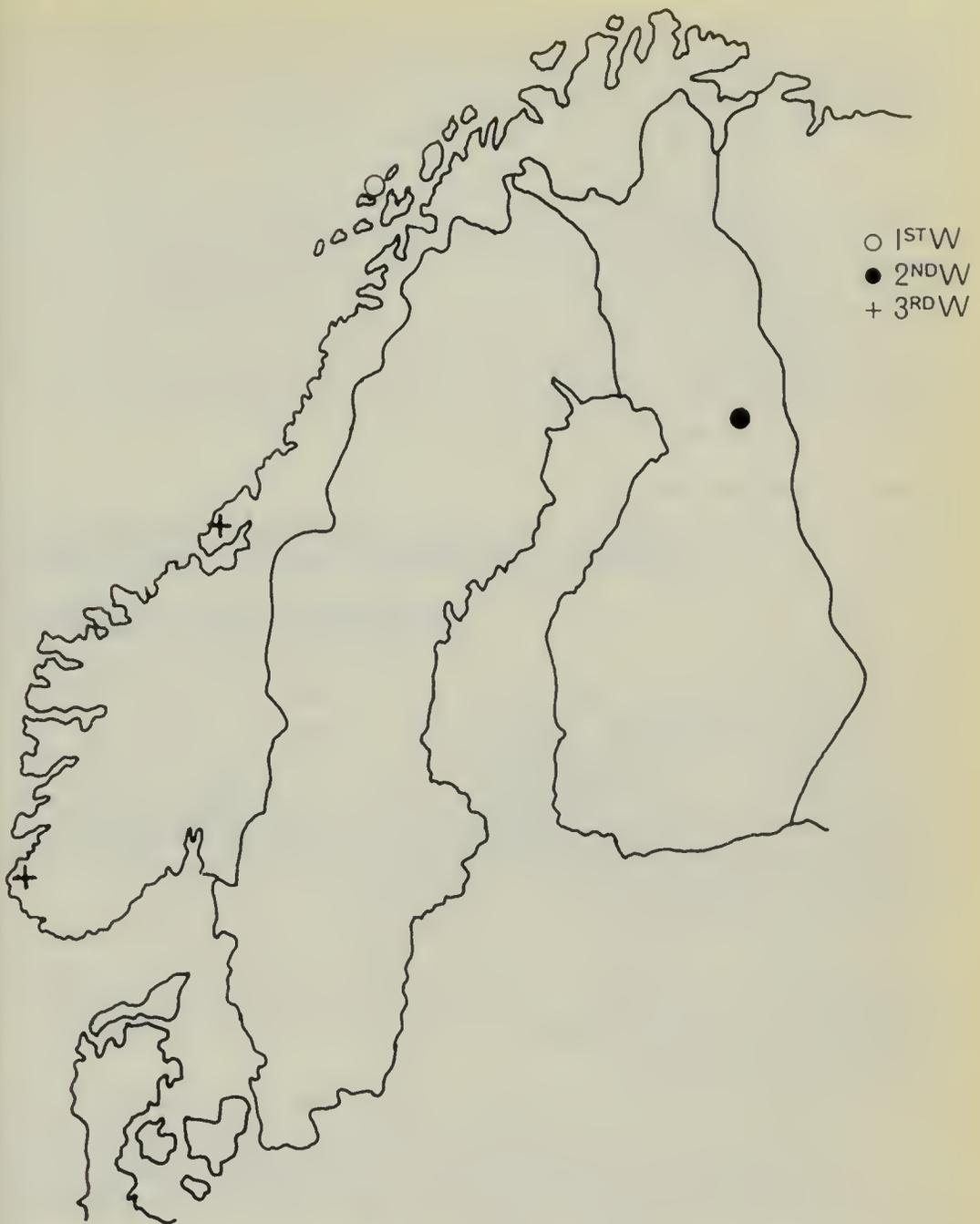


Fig. 4. Recoveries of Goosanders *Mergus merganser* ringed as ducklings in Northumberland and recovered abroad

adults originally ringed as ducklings is the only way to throw light on this problem. Continental workers have shown that incubating ducks can be safely trapped on the nest and this is probably the only method of increasing the number of controls, since so few adults are ever netted.

Other recoveries

Apart from the 247 ringed in the present study, all except one of the Goosanders marked in Britain are believed to have been wintering or passage birds. The exception was a single adult female ringed while

breeding in Northumberland. The others total only 93 since the start of the ringing scheme and we have been able to trace 13 recoveries. Individuals ringed on reservoirs in Surrey and Essex have been recovered in Sweden (three), Finland (two), northwestern Russia, the Netherlands and East Germany, and back at, or close to, the ringing sites up to three years later. A migrant Goosander trapped on Fair Isle in November 1970 was recovered at Aberdeen, Grampian, in the following January. These recoveries, together with the fact that three ringed in Sweden and one ringed in Finland have been recovered in East Anglia, tend to confirm the belief that the Goosanders wintering in the south of England are of Continental origin. The proportion of Continental to British birds in the north and in Scotland has yet to be established, although one ringed in Sweden was recovered in Perthshire in 1945.

Future of present study

Several questions remain to be answered concerning Goosander movements. A major gap in our knowledge still concerns the whereabouts of the drakes after they have mated. In Northumberland, at least, they leave the rivers and, presumably, move away to moult. The locality of the moulting grounds is still unknown, although a number of suggestions are made above. The Beaully Firth and Longman Bay, Highland, hold about 200 moulting adults (mostly drakes) during the summer, but this total could be accounted for by local stocks (R. H. Dennis *in litt.*). Perhaps other such flocks occur in other areas, but pass unnoticed, or are misidentified as Red-breasted Mergansers *M. serrator*. It is possible that the recoveries of Northumbrian-ringed birds in Scotland represent, at least in some cases, movement to and from such areas.

The Danish population is being investigated by Steen Hansen, and the moulting grounds of these birds are likewise unknown. Hansen (*in litt.*) has, however, on a number of occasions in the early morning, seen drakes during the breeding season flying towards the shore to join a duck foraging in the shallow water.

We hope that the questions of the Scottish bias in the recoveries and of the composition of the wintering flocks in northern England and Scotland may be partly answered by the wing-tagging scheme started in 1976: an appeal for reports of sightings of wing-tagged Goosanders has appeared in this journal (*Brit. Birds* 69: 457).

Acknowledgements

We should like to thank the BTO Ringing and Migration Committee for their ready co-operation in allowing the analysis of the Goosander ringing recoveries. Steen Hansen, T. Wall, M. A. Ogilvie and R. H. Dennis provided useful information, while B. Galloway, J. A. Ginnever and Colin Bibby commented constructively on early drafts of the paper. Most of all, however, we wish to express our appreciation to those members and associates of the Northumbria Ringing Group who have endured numerous soakings in Northumbrian rivers in pursuit of their quarry.

Summary

The 43 recoveries from the ringing of 247 Goosanders *Mergus merganser* in Northumberland during 1967-75 are analysed. Those ringed as ducklings and recovered

within Britain reveal a pattern of dispersal concentrated between north and WSW during their first autumn and winter, a pattern which appears to be mirrored in subsequent years. There is some evidence of a return to the natal area in the summer months, from the second summer onwards. Four ringed as ducklings have been recovered in northern Europe and possible explanations of these movements are discussed.

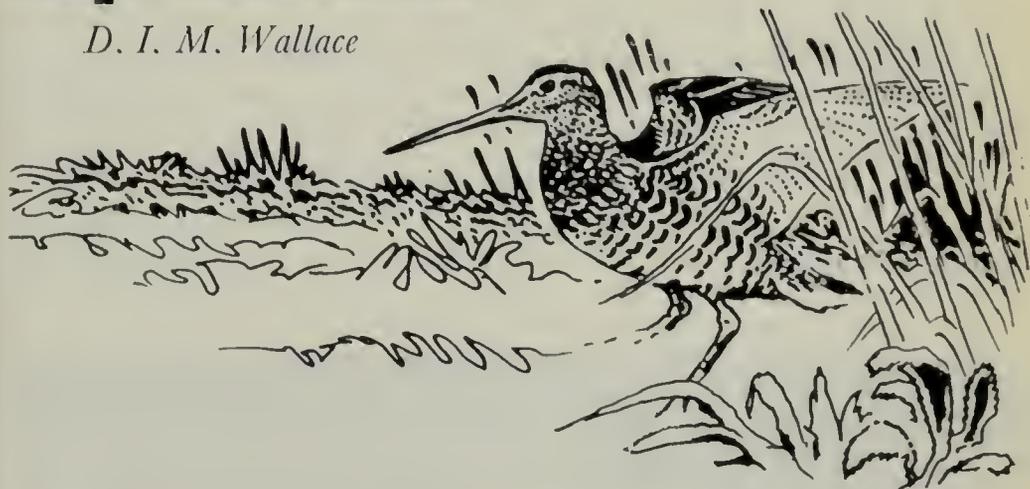
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Further definition of Great Snipe characters

D. I. M. Wallace



Clarification of a tricky identification problem comes from critical comments on an earlier paper, and new photographic evidence from Bengt Olsson

Constructive criticism of my recent paper on distinguishing Great Snipe *Gallinago media* from Snipe *G. gallinago* (Wallace 1976) has come from observers in Sweden (Lars Svensson), West Germany (Günther Schmidt), the Netherlands (G. J. Oreel) and Cornwall (Bernard King). Particularly useful comments from LS, who pointed out that my paper perpetuated the confusion over upperwing pattern, and from GS, who also published a paper on the Great Snipe as a passage migrant in Schleswig-Holstein (1958), form the basis of this revision. The sequence of treatment follows that of the first paper as closely as possible. Particular attention should be paid to fig. 1 and plates 66 and 67, which show the upperwing pattern of Great Snipe as it really is.

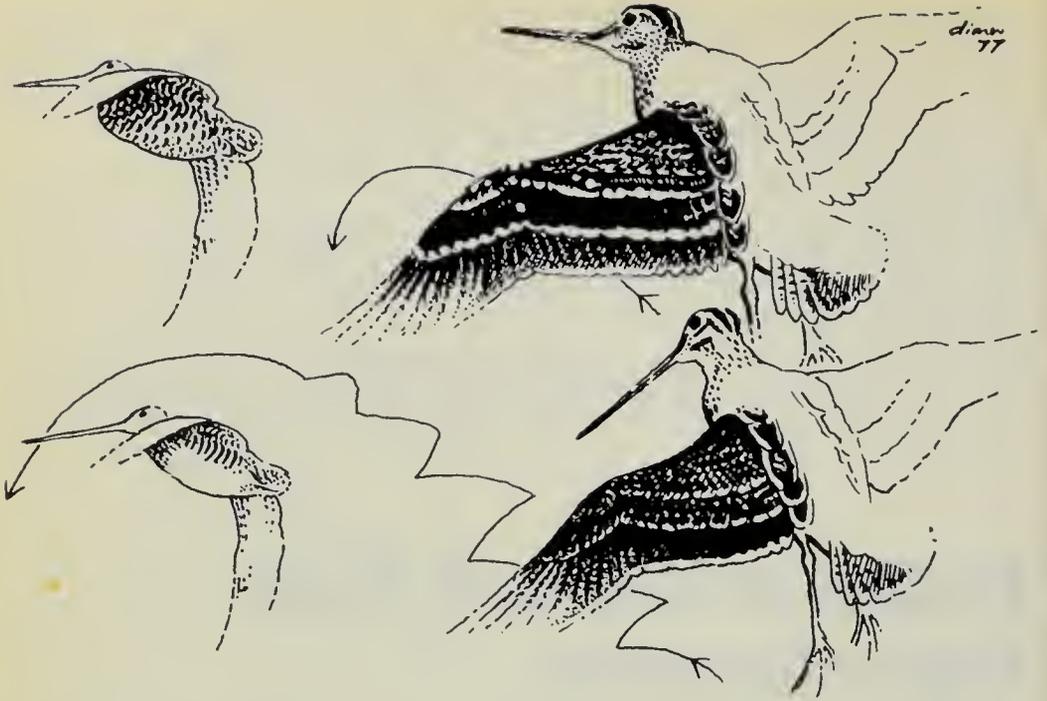


Fig. 1. Immature Great Snipe *Gallinago media* (upper) and Snipe *G. gallinago* in flight. Note, particularly, following characters of former: short bill held up, heavily barred underparts, greater bulk, larger wings, and wing pattern containing distinct black central panel with white borders (cf very dark secondaries with sharp white trailing edge of Snipe). Arrowed lines indicate manner of escape flight, short and ending in sudden fall in Great. These drawings correct fig. 2 in Wallace (1976)

66. Great Snipe *Gallinago media* in flight, Sweden, June 1976. Note back stripes less clear than those of Snipe *G. gallinago*; chequered wing pattern, with well-marked lesser coverts, wide, very dark central panel with long and obvious white borders, and dull trailing area; tips of secondaries typically dull (Bengt Olsson)



Ground characters

The reduced clarity of the back stripes on Great Snipe is well illustrated in plates 66 and 68, but GJO points out that immature Snipe have less prominent stripes than do adults. Schmidt (1958) referred to a thick neck band in Great Snipe, formed by the pattern of the central dark marks on the breast (denser than in Snipe) and exhibited particularly by first-autumn individuals; this, however, does not catch the eye as the white belly of Snipe does. The birds in plates 67 and 69 are both adults, but the former has the heavy markings on the whole underparts typical of an immature.

In plates 68 and 69, and in those in Swanberg (1965), all flight feathers are hidden, or almost so, by the greater coverts: this, together with the inaccuracy of most flight sketches and the difficulty of visualising wing patterns from skins, led to the error in my first paper. Further, plates 68 and 69 (of two different adults) illustrate the variation of the marks on the folded wing (see also Wallace 1976, page 378): only the white tips to the median and greater coverts are always broad, forming noticeable transverse lines.

Plates 68 and 69 also show the bill shape, the mealy appearance of the head and, in particular, the shorter bill of Great Snipe which, in some individuals, is slightly but obviously decurved distally. GJO points out that the Great Snipe's legs are thicker and greyer (less green) than the Snipe's; he also warns that the melanistic variety of Snipe (so-called 'Sabine's') may be confused with Great on the ground but lacks its flight characters and action in the air.

Flight characters

Plates 66 and 67 convey well the greater bulk and compactness of Great Snipe and the size of the wings in relation to the body. Schmidt (1958) stressed the larger surface area of the wings compared with that of Snipe, which partly accounts for the resemblance of Great Snipe to Woodcock *Scolopax rusticola*.

Wing pattern

My earlier description of this contains a compound error. As plates 66 and 67 clearly show, the wing pattern of Great Snipe consists of a chequered area, formed by the well-marked lesser coverts; a wide, very dark central panel with long and obvious white borders, formed by the tips of the median coverts and the visible parts of the greater; and a dull trailing area, on which the brown (not black) secondaries have pale, but not white, tips. In plate 67 these tips appear to be as white as in many Snipe, but in plate 66 are much less striking. The full extension of the white tips to the greater secondary coverts and primary coverts, and also along the median coverts, is diagnostic of Great Snipe. This feature is much reduced in Snipe, where the outer half of the wing looks virtually uniform (see fig. 1). Thus, plate 114 in Witherby *et al.* (1940) does not show the correct 'balance' of wing characters; King *et al.* (1975) were closer, even though they noted a lack (implied to be complete) of a

white trailing edge in Great Snipe. The confusion arises from the position of the 'speculum', which, as LS puts it, 'is not formed by the secondaries but by the greater coverts'. P. J. Grant, on whose sketches my earlier drawing (Wallace 1976, fig. 2) was largely based, agrees. I recommend that the term 'speculum' no longer be used in descriptions of Great Snipe.



67. Great Snipe *Gallinago media* in flight, Sweden, June 1976. This adult has heavily barred markings on underparts (including axillaries) typical of immature. In comparison with Snipe *G. gallinago*, note greater bulk and compactness and larger surface area of wings in relation to body. Tips of secondaries look atypically white, like Snipe's (cf plate 66)
(Bengt Olsson)

Plate 67 shows to advantage the heavily barred axillaries of Great Snipe. Those of Snipe have been illustrated recently (*Brit. Birds* 69: plate 39a).

Tail

The brilliant white areas on the adult Great Snipe's tail are shown well in plate 68. LS noted that adults in communal display invariably fanned their tails on take-off and kept them partly open in flight; the white areas were



68. Great Snipe *Gallinago media*, Sweden, June 1976. The back stripes are less clear than those of Snipe *G. gallinago*, but note the brilliant white on the tail (Bengt Olsson)

obvious. Apparently, migrant Great Snipe in Sweden are similarly obliging. He also argues that immatures should show more white on the outer tail than any Snipe, the former always having three outer feathers mainly white, the latter only one. The description in Witherby *et al.* (1940), however, suggests variation in the feather pattern, and a dead Great Snipe that I handled in Nigeria showed no clear white (*cf* the tails in plates 66, 67 and 68). GJO considers that an indistinct dark sub-terminal band on the tail is a more useful character than the white corners, but this has not been recorded by other observers. A useful drawing of the tails of several snipes can be found in King *et al.* (1975).

Flight action and silhouette

BK, GJO, GS and LS all comment on these, and three confirm that

migrant Great Snipe, when flushed, usually make short, rather slow flights, ending in abrupt falls into cover. This accords with Witherby *et al.* (1940) and my own experience: except when flushed suddenly from habitat edges, a flight of 30 m is about the limit. BK and GS also refer to occasional waverings in flight (*cf* Swanberg 1965) and changes in body angle, always made more slowly than by Snipe. To LS, Great Snipe in flight recall Ruffs *Philomachus pugnax* as much as Woodcock, thus indicating a more fluid action than that of Snipe; one reminded Swanberg (1965) of a Teal *Anas crecca*. BK also mentions a depressed tail line ('back end rather held down'). Schmidt (1958) described the movements of Great Snipe as 'more placid and more ungainly', adding that they often recall plovers (Charadriidae) in tempo.



69. Great Snipe *Gallinago media*, Sweden, June 1976. Note mealy appearance of head and the shorter bill in comparison with Snipe *G. gallinago* (Bengt Olsson)

Sounds

LS confirms that displaying adult Great Snipe make a 'great wing noise when rising, much like a small grouse [Tetraonidae]' (*cf* Swanberg 1965, and R. Rohweder in Witherby *et al.* 1940). This may be related to the wing sound recorded rarely from migrants. Schmidt (1958) included two transcriptions of the call of Great Snipe, 'bräd' and a nasal, tinny

'ääng'; and a peculiar shivering of the bill, heard from three individuals of 28 recorded.

Migration of Great Snipe in northwest Europe

Schmidt (1958) demonstrated that the autumn exodus of Great Snipe begins as early as 15th July and is most obvious from August to late October, a few later records relating to either stragglers or, in northwest Denmark and west Norway, wintering birds. This indicates a longer period of autumn passage than I inferred. Wintering south and east of its breeding range, the Great Snipe is a rare spring vagrant south of Fenno-Scandia: only four of 28 records in Schleswig-Holstein during 1948-58 were in spring (5th April to 30th May). Schmidt quoted counts of ten Great Snipe among 200 Snipe on the Norwegian coast on 10th August and at least six among 50 in Schleswig-Holstein on 6th August. Thus, in the 1950s, the incidence of Great was substantial in areas only 550 km from East Anglia. As in Britain and Ireland, migrant Great Snipe were usually on their own: only three times in 28 records were two seen in the same area.

Acknowledgements

I am very grateful to all those named in this paper, particularly Lars Svensson, for making this truly European review of my earlier paper possible. I must also thank Bengt Olsson for the use of his photographs, and D. A. Christie for translating Schmidt's (1958) paper from the German.

Summary

Prompt and constructive criticism of my earlier paper (Wallace 1976) from expert observers in four west European countries has produced further definition of the field characters of the Great Snipe *Gallinago media*. Most importantly, the differences between its wing pattern and that of Snipe *G. gallinago* are now precisely demonstrated by photographs, but the perception of these may remain difficult. It is important to look at the middle of a snipe's wing, not just the trailing edge. The diagnostic mark on Great Snipe is the long, white-bordered, dark central wing panel; other characters worthy of particular attention are its short bill, and flight behaviour and action.

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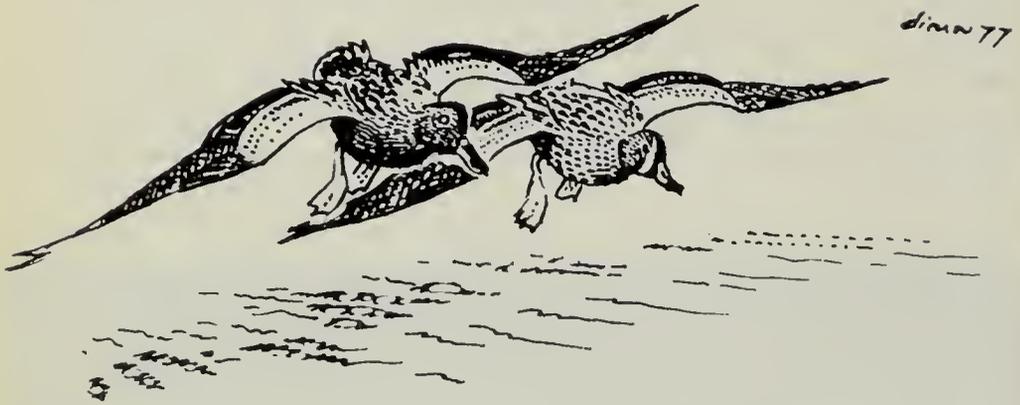
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Distinguishing Blue-winged and Cinnamon Teals

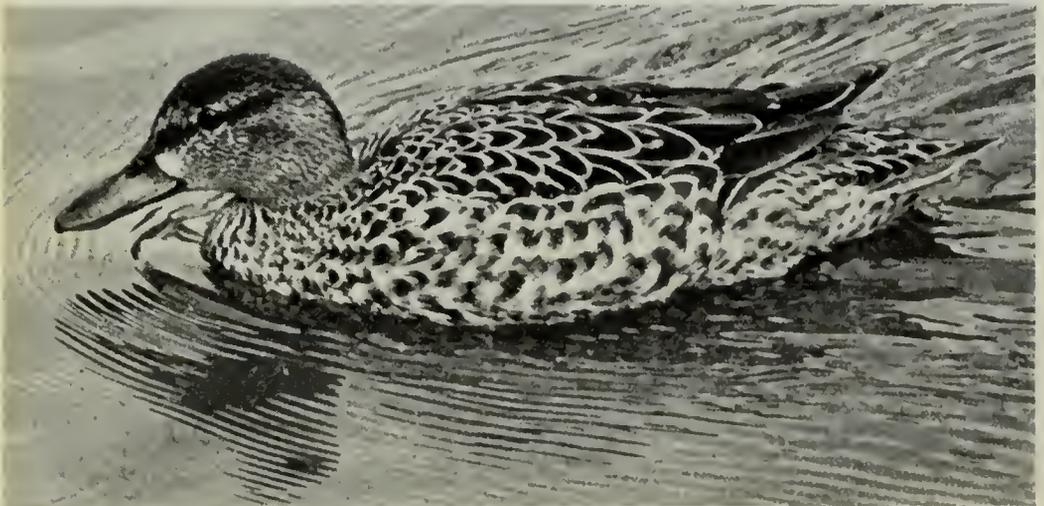
D. I. M. Wallace and M. A. Ogilvie



The Blue-winged Teal has been recorded with increasing frequency on this side of the Atlantic. The main confusion species is the Cinnamon Teal, which not infrequently escapes from wildfowl collections

Records of Blue-winged Teal *Anas discors* in Britain and Ireland are increasing. Of a grand total of 55 up to 1976, 32 have occurred since 1966. Males in full plumage are quite distinctive, but several recent observations have featured eclipse drakes, ducks or immatures. In such cases, there is a real danger of confusion with similarly-plumaged Cinnamon Teal *A. cyanoptera*, which, like some Blue-winged, may escape from captivity. The following notes try to provide a guard against this risk.

70. Female Blue-winged Teal *Anas discors*, Slimbridge, Gloucester, May 1977. Note distinct head pattern, whitish loreal spot contrasting with dark bill base, and dark crown and eyestripe contrasting with paler supercilium and cheeks (*Kelvin Portman*)



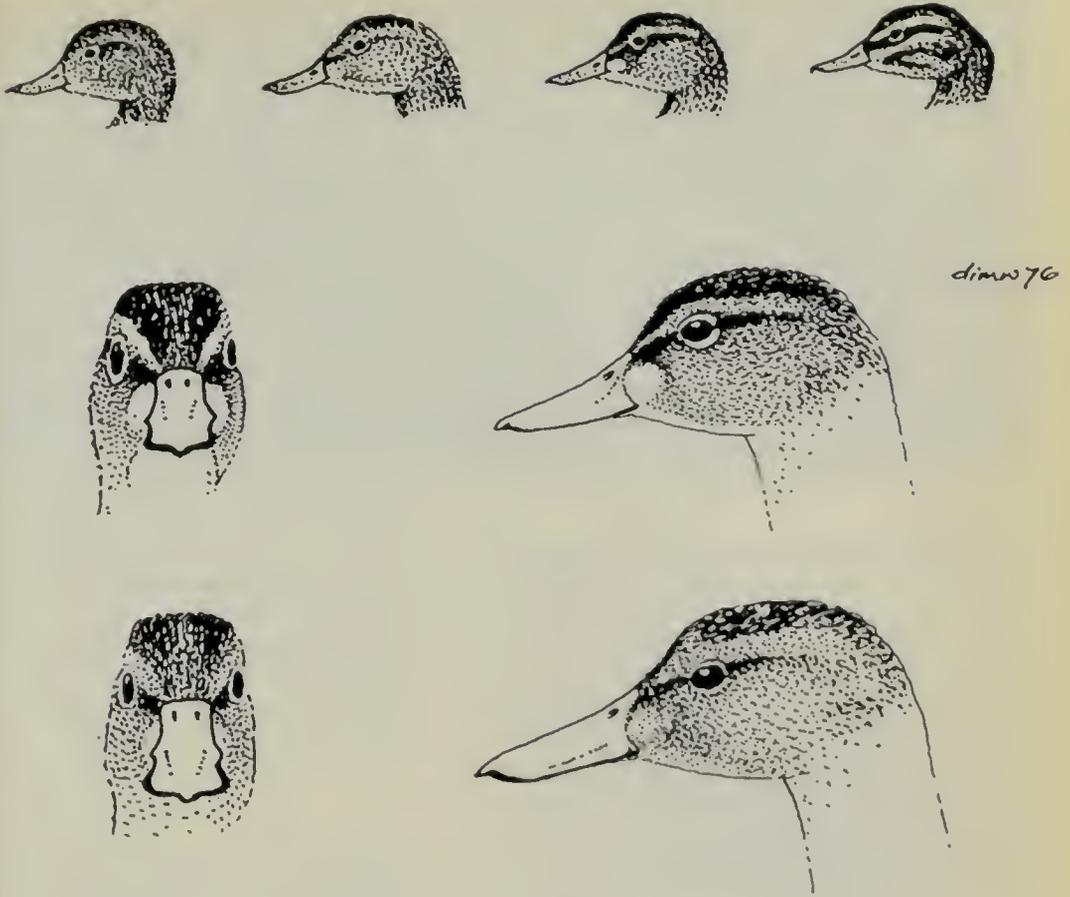


Fig. 1. Head patterns and bill shapes of teals. Top, from left to right, Teal *Anas crecca*, Cinnamon Teal *A. cyanoptera*, Blue-winged Teal *A. discors* and Garganey *A. querquedula* last with strongest facial pattern. Middle, Blue-winged Teal. Bottom, Cinnamon Teal. Note, particularly, more spatulate bill, dull loreal spot and less contrasting head pattern of Cinnamon

71. Female Cinnamon Teal *Anas cyanoptera*, Slimbridge, May 1977. Note long, spatulate bill and relatively uniform head pattern (Kelvin Portman)



General character, size and structure

Both species are obviously teals, closely resembling Teal *A. crecca* and Garganey *A. querquedula* in action and behaviour. Their slightly greater bulk shows best on water or land, when their silhouettes are also subtly different: both tend to carry their heads and rather heavy bills farther forward. The Cinnamon's posture, when combined with its longer, broader bill (and redder plumage tones), can strongly recall Shoveler *A. clypeata*; Blue-winged, on the other hand, prompts thoughts of Garganey, although its head and bill shape may also recall Shoveler at times.

Table 1. Bare part and plumage comparisons between Blue-winged *Anas discors* and Cinnamon Teals *A. cyanoptera*

	Blue-winged	Cinnamon
Eye colour	Drake: iris brown	Drake: iris yellowish or reddish
Head pattern	Strong, recalling Garganey, with quite large, obvious, whitish (or light buff) loreal spots, contrasting with dark bill base, similarly coloured throat, and clear contrast between dark crown and eyestripe and pale supercilium and cheeks; most obvious in eclipse drake, least in immature duck	Basically as Blue-winged but less distinct, recalling Teal, with pale yellowish loreal spots, throat obscured by fine spots, and contrast between dark and pale areas much reduced, and giving more uniform pattern
Body pattern	Plumage distinctly zoned: <i>back</i> dark with obvious pale fringes to feathers, <i>broad gorget</i> of dark regular spots contrasting with pale throat and foreneck, <i>lower chest and fore flanks</i> with broad, soft spots, <i>rear flanks</i> boldly patterned with dark centres and strikingly pale crescentic margins; eclipse drake shows greatest contrast	Basically as Blue-winged, but more uniform, with less contrast between throat, foreneck and gorget; and rest of body, especially underparts, rather more coarsely and less evenly marked
Plumage tone	Typically rather dark and cold, duller than Teal; greyish-brown in immature and duck, but warmer brown on underparts of eclipse drake (beware rust staining)	Typically warm and rich, recalling Shoveler; reddish-brown strongest in eclipse drake

The Cinnamon averages larger in all customary measurements and looks bulkier when alongside Blue-winged, but the only field character of any real use when they are apart is the bill. Most Cinnamon have bills that are 10% longer than those of Blue-winged (and some drake Cinnamon have bills 20% longer than most drake Blue-winged). Whereas most Cinnamon have bills that increase in width from base to tip, with slightly longer flaps on the sides of the upper mandible, yielding an almost spatulate profile (Johnsgard 1975), those of Blue-winged lack this relatively broad tip and show a more even width.



72. Male and female Blue-winged Teal *Anas discors*, Slimbridge, May 1977. Note, particularly, female's more contrasted head pattern and shorter and less spatulate bill compared with Cinnamon Teal *A. cyanoptera* in plate 73 (Kelvin Portman)



73. Female Cinnamon Teal *Anas cyanoptera*, Slimbridge, May 1977. Note relatively uniform head pattern (cf plate 72), but very long, spatulate bill (Kelvin Portman)

Plumage

Both species show blue forewings in all plumages, the colour tone being like that of Shoveler and, thus, bluer than Garganey. Adult drakes in breeding plumage are easy to distinguish: Blue-winged has a white crescent on the front of its blue-grey head and densely spotted, dull buff chest and flanks, while Cinnamon has its head and underbody wholly cinnamon-red. In other plumages, the differences between the two species are slight, but they do exist; the most constant are shown in table 1.

The important bill and head pattern characters are illustrated in fig 1. We have found no evidence that there is any difference in the underwing patterns of the two species.

Voice

Ducks of both species give similar quiet quacks, but adult drakes utter a different sound, that of Blue-winged being a 'sibilant, high-pitched "seep seep"' (Godfrey 1966) or a 'weak, whistling "tsee"' (Johnsgard 1975) and that of Cinnamon a 'low rattling chatter' (Godfrey 1966), again recalling Shoveler (Johnsgard 1975).

Acknowledgements

This paper originates in part from the comments by D. G. Bell on a past record of Blue-winged Teal and meets the request of the Rarities Committee for a clarification of the differences between the two species.

Summary

The separation of Blue-winged *Anas discors* and Cinnamon Teals *A. cyanoptera* in eclipse, female and immature plumages is difficult, but, in good observing conditions, typical birds may be differentiated by bill shape and length, eye colour (drakes only), head pattern and plumage tone. A few individuals may defy even the most acute observer, but most should be identifiable using these characters.

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Personalities

7 Robert Gillmor

Robert Gillmor (only by over-enthusiastic Americans is he called 'Bob') was born into 'the purple' of bird art in Britain, for he is the grandson of A. W. Seaby, certainly one of the outstanding bird artists of his generation. Among Robert's earliest memories are of watching with rapt attention while his grandfather's art called forth the birds upon the page. So, he grew up knowing birds, and knowing exactly what he wanted to do with his life.

Robert was fortunate in his school, Lcighton Park, for there he found an atmosphere sympathetic to his natural inclinations; and, moreover, he came under the influence of a wise counsellor and skilled ornithologist in the person of J. D. Wood, history master and first chairman of the Reading Ornithological Club. As assistant editor of *British Birds*, he encouraged Robert to do his first illustrations for this journal in 1952 (field-characters of shcarwaters and postures of Magpies, accompanying papers by E. M. Nicholson and Derek Goodwin).

While still a very young man, Robert Gillmor became secretary of the Reading Ornithological Club in 1957; in due course, he became chairman and later president, an office that he has now held for many years. It is widely recognised that, whoever the other officers may be, it is Robert who gets together the programme and who is the indispensable 'continuity man' in the club's affairs.

Through the width and fecundity of his creative output as a leading bird artist, Robert Gillmor's name must surely be known to tens of thousands of natural history enthusiasts throughout the land. By the time

he was 35, he had illustrated some 40 books, and since then has added several more. Yet it is only those who have been privileged to enjoy his company over the years, in the studio and in the field, and at countless meetings and informal gatherings, who can appreciate his quite remarkable qualities: his infectious sense of humour, modesty, generosity, even temperament and unfailing wise counsel. Whether in the field, the meeting room or his studio, his appearance is always impeccable.

Both locally and nationally, Robert operates on a dual front of the ornithological and the artistic—the two facets that blend in his unique pictures. He has served at different times on the councils of the British Ornithologists' Union, the Royal Society for the Protection of Birds and the British Trust for Ornithology, and was for several years vice-president of the BTO. In art matters, events followed a parallel course, for early on he became vice-president of the local society, the Reading Guild of Artists, and has now been its president for many years. Thus, he presides with equal charm and distinction over the affairs of the two local societies. But in art matters it was his special achievement to be instrumental, with a few others, in the founding of the Society of Wildlife Artists some 15 years ago. He was its first honorary secretary and is currently chairman. At the same time, among many other commitments, Robert is art editor of *The Birds of the Western Palearctic*.

In recent years, travel has been a feature of Robert's busy life; first to America and latterly more often to East Africa, where, in a few weeks, he

74. Robert Gillmor (*Jeffrey Taylor*)



must sometimes spend more hours actively birdwatching than he manages in as many months at home. Each time he returns, not only with his sketches, but also with colour transparencies that are legendary, both in quality and in number. His creative energy sometimes seems inexhaustible.

No profile of Robert would be complete without mention of his charming wife Sue (who is an artist in her own right) and the tiny, captivating Emily who surely soon will be learning to wield a brush!

E. V. WATSON

Mystery photographs

7 The warbler (plate 61, page 259) has the light build, fine and rather short bill, rounded head-profile and square-ended tail clearly indicative of a *Phylloscopus*. It lacks wing-bars and prominent supercilium, cutting down the choice (among species on the European list) to one of the plainer members of the genus—Chiffchaff *P. collybita*, Dusky *P. fuscatus*, Willow *P. trochilus* or Bonelli's Warbler *P. bonelli*.

It is too pale and too attenuated for a Dusky (see page 163). The typical facial pattern of Willow Warbler and Chiffchaff, formed by the usually fairly neat supercilium, thin, dark eye-stripe and indistinct paler crescentic area on the ear-coverts below the eye, gives these two a special 'pinched' expression (best learned through field study rather than by any written description) which is lacking in the photograph. The wing structure, too, is wrong for Chiffchaff, which shows the primaries extending beyond the secondaries by about half the length of the exposed tertials and secondaries, whereas the Willow Warbler has them more equal in length. More positive characters which identify the bird in the photograph are the rather bland facial expression (from the lack of any striking head markings), in which the dark eye stands out as the most prominent feature, the rather large-headed appearance, the general paleness of the plumage, and the light patch on the lower back, the latter being perhaps the most obvious clincher: the bird is a Bonelli's Warbler.

The photograph does not do justice to the field appearance of Bonelli's Warbler, which, when seen well, is one of the more distinctive of a notoriously difficult genus, being almost as striking as Wood *P. sibilatrix*. In fact, this individual, photographed by K. C. Osborne on St Agnes, Isles of Scilly, in October 1971, was considered by some of the many observers who saw it and partook of the controversy which surrounded its identification to be somewhat aberrant in its drabness (see *Brit. Birds* 65: 209-210). More typical examples exhibit an unmistakable combination of wholly silky-white underparts, pale grey-brown upperparts, rather plain face pattern and bright, fine, yellow-green edgings to most of the wing feathers and tail. It is, on average, between Willow Warbler and Chiffchaff in size, but in the field its rather long outline and wing structure more often attract comparison with the former. It can look somewhat large-headed, mainly a function of the soft-looking head feathering, giving a less sleek profile than others in the genus. The upperparts are strikingly

pale grey-brown, sometimes with a very faint olive-green wash at close range in good light. The pale yellowish rump patch, enshrined in the field guides as among its best field characters, is often of limited value. Some, in spring and autumn, have this mark much reduced or virtually invisible in the field, and at best it is obvious only when the bird is hovering in full rear view. The pale area is usually small and confined to the lower back, as in plate 61: in the field it rarely appears to extend over the whole rump as shown in most field guides. Most individuals have the greater coverts, primaries, secondaries and tertiaries finely edged with bright yellow-green, and the wing bend near the base of the alula yellowish: these combine on the closed wing to form a bright greenish panel, contrasting with the paleness of the rest of the plumage. Typically, the underparts are wholly silky-white, except for a very pale yellowish wash on the undertail-coverts, visible, if at all, only at close range. The supercilium is white, sometimes with a very pale yellow wash: in shape it is similar to that of Willow Warbler (plate 61 is misleading in this respect), but is less well defined, due to lack of contrast with the pale crown. This, the indistinct grey eye-stripe and the pale grey-brown ear-coverts combine to give a plain-faced look, which is particularly striking at longer ranges, when the head pattern (and shape) may recall a small Garden Warbler *Sylvia borin*. The bill shape is similar to that of a Willow Warbler, with a pale orange-flesh or flesh base to the lower mandible. The legs usually appear dull, not as bright as those of most Willow Warblers.

The behaviour is like a typical *Phylloscopus*, feeding actively in foliage at all levels, with much flycatching and hovering to pick food from the undersides of leaves. The song is a distinctive, flat-toned, 'papery' trill or rattle, lasting one to $1\frac{1}{2}$ seconds, made up of five to seven syllables rapidly repeated, usually on one note, but sometimes with a hint of an upward inflection at the end. The call-note of migrants is variously and confusingly described in the literature, but, to my ear, is basically like the familiar 'hoo-ect' of Willow Warbler.

P. J. GRANT



75. Mystery photograph 8.
What is this species?
Answer next month

Notes



Canada Goose cohabiting with breeding Mute Swans

A pair of Mute Swans *Cygnus olor* have nested on Stanford Reservoir, Northamptonshire, since at least 1974. In 1976, while eggs were being incubated by the swans, a Canada Goose *Branta canadensis* was seen swimming close to the nest, and on one occasion sitting on the nest beside the female swan. Three cygnets were hatched successfully. I saw the family of swans a number of times, swimming on various parts of the reservoir, generally near the edge, and the Canada Goose was always with them. Both the cob and the pen apparently accepted the goose as part of the family, as did the three cygnets.

PETER MAGUIRE

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M. A. Ogilvie has commented that such attachments by a lone bird of one species to a pair or family of another are not rare in captive wild-fowl. Although the species involved in this case are both feral, the situation is not a captive one and is, therefore, surprising. The Canada Goose was never seen in flight and the possibility that it was flightless should not be overlooked. Eds

Bimaculated Lark in the Isles of Scilly At 17.15 GMT on 24th October 1975, while birdwatching at Porth Loo, St Mary's, Isles of Scilly, I met Dr C. A. Watter, who informed me of an unusual lark which he had found earlier that day on Peninnis Head. His verbal account of the bird was sufficient to send me running in that direction, in the hope of relocating it before dark. Luckily, I soon discovered it among a feeding flock of 12 Skylarks *Alauda arvensis* in the field which CAW had described and was able to watch it for 25 minutes, until dark at 18.15 hours. In the poor light conditions, the bird's much heavier appearance compared with the accompanying Skylarks gave me the initial impression that it was a Calandra Lark *Melanocorypha calandra*, a species I had seen many times abroad. Realising that I had to see the wing and tail patterns in flight before the light failed completely, I decided to flush the bird. The brief view obtained before all 13 larks reassembled about 10 m away in a corner of the same field was sufficient only to confuse me completely: there were no obvious white trailing edges to the wings or outer tail feathers, which I knew Calandra should show; instead, there were broad white tips to all the tail feathers. Later that evening, while re-examining our notes, CAW and I were informed by N. A. G. Lord that Bimaculated Lark *M. bimaculata*, a species that he had seen in eastern Turkey, showed the characters we had described. The following morning, NAGL, D. B. Hunt and I (and later about 30 others) obtained excellent views of the

bird in good light, confirming the tail and wing patterns and the identification as a Bimaculated Lark, subsequently endorsed by the Rarities Committee.

Observations during 25th-27th October provided the following description:

APPEARANCE AT REST A large, thickset bird, big-headed, thick-necked and with a broad, flat back, all giving the appearance of a bird 'too heavy for its own good'. NAGL made the rather apt remark that it resembled more closely a shieldbug (*Pentatomoidea*) than a lark! It dwarfed the accompanying Skylarks, although in length it was more comparable, being rather short.

APPEARANCE IN FLIGHT Easily distinguished from the Skylarks by its much shorter tail (the white tips always obvious), shorter, broader wings, due to the short, swept-back primaries, and the very heavy 'undercarriage'. Flight similar, but more erratic, with faster wing-beats, occasionally deeply undulating and interspersed with long glides, during which the tail was always widely spread.

PLUMAGE AND BARE PARTS Always readily distinguishable by size and much paler coloration than even the palest Skylark. Head large, with broad, whitish supercilia bordering the grey-brown, lightly-streaked crown, not meeting on nape. Nape paler than crown, with fainter streaks. Very pale brown ear-coverts, bordered completely by a dark brown margin. The most striking plumage feature was a complete black

band running across the upper breast, broadening on sides of neck, as illustrated in fig. 1. Chin and throat whitish. Immediately below breast band, breast white, but progressively more buff down sides to flanks, and lightly streaked near bend of wing. Rest of underparts white. The broad mantle was more grey than brown, faintly streaked, except for three rather broad, dark lines running diagonally away from a white-flecked centre. Rump greyer still, paler and unstreaked. All feathers of the pale grey-brown closed wing broadly edged buff, but lacking any noticeable wing-bars. The closed tail was difficult to observe, being very short and usually hidden by the wings, but, when seen, the white tips again became obvious. In flight, the tail proved to be very dark below, with each feather broadly tipped white, usually appearing round (rather than square-ended as shown in fig. 1). Primaries and secondaries appeared almost translucent from below, contrasting with rest of underwing; thus reversing the effect gained from above. No obvious white along the trailing edge, either above or below. Bill large, proportionately larger than Skylark's, pale horn, but darker towards tip. Legs bright pink-flesh.

The Bimaculated Lark remained for four days feeding in the company of Skylarks on the sward and stubble at Peninnis Head. It was not

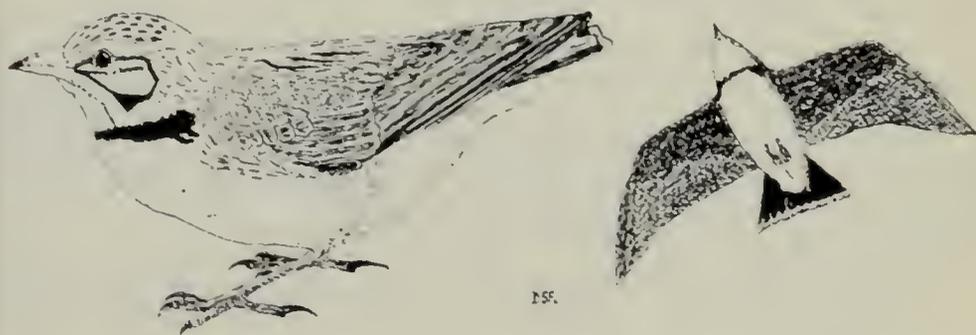


Fig. 1. Bimaculated Lark *Melanocorypha bimaculata*, Isles of Scilly, October 1975. Note squat, bulky appearance, large head and complete black breast band. In flight, short dark tail (rounder than shown), with white terminal band, and lack of white trailing edge to almost translucent flight feathers. Drawn from field sketches

particularly wary and its movements when shuffling across the ground, occasionally running quickly over short distances, were reminiscent of a mouse. It was not heard to call.

The Bimaculated Lark breeds in the Caucasus and western Asia, from Asia Minor and the Near East to northeastern Afghanistan, north to the southern Urals, and the Kirghiz Steppes east to Zaisan Nor; it winters in Egypt, Sudan, Arabia, Ethiopia and northwestern India (Vaurie 1959). The only previous record in Britain and Ireland was one on Lundy, Devon, on 7th-11th May 1962 (Jones 1965), although there have also been occurrences in Finland (13th January 1960: *Orn. Fenn.* 37: 100) and Italy (May 1919: *Riv. Ital. Orn.* 38: 72).

D. S. FLUMM

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One Coal Tit killing another On 4th May 1958, in a garden at Woodcoate, Oxfordshire, I found one Coal Tit *Parus ater* hammering at the scalp and nape of another, which was prostrate. Upon removing and examining the injured bird, I found it to be barely conscious. All the scalp feathers had been pecked out, leaving a red, raw patch of skin. As I held the bird in my hands, it lost consciousness, and the heart stopped beating within four minutes. The cause of death was not ascertained, but shock and cerebral haemorrhage seemed likely. JOAN HALL-CRAGGS
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Prolonged aggression by one male Blackbird towards corpse of another At about 09.15 GMT on 2nd January 1976, in the High Street, Dry Drayton, Cambridge, I drove past two male Blackbirds *Turdus merula* apparently fighting at the side of the road. When I approached them on foot, the aggressor flew away and perched in a tree about 6½ m away. The other bird had just died and had fairly extensive head injuries. I left it at the side of the road. Some five minutes later, Dr Joan Stevenson-Hinde drove along the street and found a male Blackbird in the road hammering at the corpse; and at 13.00 hours Dr R. E. C. White and Dr S. J. White drove along the same street and found a male Blackbird battering the corpse. It seems reasonable to assume that the aggressive bird was the same individual on each occasion. Thus, this male Blackbird maintained a high level of aggression for at least 3¼ hours.

JOAN HALL-CRAGGS

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Scarlet Tanager in the Isles of Scilly At about 15.00 GMT on 28th September 1975, while walking along the edge of a belt of pines *Pinus* between Castle Down and Gimble Porth on Tresco, Isles of Scilly, my

attention was drawn to an unfamiliar bird perched on the outer branches of a dead tree some 20 m away and a little above head height. It was sitting directly facing me and, in this position, bore a superficial resemblance to a large Greenfinch *Carduelis chloris*. Turning side-on, it revealed a prominent bill, somewhat finch-like but longer and less conical, looking pink, although this may have been exaggerated by strong sunlight. With four other observers, I watched it for only 15-20 seconds before it flew into cover; despite a search we could not find it again that day. From the available literature, we identified the bird as an immature male Scarlet Tanager *Piranga olivacea*, although the considerable difference in bill colour and contrast between pale wing and dark coverts, compared with illustrations, at first caused some confusion. The tanager was seen by several other observers during the next five days, including D. B. Hunt, who photographed it (plate 76). The following details are taken from my notes and those by G. C. Hearl:

Exotic-looking bird the size of Hawfinch *Coccothraustes coccothraustes* or Starling *Sturnus vulgaris*, with large head, prominent bill, short, slightly forked tail and short, broad wings. Head, nape, mantle and rump uniform, bright olive-green; orbital ring pale yellow; wing-coverts black, forming distinct patch on shoulder, contrasting with greyer primaries and secondaries; tail blackish; throat and underparts bright, light yellow; no bars or streaks; bill light pinkish horn, shape like Song Thrush *Turdus philomelos*, but thicker. Perched for short periods at tops and outer edges of small pine trees and rhododendrons, often making short, circular flights like a Spotted Flycatcher *Muscicapa striata*, but not returning to same perch; never still for longer than 30 seconds.

This was only the second record for Britain and Ireland; the first was also in the Isles of Scilly, on St. Mary's on 4th October 1970 (*Brit. Birds* 65: 155-158).

R. E. ALDERTON

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76. Immature male Scarlet Tanager *Piranga olivacea*, Isles of Scilly, September-October 1975 (D. B. Hunt)

Letters

Half a pair of Black-browed Albatrosses In the course of their discussion of proof of breeding (*Brit. Birds* 69: 277, 457), Bruce Campbell and E. J. M. Buxton omitted to comment on one important consideration: the conservation status of potential breeders. If their requirement for a fertile embryo is pushed too far, I foresee the day when egg-collectors will plead in court that their eggs of Bluethroat *Luscinia svecica* and Black Redstart *Phoenicurus ochruros* were all laid by unmated birds, such as those in Speyside and Orkney (*Brit. Birds* 61: 524-525; 68: 19), and were not covered by special penalties in the protection legislation. It seems desirable

that it should be clearly accepted that stray birds which start to show breeding behaviour are protected, notably, in the case of rare species, by the provisions relating to disturbance of Schedule 1 species: even if they do not find a mate at the first attempt, if they are not discouraged, they may return and try again, with more success.

In this connection, I am surprised that Dr Campbell and Mr Buxton did not mention the most distinguished bird currently trying to breed alone in Britain, the Black-browed Albatross *Diomedea melanophris* at Hermaness in Shetland. It is remarkable that this fairly well-documented event has not received more comment, and it may be worth summarising again the information available. If we exclude any transient individuals listed in the annual 'Reports on rare birds', it seems likely that this is the individual first seen and photographed by P. Steingrimsen in a gannetry in the Westmann Islands, south of Iceland, in 1966 (*Animals* 9: 596). Possibly, it found that Iceland, which lies in a higher latitude than any of the southern breeding places, had an uncongenial annual cycle, which may explain why what seems likely to be the same bird reappeared among the Gannets *Sula bassana* on the Bass Rock in 1967 (George Waterston, *Brit. Birds* 61: 22-27), since the Bass lies in approximately the same latitude as the southernmost breeding places, 56°.

It seems a pity that the opportunity to ring it was missed when it was found entangled in a fishing net on the Bass, so that its further history could be traced. After staying there during the summer of 1968 and making a brief visit at the start of the breeding season in 1969, it appears to have wandered away. There is then a gap, during which it may or may not have explored other possible breeding sites, such as the Flannans off the Outer Hebrides, where the light-keepers are said to have noticed an albatross for a few days at about this time, before what was probably the same bird was located in another gannetry, at Hermaness in the north of Shetland in 1972, where it has reappeared annually since 1974.

In the first year that it came to land (if it is the same bird), it was noticed late in the season in high latitudes, and, while it was already in adult plumage, it seems likely that it was still immature. The following year, it was first noticed on the Bass Rock on 18th May, and, in the next two years, appeared on 13th and 10th April. In its early years at Hermaness, it was not seen until the season was well advanced, but it may have been overlooked, as this is a remote locality, and the site it favours, the point where an outlying ridge joins an overhanging cliff in the centre of the gannetry, is not conspicuous. By June 1976, it appeared to be incubating steadily, and it seemed tactless to investigate whether it might be sitting on an egg. On five of the 11 years since it started coming to land, it has last been seen between 4th and 22nd August. It now appears fully adult, with the dark iris and limited supercilium characteristic of the nominate race, which breeds in the Indo-Atlantic sector of the Southern Ocean.

Black-browed Albatrosses have taken to scavenging after the rapidly expanding fisheries of southern seas, as have the smaller Fulmars *Fulmarus glacialis* in the north. They are among the most migratory albatrosses,

moving north, whereas the other species disperse east and west. It seems likely that an increase in the population, associated with a tendency to follow ships, may explain the growing number of records north of the equator, where two birds have now been reported keeping company at sea on the far side of the Atlantic as well as off Europe (*Ibis* 109: 141-167; *American Birds* 28: 598-603; and various unpublished reports). If these birds are already accustomed to feeding behind fishing boats, they must find it increasingly easy to maintain themselves in the North Atlantic, where they are, moreover, less likely to be shot than in the past. If they are left alone, they seem virtually bound to try to breed before long, and, if the first ones are successful, they will doubtless attract all the recruits for the first few years to form a colony.

The remains of an albatross, the English Albatross *D. anglica*, which may have been rather similar to the existing Short-tailed Albatross *D. albatrus* of the North Pacific, have been found in the late Tertiary deposits of East Anglia; albatrosses must once have occurred in the North Atlantic, but died out during the ice ages. With the provision of a new food supply by trawlers at sea and the enforcement of protection legislation, conditions are now ripe for their return. When the Royal Albatross *D. epomophora* first started to settle on Taiaroa Head, New Zealand, in the 1930s, the site was protected by a fence, to the great indignation of casual visitors: now, however, such visitors can watch a thriving colony. From the point of view of the public, it seems a pity that the first bird to come ashore in Britain was subjected to so much disturbance that it withdrew from an easily accessible site on the Bass Rock to the remotest one that it could find in the north of Shetland. It seems time that it was afforded more protection from casual disturbance, before it is driven out of the country entirely, notably by inclusion in Schedule 1, so that it is protected from disturbance by special penalties under the bird protection legislation.

While it may be debatable whether half a pair of birds can provide a whole breeding record, one bird is still better than none, especially when the site where that bird is finally allowed to settle might become the first colony of the species in the northern hemisphere.

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Birds of prey in Tunisia With reference to the item on the 12th *Bulletin of the International Council for Bird Preservation* which appeared in the July 1976 'News and comment' (*Brit. Birds* 69: 278-279), and in particular to the section concerning birds of prey at Cap Bon, Tunisia, I should like to make the following statement.

The trade to which you referred was encouraged by:

1. The decision of the Centre de Recherches sur les Migrations des Mammifères et des Oiseaux (French ringing organisation) to purchase the hawks from the villagers of El Haouaria, Cap Bon, in order to ring them. This operation, despite its scientific interest, served mainly to show local people that birds of prey are worth money:

beforehand, they tried to catch only female Sparrowhawks *Accipiter nisus* to be trained for hunting Quails *Coturnix coturnix* in spring; the Sparrowhawks were released after the spring Quail passage.

2. The organisation by the tourist authorities of a falconry festival at El Haouaria in May of each year. At this festival, there was not only a demonstration of falconry, but an opportunity for local people to sell birds to tourists, who often abandoned their purchases when the novelty had worn off.

3. European falconers who come to Tunisia in search of young Peregrines *Falco peregrinus brookei* and Barbary Falcons *F. (peregrinus) pelegrinoides*, which villagers from El Haouaria have learnt to remove from the eyries and sell at a price sometimes exceeding their average annual income. These European traffickers come from France, Belgium, Switzerland, Italy, Germany, Denmark and Great Britain; our association has pointed out to the British Falconers' Club—to no effect—the activities of a falconer who is one of Her Majesty's citizens.

There are at present in Tunisia two associations working for the protection of fauna in general and birds in particular: the 'Association Tunisienne pour la Protection de la Nature et de l'Environnement' and the 'Amis des Oiseaux', the president of which is Mr Habib Bourguiba Junior. In the field of bird protection, the activities of these associations have concentrated on, first, establishing rigorous legislation. Thus, all birds are protected by law, except for 20 game species. Only licensed falconers are now allowed to trap birds of prey. Raptors' eyries are guarded by wardens appointed by the Forestry Direction of the Agriculture Ministry, as are sites important for wintering and breeding waterfowl. The second activity has been a campaign to inform the public and to persuade people to respect and protect birds, especially such vulnerable species as raptors. Thus, the inhabitants of Cap Bon now catch only the female Sparrowhawks required for falconry; any other raptors netted are immediately released, as Jean-François and Michel Terrasse were able to confirm in May 1976.

These activities earned us a letter of commendation from ICBP in July 1976. Much remains to be done, however, and we need material support to enable us to complete our work in the field. The 'Fonds d'Intervention pour les Rapaces (France)' has helped greatly in recent years.

ALI EL HILI
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'Dreads' I have read Bernard King's note about 'dreads' at terneries (*Brit. Birds* 70: 81-82). His explanations of their cause, however, are too particularised to account for 'dreads' in general, and I submit the following as a broader possibility.

In any human crowd—for example at a football match—a moment of sudden silence occurs from time to time; the general hubbub stops and then, almost immediately, re-starts. At such times, I have often thought, 'Here, among birds, is where a "dread" would occur: they would frighten themselves by their own silence, and rise to see that all was well.'

K. G. SPENCER
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Trembling movements of House Martin when nest-building A recent note by Hubert E. Pounds (*Brit. Birds* 69: 451) drew attention to the behaviour of nesting House Martins *Delichon urbica* as they place each pellet of mud in position: there is a rapid vibratory movement of the head. While I cannot prove it, I suspect that this action causes the water in the mud to flow, thereby ensuring better bonding. Building contractors, when laying big concrete foundations, frequently insert a vibrating rod into the mass of wet concrete in order to assist it to flow and settle. I suggest that the head actions of the House Martins would have a similar effect.

ROBERT SPENCER

British Trust for Ornithology, Beech Grove, Tring, Hertfordshire HP23 5NR

As stated in the editorial comment (*Brit. Birds* 69: 451), it is quite normal for House Martins to make quivering or trembling movements when nest-building. This behaviour was noted by Gilbert White (*The Natural History of Selborne*, Letter XVI, 20th November 1773): 'These industrious artificers are at their labours in the long days before four in the morning: when they fix their materials they plaster them on with their chins, *moving their heads with a quick vibratory motion*' (my italics).

K. G. SPENCER

3 Landseer Close, off Carr Road, Burnley, Lancashire

Announcement

YOC and 'BB' We are delighted to announce the establishment of formal links between the Young Ornithologists' Club (the junior branch of the Royal Society for the Protection of Birds) and our journal. The work of many of the older members of the YOC (and its predecessor, the Junior Bird Recorders' Club) has frequently been of a high scientific standard. Winners of the annual awards in the past have included such names as David Lack, K. B. Rooke, A. D. Watson, N. W. Moore, Bryan Nelson and J. T. R. Sharrock; recent winners of the title 'Young Ornithologist of the Year', Eleanor Evans (1975) and Duncan Parish (1976), will doubtless become equally well-known in years to come. This annual competition is to be sponsored by *British Birds*



and we welcome the opportunity to foster the work of up-and-coming ornithologists. As a further means of helping the new generation of birdwatchers, we can offer all members of the YOC a reduced subscription rate to *British Birds* (see the YOC magazine *Bird Life* for details). We anticipate that this will be a service of value to many of the older or more serious young birdwatchers in the YOC, and will, we hope, help them to acquire a lasting interest in ornithology. EDs

Rarities Committee news and announcements

P. J. Grant and the Rarities Committee

This feature will appear annually to bring readers up to date with developments within the committee and matters relating to its work, most of which stem from discussions at the committee's annual meeting

The committee's main work is conducted by postal circulation of batches of rarity records. The annual meeting, which gives the opportunity for general policy and membership items to be discussed, was held this year in Leeds on 5th March. In the year ending 31st March 1977, the composition of the committee was P. J. Grant (chairman), J. N. Dymond (honorary secretary), R. H. Dennis, D. J. Holman (co-opted), R. J. Johns, B. Little, J. R. Mather, Dr R. J. Raines, Dr J. T. R. Sharrock and G. A. Williams. As previously announced (*Brit. Birds* 69: 414-415), D. I. M. Wallace retired from the committee during 1976, after a total of 12 years' membership, the last four as chairman. We owe him a great debt of gratitude for his expert service and energetic leadership. D. J. Holman began his official term of membership on 1st April this year, following his co-option in 1976 and the absence of alternative nominations (see 69: 415).

New honorary secretary

When appointed as warden of the Royal Society for the Protection of Birds reserve on Fetlar, Shetland, J. N. Dymond retired as honorary secretary from the end of March 1977, having held this position for nearly two years. The efficiency with which he had carried out the onerous secretarial duties received high praise, both within the committee and outside it from his many correspondents: his work has been a major reason for the committee's smooth operation over the past two years, and we wish him every success in his future career. As previously announced (70: 172), his successor, appointed by the editorial board in consultation with the committee, is John O'Sullivan, to whom all correspondence concerning records should now be sent, c/o RSPB, The Lodge, Sandy, Bedfordshire SG19 2DL. He works in the Conservation Planning Department of the RSPB and has wide field experience in several European countries, North America and Australia. In order to reduce the secretarial workload, the committee has decided to make this appointment outside the voting complement of ten members.

Election of new members

Two vacancies will arise on 1st April 1978, resulting from the retirement of R. H. Dennis as the longest-serving member and the appointment of a

non-voting secretary. In considering its own nominations to fill these vacancies, the committee was conscious of the loss of the important link with Scotland, which would have occurred with Roy Dennis's departure: his knowledge of the Scottish ornithological scene is exceptional and has proved invaluable during the past eight years. In view of this, and the essential need for continued Scottish representation, we have decided to nominate him for a further term of office. So that the full voting complement of ten members was maintained, the committee decided to co-opt S. C. Madge, who is also the committee's nomination to fill the second vacancy. Having spent 15 months birdwatching in Iran, Afghanistan, Kashmir and Nepal, as well as making shorter trips to Morocco, Turkey and south and southeast Europe, Steve Madge has ample relevant experience. Although formerly resident in southwest England, he is now the RSPB warden at Fairburn Ings, North Yorkshire.

We hope that these nominations will be widely endorsed, but, if any ornithological body or individual wishes to put forward other names, they should write to me by 31st December 1977. Then, as in past elections, the regional recorders and bird observatories will be invited to vote.

Species list

In view of its firm establishment as a breeding species in southeast England and the continued spread and increase of records nationally, the committee has decided to delete Cetti's Warbler *Cettia cetti* from its list of species, as from the end of 1976. We still wish to receive details of any records before that date which have not yet been published in our annual reports. So that trends can continue to be monitored, we strongly urge observers to submit future records of Cetti's Warbler to the regional recording bodies and, through them, to the Rare Breeding Birds Panel.

Identification papers

The increased flow of published and forthcoming identification papers and notes in this journal is welcomed by the committee. We once again draw attention to the fact that the committee's files are available to any researcher investigating new or improved identification criteria. They are a mine of information and provide an invaluable cross-section of opinion on rarity identification: we should welcome their wider use. Three species in particular continue to give problems in the field, and the committee readily admits its inability to judge all records of them objectively: we should greatly welcome guidance in the form of photographs or written comments from observers who have experience of them. They are Red-necked Stint *Calidris ruficollis* (especially its separation in first-autumn and winter plumage from Little Stint *C. minuta*), Blyth's Reed Warbler *Acrocephalus dumetorum* (especially its separation from Marsh Warbler *A. balustris* and Reed Warbler *A. scirpaceus* on call, structure and plumage criteria) and Citrine Wagtail *Motacilla citreola* (especially call, structure

and plumage differences of immatures from immature and female pale variants or races of Yellow Wagtail *M. flava*).

Published notes of rarities

It is intended that details of occurrences of species which have been recorded five or less times in Britain and Ireland should be published regularly in this journal. For various reasons, a rather large backlog has built up. In an attempt to clear this and improve the future flow, a direct approach will be made to the observer(s) involved, asking them to prepare a suitable note for publication. If this is unsuccessful, a committee member will prepare a note from the details submitted to the committee. Co-operation with this new system will provide a valuable reference on the identification of little-known species.

Rare subspecies

The committee wishes to restate its interest in records of rare subspecies. It is the only national body which regularly publishes records and which has the opportunity to collate information on their field identification. Past submissions have mainly involved the more distinctively marked races, but there is a need for a wider interest in the less obvious ones so that information on their status and identification can be gathered.

'Call only' records

There has been criticism from both inside and outside the committee of an apparent change in standards in its judgement of rarity identifications based mainly or entirely on call. It was felt that some recent rejected 'call only' records would have been accepted in the past, but an investigation suggests that this is not the case. Although only a minority of committee members oppose the acceptance of 'call only' records from experienced observers, the committee recognises that this divided opinion reflects the variety of attitudes outside the committee. Individual records will continue to be judged on their merits.

Ornithological decorum

Few birdwatchers will deny the thrill instilled by the sight of a rare bird—for many it is the *raison d'être* for their hobby. Over-enthusiasm has on occasions led to a disregard for private property and the normal courtesies to landowners and the general public. From birdwatchers, too, comes the more frequent complaint about the individual who insists on getting closer than anyone else when watching a rare bird, eventually putting it to flight, or those who continually flush a skulking rarity: in both cases, a more patient 'wait and watch' approach is invariably more productive in terms of views obtained. We feel that the best cure is in the hands of birdwatchers themselves, not only in setting personal high standards of what might be generally termed ornithological decorum, but also in not turning a blind eye to the misdemeanours of the small minority.

Diary dates

This list covers events taking place during July 1977 to June 1978. We welcome the submission of details of events for possible inclusion in the next list, covering January to December 1978, which will appear in the January issue.

19th July BRITISH ORNITHOLOGISTS' CLUB. Stanley Cramp on 'The Handbook of the Birds of Europe, the Middle East and North Africa (The Birds of the Western Palearctic)'. Central London. Non-members should write to the hon. secretary, R. E. F. Peal, 24 Creighton Avenue, London N10 1NU.

15th September BOC. Professor V. C. Wynne-Edwards on 'Social competition controlling population density in birds'. Central London.

17th September ROYAL SOCIETY FOR THE PROTECTION OF BIRDS CONSERVATION DAY. University of Exeter. Cost £4 (including lunch). Applications to Stan Davies, RSPB South-West Officer, 42 St David's Hill, Exeter, Devon.

8th October RSPB LONDON DAY AND ANNUAL GENERAL MEETING. Cunard International Hotel, Hammersmith. Cost £5. Applications to Conference Secretary, RSPB, The Lodge, Sandy, Bedfordshire SG19 2DL.

15th October RSPB CONFERENCE. University of Strathclyde. Cost £3.75 (including meals). Applications to Ian Pascoe, Ballaghan House, Strathblane. Glasgow.

28th-30th October BRITISH TRUST FOR ORNITHOLOGY/IRISH WILDBIRD CONSERVANCY CONFERENCE. Malahide, Co. Dublin.

1st November BRITISH ORNITHOLOGISTS' UNION AUTUMN SCIENTIFIC MEETING. 6.30 p.m. British Museum (Natural History). 'The Thames transformed'. Buffet supper (£2.50) can be booked from Meetings Secretary, BOU Office, c/o Zoological Society of London, Regent's Park, London NW1 4RY.

15th November BOC. Mrs Stephanie Tyler on 'The avifauna of Ethiopia'. Central London.

2nd-4th December BTO ANNUAL CONFERENCE. Hayes Conference Centre. Swanwick, Derbyshire.

January (date to be arranged) YOUNG ORNITHOLOGISTS' CLUB ANNUAL MEETING.

6th-8th January BTO RINGING AND MIGRATION CONFERENCE. Hayes Conference Centre.

20th-22nd January SCOTTISH ORNITHOLOGISTS' CLUB ANNUAL CONFERENCE. Marine Hotel, North Berwick, East Lothian. Applications to SOC, 21 Regent Terrace, Edinburgh EH7 5BT.

17th-19th February BTO CONFERENCE. Hayes Conference Centre.

3rd-5th March ALL-IRELAND CONFERENCE. Jointly organised by the RSPB and the IWC. Wexford.

31st March-2nd April BOU ANNUAL CONFERENCE. Royal Holloway College, Egham. 'Eggs, incubation and growth rate' (jointly with the Incubation Research Group). Applications to BOU Office.

31st March-2nd April RSPB MEMBERS' WEEKEND. University of York. Applications to Conference Secretary, RSPB.

25th May THE WILDFOWL TRUST AGM

4th-11th June XVII INTERNATIONAL ORNITHOLOGICAL CONGRESS. Berlin (West) (see *Brit. Birds* 70: 129).

Requests

Black-and-white photographs and line-drawings We again request that photographers and artists with material suitable for use in *British Birds*, particularly as 'Mystery photographs' or to accompany the annual 'Report on rare birds' or monthly 'Recent reports', should submit prints or drawings for consideration to the managing editor, Dr J. T. R. Sharrock, Fountains, Park Lane, Blunham, Bedford MK44 3NJ.

Citrine and aberrant Yellow Wagtails A study is being made of the differences between the Citrine Wagtail *Motacilla citreola* and aberrant Yellow Wagtails *M. flava* of the 'grey phase' or grey-backed individuals showing Citrine characters. Colour photographs and descriptions of either, especially if accompanied by field sketches, would be of great value. Important points to note are the shape of the supercilium, width of wing bars and tertial edgings, and any apparent structural differences (such as head shape) from normal Yellow Wagtails. The call is very important and, because of the difficulties of transcribing, tape recordings, however poor, would be invaluable. Details, which will be acknowledged, should be sent to T. Inskipp, Brooklands, Broomfield, Chelmsford, Essex.

News and comment

Peter Conder and Mike Everett

'Bird Photograph of the Year' Michael Wilkes, whose photograph of a Nightingale won the 1976 award (*Brit. Birds* 70: 133), has been kept rather busy recently. He was interviewed on 'Today' (Radio 4) on the day of the presentation by Sir Peter Scott (plate 77) and later took part in the monthly half-hour 'Camera Club' (Radio Birmingham) and was interviewed on 'Today' (BBC Midlands); his Nightingale was featured in *Radio Times*. A photo-

grapher from *The Sunday Times* spent one whole morning with him at the site where he took the photograph, and that paper covered the award in detail; other newspaper coverage included *The Times*, *Daily Express*, and several local Midlands papers, *The Birmingham Post*, *The Sunday Mercury*, *The Redditch Indicator* and *Coventry Post*. Perhaps of most lasting value to Michael, he has received numerous offers from publishing firms.

77. M. C. Wilkes, winner of the 1976 'Bird Photograph of the Year' award, receiving £100 cheque from Sir Peter Scott (*A. J. Richards*)



An announcement concerning the 1977 'Bird Photograph of the Year' competition will appear in the August issue.

RSPB Members' Weekend With more than 750 participants, the Royal Society for the Protection of Birds' annual conference is clearly gaining in popular appeal. It was held this year at Nottingham University, during 22nd-24th April. The main activities were divided between lectures by scientists with the ability to put over their subjects impeccably to non-scientific audiences and lectures by RSPB staff. Dr Bryan Nelson spoke on 'Aggressive Gannets' and Bryan Sage, in a lighter vein, on his recent visit to Hawaii. The RSPB contribution was opened by the director, Ian Prestt, with a general review of the Society's activities. On Saturday evening, we were treated to one of the most relaxed and fascinating talks on the birds of the Highlands by Roy Dennis. The work of the research team, headed by Dr James Cadbury, was outlined, with contributions from Gareth Thomas and Penny Richards. The final session was open for members to put questions about RSPB work and policies.

Local groups and organisations arranged excursions and extracted more money for the Appeal in a variety of attractive ways.

The conference was also notable for an anguished aside by the chief lecturer, broadcast clearly to his 750-strong audience. After much trouble with synchronised projectors and slides appearing in the wrong order, a slide of Gannets copulating appeared on the screen. At this point, Bryan Nelson exclaimed, 'This is madness! They're copulating and they haven't courted yet!'

Conference competitions *British Birds* displays at recent conferences have included light-hearted mystery photograph competitions, with five or six birds to be named. The first prizes of a bottle of champagne and a year's free subscription to *British Birds* have been won by Mrs Sylvia Bates (British Trust for Ornithology Annual Conference at Swanwick in December), Kevin Standring (Scottish Ornithologists' Club Conference at Stirling in January) and, equal first, Stuart Housden and Miss Carolyn Joynes (RSPB Members' Weekend at Nottingham in April).

'Birds of Caernarvonshire' The Cambrian Ornithological Society has just published its second county avifauna in paperback. This book, written by Peter Hope Jones and Peter Dare, is an attempt to define the status and distribution of birds in Caernarvonshire in the early 1970s and to collate the scattered information into a sketch of the history of each species within the boundaries of the old county. The systematic list is preceded by short chapters on topography and land use and the major habitats and their birds. Price 90p, including packing and postage, from R. H. Fisher, 28 Dinerth Road, Colwyn Bay, Clwyd LL28 4YN.

News from Sandwich Bay Bird Observatory David Rosair has asked us to welcome the observatory's new warden, Norman McCanch, who looks forward to hearing from anyone interested in the observatory's activities. Congratulations are also due to Bill Oddie on his recent appointment as president of SBBO.

It's not all Greek any more! *Nature* is the newsletter of the Hellenic Society for the Protection of Nature. Last year, No. 8 included the first of a series of articles by Greek ornithologists on the birds of different regions of their country, dealing with Corfu and the nearby coastal region of Epiros. A note was also included on the Mikri Prespa, which was declared a National Park in 1974. There, alarming declines in pelican populations were brought to light: the two colonies of Dalmatian Pelicans, which held 80-100 breeding pairs in 1971, were down to 40-50 pairs in 1976, while the 1971 total for the two White Pelican colonies was 200 pairs, falling to 50 pairs in 1976.

Nature is written in Greek, but fortunately includes a summary of all its contents in English.

Bald Ibis news Much has been written recently on the parlous state of the Bald Ibis *Geronticus eremita* in Turkey, so it is useful to have some up-to-date information on its status in Morocco. Writing in *Der Ornithologische Beobachter* (73: 5/6, 1976), Udo Hirsch reported that the population had declined from about 1,500 birds (500 breeding pairs) in 1940 to only 600 (250 breeding pairs) in 1975. In all, there were

19 colonies or sub-colonies, but it is disturbing to note that only two colonies had normal age-composition: in six colonies, hardly any young birds were being reared to replace the oldest breeding individuals. The decrease is attributed to a combination of shooting, cultivation of feeding areas and disturbance by fishermen, shepherds and tourists.

Interesting longevity record From *Nos Oiseaux* (34: 31-35) comes a record of a Golden Eagle ringed as a three-week-old nestling and found dead in the vicinity of Château d'Oex, Switzerland, aged 25 years 8 months—a new record for this species in the wild, beating quite handsomely that of 18 years 11 months quoted in volume 4 of *Handbuch der Vögel Mitteleuropas*.

Opinions expressed in this feature are not necessarily those of the editors of British Birds

Autumn migration summary

K. Allsopp

Autumn 1976 will be remembered as yet another exceptional period for rarities, probably rivalling 1975 for the number and quality of passerine vagrants. These records, however, will be dealt with in the 'Report on rare birds' for 1976, so I shall not be referring to them here. With few exceptions, the reported occurrences of the commoner migrants were below average, indicating that the weather conditions were generally favourable to them. Although large 'falls' are exciting to the birds. As a general rule, the smaller (and hence slower-flying) migrants are more susceptible to the vagaries of the weather. In the first section of this summary, I shall relate the weather patterns to the reported movements of these species; subsequent sections will describe the occurrences of the stronger fliers, including waders, terns and gulls, and specialist fliers, such as large birds of prey.

Weather patterns and small migrants

Throughout August and the first half of September, the weather was dominated by anticyclones. These prevented the active rain-bearing cyclonic frontal systems from reaching this country, prolonging the summer drought. Until 10th August, the high pressure was centred to the west, with the resulting northerly winds providing excellent conditions for the start of the southward migration. The majority of **Swifts** *Apus apus* departed during this period, although some individuals remained until very late in the autumn. From 11th August, pressure increased over Scandinavia and the winds turned to light

northeasterlies. During the following week, a few migrants landed on the east coast, but most movement was in the west, where an above-average passage of **Pied Flycatchers** *Ficedula hypoleuca* occurred on the Calf of Man, mainly between 15th and 19th. A small influx of **Icterine Warblers** *Hippolais icterina* was evident on 14th, with records received from Cape Clear Island (Cork), Calf of Man and East Anglia. By 19th, a strong southeasterly flow developed over southern England which had extended over the North Sea by 22nd. A drop in temperature in Scandinavia induced some movement and **Pied Flycatchers** became numerous on the east coast south of Spurn Point (Humberside) and in the west on Bardsey (Gwynedd); there were smaller numbers in Ireland and a few records came from inland counties. The first influx of **Wrynecks** *Jynx torquilla* occurred at this time, together with small numbers of some 'reverse migrants': **Melodious Warblers** *H. polyglotta* in the west, and **Barred Warblers** *Sylvia nisoria* and **Red-backed Shrikes** *Lanius collurio* mainly in the east. The northern anticyclone weakened for a few days, but became re-established over Scotland and the Baltic by 27th. The combination of strong northeasterly winds and unstable thunderstorm conditions over the southern North Sea grounded many migrants, with **Wrynecks** being particularly affected. This species was reported mainly from East Anglia, with 14 on Blakeney Point (Norfolk) on 29th. Subsequently, many individuals were seen in most inland counties and also in Ireland.



Wheatears *Oenanthe oenanthe* and **Whinchats** *Saxicola rubetra* became common in southern coastal areas, and Dungeness (Kent) recorded its peak passage of **Pied Flycatchers**, with 70 on 28th. The anticyclone slipped eastwards and declined, as another became dominant to the west by 1st September. Cool northerly winds ensued, bringing some rain-bearing fronts, resulting in minor falls of **Willow Warblers** *Phylloscopus trochilus* in the southeast. During the following two weeks, a steady exodus of migrants was observed in the same area, with thousands of **Swallows** *Hirundo rustica*, and **Sand Martins** *Riparia riparia* flying southwards, and **Lesser Whitethroats** *Sylvia curruca* occurring in above-average numbers. From 9th, a complex low-pressure system developed over the North Sea, bringing gale force winds and rain, the weather moderating by 12th.

A significant change in the weather pattern happened about 16th September. The high-pressure area in mid Atlantic declined, which allowed the depressions to sweep across the ocean on a more southerly track, bringing in the warm, wet, westerly airstream, a return to 'British' weather, and an end to the drought. At the same time, an anticyclone developed over Scandinavia, resulting in the classic conditions for a fall on Fair Isle. Observers there were not disappointed. As well as the numerous rarities, there were significant movements of **Blackcaps** *Sylvia atricapilla*, with numbers reaching 50 on some days, and **Greenland Redpolls** *Acanthis flammea rostrata*, with a maximum of 60 on 17th. The anticyclone remained in the Baltic

area until the beginning of October and the associated easterly winds brought a steady influx of familiar and unfamiliar birds to the east coast areas. **Redstarts** *Phoenicurus phoenicurus* were the most numerous, with more **Blackcaps**, **Wheatears** and **Whinchats**. **Red-breasted Flycatchers** *F. parva* arrived in moderate numbers, with 11 in the Tyneside area between 23rd and 28th September being the largest concentration. Northern districts also reported most records of **Yellow-browed Warblers** *Phylloscopus inornatus*, which were surprisingly scarce in comparison with the numbers of the rarer *Phylloscopus* warblers. **Bluethroats** *Luscinia svecica*, which have been uncommon in the past few autumns, were more evident, with 23 reported during this period. There were also further arrivals of **Red-backed Shrikes** and **Icterine Warblers**. Western areas missed most of the major movements, since the Atlantic fronts remained slow-moving over these districts, bringing heavy rain and mainly southerly winds. A further three **Melodious Warblers**, however, were reported from the southwest.

The decline of the Scandinavian high by 4th October stopped the flow of migrants from Europe, but the strong westerly winds which followed brought unprecedented numbers of Nearctic passerines to the Isles of Scilly. The weather pattern changed again on 12th and southeasterly winds in the north resulted in the first invasion of **Redwings** *Turdus iliacus* to Fair Isle. This air-flow continued in the north for the rest of October. On 26th to 29th, settled anticyclonic weather returned to the Baltic and the resulting **Redwing** emigration brought 20,000 to Fair Isle, but much smaller numbers farther south. Western areas subsequently experienced large arrivals, with 10,000 on Lundy on 31st. In the south, the main arrivals were of **Robins** *Erithacus rubecula* and **Goldcrests** *Regulus regulus*. **Great Grey Shrikes** *Lanius excubitor* might have been expected to arrive in late October, but very few were reported. The strong westerly winds which occurred during the first week of November brought the migration to an abrupt end.

Waders

The numbers of passage waders were lower than in the past few years. Whether

this was the result of a poor breeding season or because fewer than usual of these strong-flying birds were halted by adverse weather, may become evident in the future. Inland reservoirs were very low during the summer drought, but, although large areas of mud were exposed, the expected flocks did not appear. Some of the muddy areas were rapidly overgrown by weeds and, when the rains did come, the rising water quickly covered the remaining feeding areas.

The lack of strong westerly winds until the last half of September resulted in few records of Nearctic waders. Only four **Pectoral Sandpipers** *Calidris melanotos* were reported before 15th September, followed by eight in late autumn. The rarer species were much scarcer. The species most affected by the easterly air flows was apparently the **Little Stint** *C. minuta*. During the unsettled weather at the end of August, flocks of up to 15



arrived in east coast areas. The main influx, however, occurred in late September and October, with maximum concentrations of 68 at Seal Sands (Cleveland) and 59 at Marshside (Merseyside). **Curlew Sandpipers** *C. ferruginea*, normally expected to be seen with Little Stints, were scarce, the only party exceeding ten being reported from Kent, where 35 were seen on 21st August. The weather which disrupted passerine migration on 28th August also confused several **Red-necked Phalaropes** *Phalaropus lobatus*, and reports of one or two came from Leicestershire, Shropshire and Suffolk. Although not noted elsewhere, a large movement of **Jack Snipe** *Lymnocyptes minimus* occurred on Fair Isle at the end of September, when 30

were present on 30th, outnumbering the **Snipe** *Gallinago gallinago*. Among the commoner passage migrants, only **Green-shanks** *Tringa nebularia* were reported in above-average numbers inland.

Gulls and terns

Black Terns *Chlidonias niger* are usually associated with easterly winds, but this apparently very suitable autumn was a poor one for the species. The only significant numbers appeared at Dungeness in late August, with 40 being reported on some days, and then in late September in the southwest, with 135 on Chew Valley Lake (Avon) and flocks of about 40 on the Irish south coast. **Common Terns** *Sterna hirundo* and **Arctic Terns** *S. paradisaea* were noticeably scarce at inland waters and the only notable coastal passage reported was along the English Channel in mid September. Dungeness recorded its largest passage of **Sandwich Terns** *S. sandvicensis*, with 360 during a southerly gale on 11th September. **Little Gulls** *Larus minutus* also became common inshore in October, with 92 in the Mersey estuary on 6th, 550 at Dungeness on 18th and a movement noted on 30th at both Sheringham (Norfolk) (238) and Thanet (Kent) (200).

Birds of prey

The larger raptors, which usually need good convective weather conditions to enable them to cross the North Sea, do not occur regularly in these islands. During September, some did manage to arrive. **Ospreys** *Pandion haliaetus* were reported from 27 localities, mainly in northeast England (and one from Fair Isle, where they are most unusual in autumn). **Honey Buzzards** *Pernis apivorus* were also noted, with four seen at Portland Bill (Dorset) on 3rd October, three on the Isles of Scilly in late September and a further eight records from other localities. **Rough-legged Buzzards** *Buteo lagopus*, which might have been expected, did not appear: the only records received were from Walberswick (Suffolk) on 31st October and Spurn (Humberside) on 7th November.

Shearwaters and skuas

An analysis of the remarkable seabird movements during the autumn is being undertaken by D. I. M. Wallace and Dr

W. R. P. Bourne, and I shall not attempt to describe those events. Information was requested from observers in the January issue (*Brit. Birds* 70: 40) and, if there is anyone who has data not yet forwarded to D. I. M. Wallace, I urge them to do so. Most of the shearwater records came from

the North Sea in August and September, but reports of concentrations of **Great Shearwaters** *Puffinus gravis* in late October came from their more usual area in the Western Approaches, where a few hundred were seen near the Wolf Rock on 29th October.

Recent reports

K. Allsopp

These are largely unchecked reports, not authenticated records

This report covers April and the first part of May and, except where otherwise stated, all dates refer to April.

Spring arrivals

Until 15th, the weather was most unsuitable for any major influx of summer visitors. Low temperatures and northerly winds inhibited all but a few migrants. Light winds and warmer conditions on 6th brought 60 **Willow Warblers** *Phylloscopus trochilus*, 50 **Chiffchaffs** *P. collybita* and nine **Tree Pipits** *Anthus trivialis* to Dungeness (Kent) and an early **Garden Warbler** *Sylvia borin* was found at Portland Bill (Dorset) on 7th, followed by an early **Turtle Dove** *Streptopelia turtur* on 9th. The weather began to change to a more westerly flow on the 16th and temperatures rose in western areas. On the Call of Man, two **Grasshopper Warblers** *Locustella naevia*, 90 **Wheatears** *Oenanthe oenanthe* and 200 *Phylloscopus* warblers were grounded on 17th, when an early **Reed Warbler** *Acrocephalus scirpaceus* was found at Portland Bill. Three **Serins** *Serinus serinus* (but little else) arrived at Dungeness on 16th, followed by a small influx on 17th, including a **Swift** *Apus apus*. The latter species was seen in Nottinghamshire the next day, when the same county also reported a **Cuckoo** *Cuculus canorus*, two **Sedge Warblers** *Acrocephalus schoenobaenus* and an early **Spotted Flycatcher** *Muscicapa striata*. Also on 18th, a **Wryneck** *Jynx torquilla* was present near Exeter (Devon).

Much warmer southwesterly air covered the country ahead of a cold front on 22nd, and Dungeness reported the first substantial arrival of summer visitors, with **Willow Warblers** totalling 500 and a

good variety of other species, including **Nightingale** *Luscinia megarhynchos*, **Lesser Whitethroat** *Sylvia curruca*, and **Garden Warbler**. Two further **Serins** were seen there the following day, and another at Spurn (Humberside). The immigration was not sustained, however, in the following weeks and most species were late reaching their breeding areas. **Swifts** did not arrive in large numbers until mid May. Interesting arrivals at Portland Bill included **Quail** *Coturnix coturnix*, with one on 27th and two on 28th. Gibraltar Point reported a **Spoonbill** *Platalea leucorodia* on 7th May and a **Hoopoe** *Upupa epops*, one of seven in Lincolnshire.

Waders

Golden Plovers *Pluvialis apricaria* congregated in the Trent Valley (Nottinghamshire) in large numbers during early April, with 2,000 on 11th, apparently waiting for suitable migration weather. A passage of this species was observed inland over Galloway on 13th. Up to 27 **Whimbrels** *Numenius phaeopus* were reported passing Dungeness on 16th and 17th; further flocks were seen at Witcombe Bottom (Somerset) (71 on 26th), Axmouth (Devon) (70 on 28th) and Gibraltar Point (Lincolnshire) (four on 26th). A vagrant **Avocet** *Recurvirostra avosetta* was a surprise in Ross-shire on 10th.

Coastal movements

The most exciting reports have been of **Pomarine Skuas** *Stercorarius pomarinus* during early May. The regular spring passage of this species has become evident only over the past few years, mainly through reports from Cape Clear Island (Cork) and the English Channel. This



PJG

spring, Portland Bill reported a total of 28 between 23rd and 10th May, and the May passage at Dungeness included 28 on 2nd, ten on 3rd and six on 10th. These numbers were eclipsed, however, by reports received from Balranald (Western Isles), where May totals were: 95 on 7th, eight on 8th, 34 in two hours on 9th, 75 in four hours on 10th, 27 in two hours on 11th and 81 in 5½ hours on 13th. A flock of 24 adult **Long-tailed Skuas** *S. longicaudus* was also seen on 10th. No doubt these skua records will lure avid seawatchers to the west next spring. There have also been unusual numbers of divers reported from the south coast. The maximum passage was recorded at Dungeness on 16th, when 199, including ten **Great Northern** *Gavia immer*, 40 **Black-throated** *G. arctica* and 103 **Red-throated Divers** *G. stellata*, flew eastwards. Substantial numbers and species variety were also seen there on other dates and, farther west, at Portland, the April totals were 21 Great Northern, 27 Black-throated and 36 Red-throated. Two **White-billed Divers** *G. adamsii* were reported in Shetland. The end of the northerly weather on 16th, which probably induced the diver migration at Dungeness, also brought a total of 1,093 **Sandwich Terns** *Sterna sandvicensis* on passage to the same locality.

Rare wildfowl

Nearctic wildfowl continued to appear. Two further **Surf Scoters** *Melanitta perspicillata* were reported from Ireland, at Lahinch (Clare), one adult and an immature on 10th to 14th, and a third at Ballochroy (Strathclyde). A pair of **American Wigeon** *Anas americana* was seen at Rogerstown estuary (Dublin) and a male at Hythe (Hampshire) on 17th. A **Ring-necked Duck** *Aythya collaris* continued to haunt Somerset: a drake was present at Witcombe Bottom on 5th and 8th and Sutton Bingham Reservoir on 24th. There was also one at Sevenoaks (Kent), see plate 78. A flock of 600 **Greenland White-fronted Geese** *Anser albifrons flavirostris*, which included a **Blue Snow Goose** *Anser caerulescens*, arrived in Ireland on 2nd.

Latest News

Collared Pratincoles *Glareola pratincola*: Marton Mere (Lancashire), Alton Water (Suffolk), Blacktoft and Spurn (both Humberside); also, not specifically identified, on Ouse Washes (Cambridgeshire/Norfolk). **Ring-billed Gull** *Larus delawarensis* at Langstone (Hampshire); **Rufous Turtle Dove** *Streptopelia orientalis* at Pennington (Hampshire); singing **Cape May Warbler** *Dendroica tigrina* near Glasgow.

78. Male Ring-necked Duck *Aythya collaris* (right) with another *Aythya* duck, at first thought to be Canvasback *A. valisineria*, but probably a hybrid, one parent being Pochard *A. ferina*; Kent, April 1977 (Guy Harrison)



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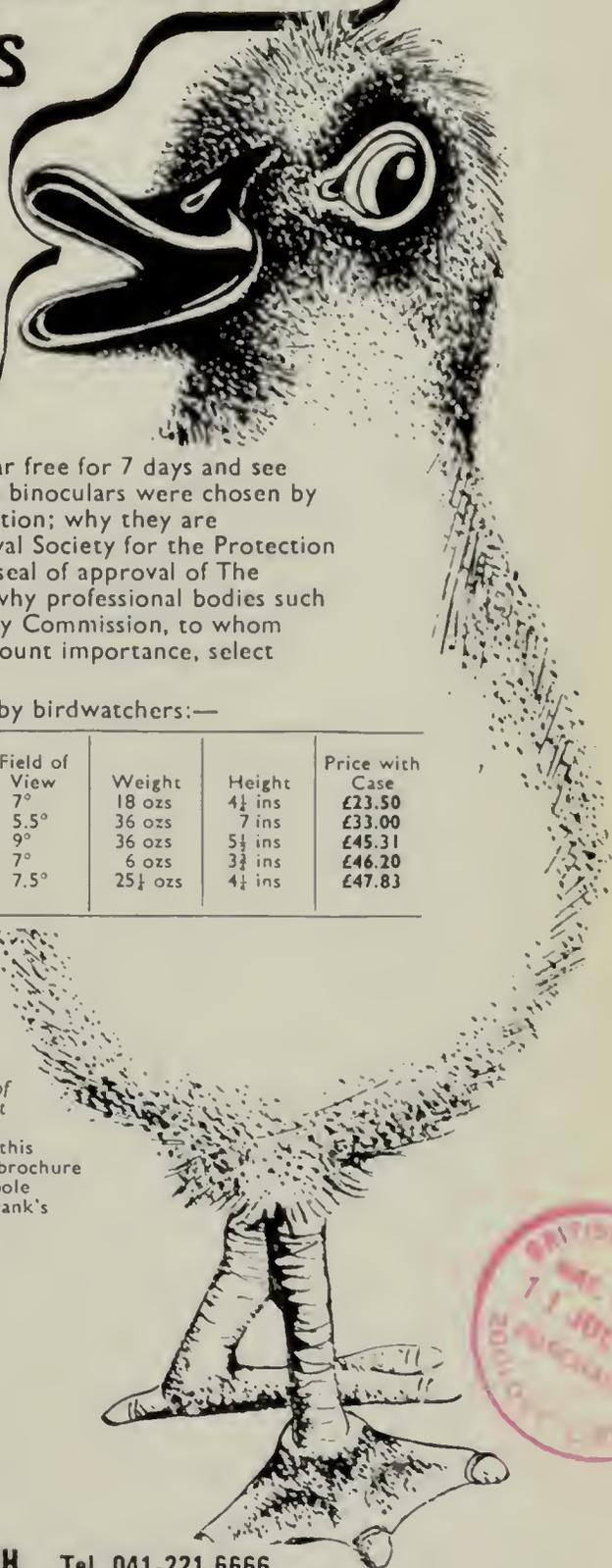
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British Birds

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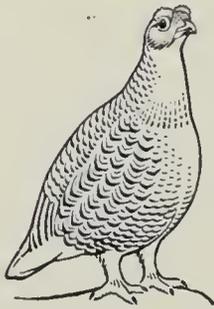
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News and comment

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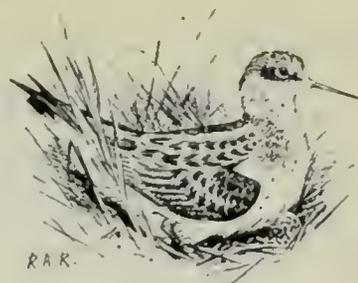
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British Birds

VOLUME 70 NUMBER 8 AUGUST 1977

Editorial changes

It is with great regret that we have to announce that M. D. England was forced by ill health to resign as photographic editor of this journal in mid June. Although his term in this position lasted for only 11½ months, this time saw some radical changes in the format of *British Birds*; his very high standards were invaluable in ensuring that his colleagues on the editorial board, the publishers and the printers never forgot the need to maintain reproduction quality at the highest possible level.

We welcome Michael W. Richards, who has now joined the editorial team as photographic consultant. He is a professional still-photographer with the Royal Society for the Protection of Birds film unit, is photographic librarian at the society's headquarters at Sandy, Bedfordshire, and is establishing a black-and-white photographic agency. He joins us at a younger age than did any of his distinguished predecessors, G. K. Yeates, Eric Hosking and M. D. England, all of whom were household-names when they took on photographic responsibility for this journal. Michael Richards's work, however, has already appeared in *British Birds*: two striking and memorable action shots of Coots fighting (68: plate 27a) and Gannets fighting in flight (68: plate 55a).

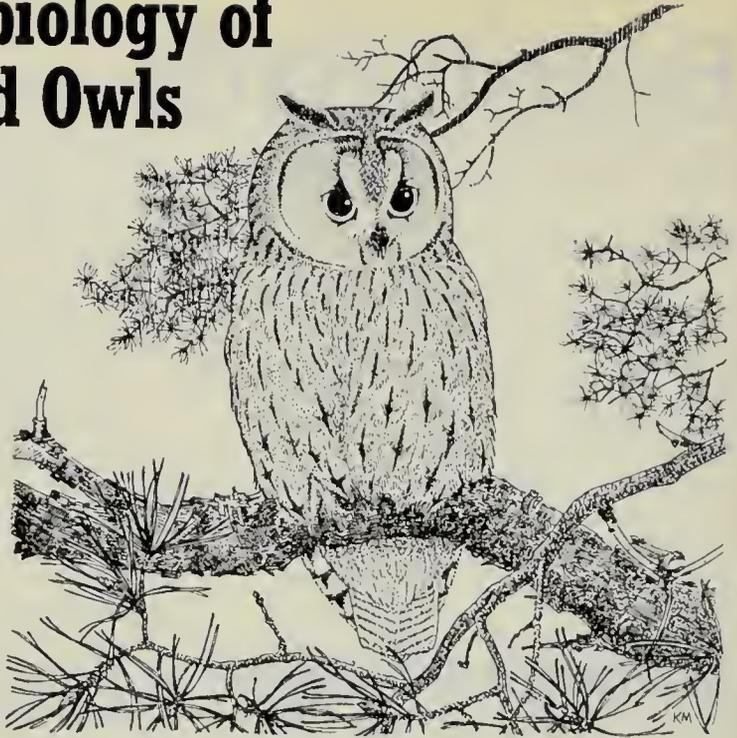


79. Michael W. Richards (*Penny Richards*)

Breeding biology of Long-eared Owls

David E. Glue

The Long-eared Owl is notoriously elusive during the nesting season. As with other owls, published information on its breeding biology is sparse



This paper draws on details from four sources: (1) 218 cards submitted to the British Trust for Ornithology's Nest Records Scheme during 1942-74; (2) 107 nests in northern England during 1904-44, meticulously recorded in the diaries of the late Arthur Whitaker; (3) my observations on behaviour at four breeding sites in Hampshire and Berkshire; and (4) comments from Derick Scott based on 116 nests during 1954-76.

Distribution of records

In many areas, the breeding status of the Long-eared Owl *Asio otus* is not clear, owing to the extreme difficulty of finding scattered pairs. During 1968-72, an extensive effort was made to confirm breeding in as many 10-km squares as possible for the *Atlas* (Sharrock 1976). Although incomplete, the results (fig. 1) showed that the Long-eared Owl is not scarce as a breeding bird in certain parts, occurring widely over much of eastern and lowland Scotland, northern England and the Isle of Man. In western Scotland, Wales and the rest of England, it is local, or even apparently absent from several regions, but is the commoner of Ireland's two owl species.

The scatter of the 218 BTO nest records reflects in part the distribution indicated by the *Atlas* (see table 1); but the species is under-recorded in parts of Ireland and Scotland, while observers have concentrated on nest-finding in certain areas where this owl is more widespread, for example, Northumberland (34 nests), Lancashire (32) and Aberdeen (16). The dating of the nest records indicates a marked increase in recording effort in recent years, as a result of *Atlas* fieldwork: 1942-52, 23; 1953-63, 61; 1964-74, 124. Whitaker's nests were confined to Yorkshire (61), Derbyshire (45) and Lincolnshire (1).

Table 1. Regional distribution of British Trust for Ornithology nest record cards of Long-eared Owls *Asio otus*, 1942-74

Regions are secondary divisions of the Euring code

	No. of counties	No. of nests	% of total nests
Southwest England	2	5	2.3
Southeast England	2	12	5.5
Eastern England	4	10	4.6
Central England	3	16	7.3
Northern England	5	99	45.4
Wales	3	4	1.8
Ireland and Man	5	18	8.3
Eastern Scotland	8	37	17.0
Western Scotland	4	17	7.8
TOTALS	36	218	100.0

Table 2. Breeding habitats of 200 Long-eared Owls *Asio otus* in Britain

Broad habitat type	No. of nests	%
HEATH AND MOOR (66)		
Small plantations, copses, or scattered trees on:		
Heather-grass moorland	38	19.0
Unimproved mosslands	19	9.5
Lowland heath and brecks	9	4.5
WOODLAND (51)		
Extensive blocks or fragmented areas of:		
Coniferous forest	30	15.0
Mixed or deciduous woods	19	9.5
Open parkland	2	1.0
FARMLAND (48)		
Small plantations, shelter-belts, or hedgerows on:		
Mixed farmland	17	8.5
Arable farmland	9	4.5
Hill pasture and rough grazing	8	4.0
Lowland meadows	7	3.5
Open downland	7	3.5
COASTAL/WETLANDS (30)		
Wooded clumps or scrub on:		
Coastal strip or dune slacks	19	9.5
Marsh, fen or swamp	11	5.5
MISCELLANEOUS (5)		
Conifer windbreaks, copses or scrub on:		
Waste ground (Ministry of Defence property)	3	1.5
Edge of built-up area	2	1.0
TOTALS	200	100.0

Breeding habitat

The Long-eared Owl occupies a wide range of habitats (table 2) in a widespread yet highly localised breeding distribution. The factors currently restricting the population are not clear, but a shortage of preferred breeding sites (see below), persecution by man (especially egg-collecting, robbing of nests by schoolboys, shooting on kept land) and unsuccessful competition with the larger Tawny Owl *Strix aluco* probably



Fig. 1. Breeding distribution of the Long-eared Owl *Asio otus* in Britain and Ireland during 1968-72 (reproduced, by permission, from *The Atlas of Breeding Birds in Britain and Ireland*). The smallest dots indicate possible breeding, the next probable, and the largest confirmed breeding, within each 10-km square

all contribute. As the Tawny Owl has extended its range northwards this century, moving increasingly into suburban and coniferous habitats, so Long-eared Owl numbers have dwindled in many areas (Parslow 1973). The presence of Long-eared Owl remains in pellets of Tawny Owls and

other raptors (Mikkola 1976) provides further evidence of interspecific competition. Despite examples of competition between Long-eared Owls and Tawny Owls, Kestrels *Falco tinnunculus* and Sparrowhawks *Accipiter nisus* in this study, there is an equal number of cases of successful breeding by all four in relatively small areas of woodland.

In contrast to the Tawny, comparatively few Long-eared Owls inhabit extensive blocks of even-aged, coniferous or deciduous woodlands. Most breed in isolated plantations, shelter-belts, copses, thickets or overgrown hedges surrounded by open country, which often embraces moor, heath, marsh, rough grassland or farmland (table 2). Coastal woods or scrub on marshes, shingle or dune slacks are commonly used lowland breeding sites (e.g. Nene Washes, Cambridgeshire; Dungeness, Kent; Donna Nook, Lincolnshire; Dornoch Firth, Sutherland). Small plantations and scrub birch *Betula* on hill pastures and moor are equally attractive (e.g. Badau Dudh, Inverness-shire, at 381 m; Glyn Corriog, Clwyd, at 511 m). These extremes account for the wide altitudinal range of nest sites (table 3): 12% in coastal localities, 54% below 200 feet (61 m), and 10% above 1,000 feet (305 m).

Tree nest sites

Unlike other tree-nesting owls, which normally occupy natural cavities where available, the Long-eared uses platforms, usually high in the upper branches of conifers (especially Scots pine *Pinus sylvestris*), less often lower in dense deciduous growth (particularly hawthorn *Crataegus*), and sometimes in other types of vegetation. Conifers comprised 75% of the 194 trees identified by nest recorders (table 4) and 70% of the 89 trees identified by Whitaker. Whitaker's nest sites ranged from 2 m in an osier *Salix viminalis* to 23 m in a beech *Fagus sylvatica*, and included nests in Scots pine (47), larch *Larix* (15), oak *Quercus* (14), holly *Ilex aquifolium* (6), crab apple *Malus sylvestris* (3) and silver birch *Betula pendula* (2), at an average height of 8 m. In Nottinghamshire and Lincolnshire, Scott found a strong association with hawthorns (39 of 98 tree nests); his lowest tree site was at 2 m in an elder *Sambucus* and the highest at 20 m in an oak.

Nest platform

The Long-eared Owl usually lays its eggs in the large old nest of another bird, or the drey of a squirrel *Sciurus*; less often on the ground, in a natural

Table 3. Altitudinal distribution of 151 nests of Long-eared Owls *Asio otus* in Britain

Altitude in feet (metres)	No. of nests	%
0-200 (0-61)	81	53.6
201-400 (61-122)	17	11.3
401-600 (122-183)	9	6.0
601-800 (183-244)	10	6.6
801-1,000 (244-305)	19	12.6
1,001-1,250 (305-381)	10	6.6
1,251-1,500 (381-457)	3	2.0
1,501-1,750 (458-533)	2	1.3
TOTALS	151	100.0



Table 4. Tree sites of 198 nests of Long-eared Owls *Asio otus*

Under HEIGHT OF NEST, a, b, c, d, e and f correspond respectively to: 1-5 feet (0.3-1.5 m), 6-10 (1.8-3.0), 11-20 (3.4-6.1), 21-30 (6.4-9.1), 31-40 (9.4-12.2), and 41-60 (12.5-18.3)

	No. of nests	HEIGHT OF NEST						Average nest height in feet (m)
		a	b	c	d	e	f	
CONIFEROUS								
Pine <i>Pinus</i>	96	1	1	39	42	11	2	26 (7.9)
Fir <i>Abies</i> and spruce <i>Picea</i>	24	0	1	8	11	2	2	25 (7.6)
Larch <i>Larix</i>	19	0	2	9	5	2	1	22 (6.7)
Others ¹	8	0	0	4	2	2	0	25 (7.6)
BROADLEAVED								
Hawthorn <i>Crataegus</i>	28	1	4	23	0	0	0	16 (4.9)
Willow <i>Salix</i>	6	1	3	2	0	0	0	15 (4.6)
Others ²	13	1	2	5	1	4	0	20 (6.1)
UNCLASSIFIED TREES	4	0	1	2	1	0	0	18 (5.5)
TOTALS	198	4	14	92	62	21	5	22 (6.7)

¹ Other conifers include sierra redwood *Sequoiadendron giganteum* (1) and Lawson's cypress *Chamaecyparis lawsoniana* (1).

² Other broadleaved trees include oak *Quercus* (3), silver birch *Betula pendula* (3), ash *Fraxinus excelsior* (2), alder *Alnus glutinosa* (1), elder *Sambucus nigra* (1), beech *Fagus sylvatica* (1), holly *Ilex aquifolium* (1) and rhododendron *Rhododendron ponticum* (1).

cavity or in a man-made site. The nests used most frequently in Britain are those of Magpie *Pica pica* and Carrion Hooded Crow *Corvus corone*, although the previous occupant varies in size from Jay *Garrulus glandarius* and Woodpigeon *Columba palumbus* to Grey Heron *Ardea cinerea* (table 5). Old nests of crows added to by a Sparrowhawk, or less often by a Kestrel, are commonly used.

Local preferences have been noted: Magpie nests in certain Derbyshire and Yorkshire conifer plantations (Whitaker, see table 5); Carrion Crow nests on some Lancashire mosslands; and hollow cavities in oaks of certain Suffolk woods (Hosking and Newberry 1945). Most owls, however, will use any available platforms rather than nest on the ground. Thin, flimsy Woodpigeon nests and dilapidated, old Magpie nests are sometimes used successfully, even when the parent owl and nest contents are clearly visible from below; occasionally the eggs or young fall to the ground.

Vacant nests may be occupied in the year following construction or later, when they may be added to by the owl or another bird of prey. Nest platforms are sometimes used in successive years: one built by a Hooded Crow in 1967 in Aberdeen was occupied annually during 1968-71. Regularly, the same tree is used in successive years, but a different nest, which may be as little as 1-3 m from the previous one; the same sector of a wood or plantation is commonly occupied.

The position of the nest in the tree is controlled largely by the availability of platforms, but certain sites are characteristic. Branches forming the crown cluster of Scots pine and the inner base of lateral branches of

80 and 81. Top, Long-eared Owl *Asio otus* on nest, Dumfriesshire, May 1970 (*J. F. Young*); bottom, Long-eared Owls breeding in old nest of Carrion Crow *Corvus corone* in crown of Scots pine *Pinus sylvestris*, male passing wood mouse *Apodemus sylvaticus* to female, southern England, June 1976 (colour transparency: *F. V. Blackburn*)

Table 5. Position of nests of Long-eared Owls *Asio otus* in Britain

Walpole-Bond (1938) also referred to occasional records of laying in old nests of Rooks *Corvus frugilegus*

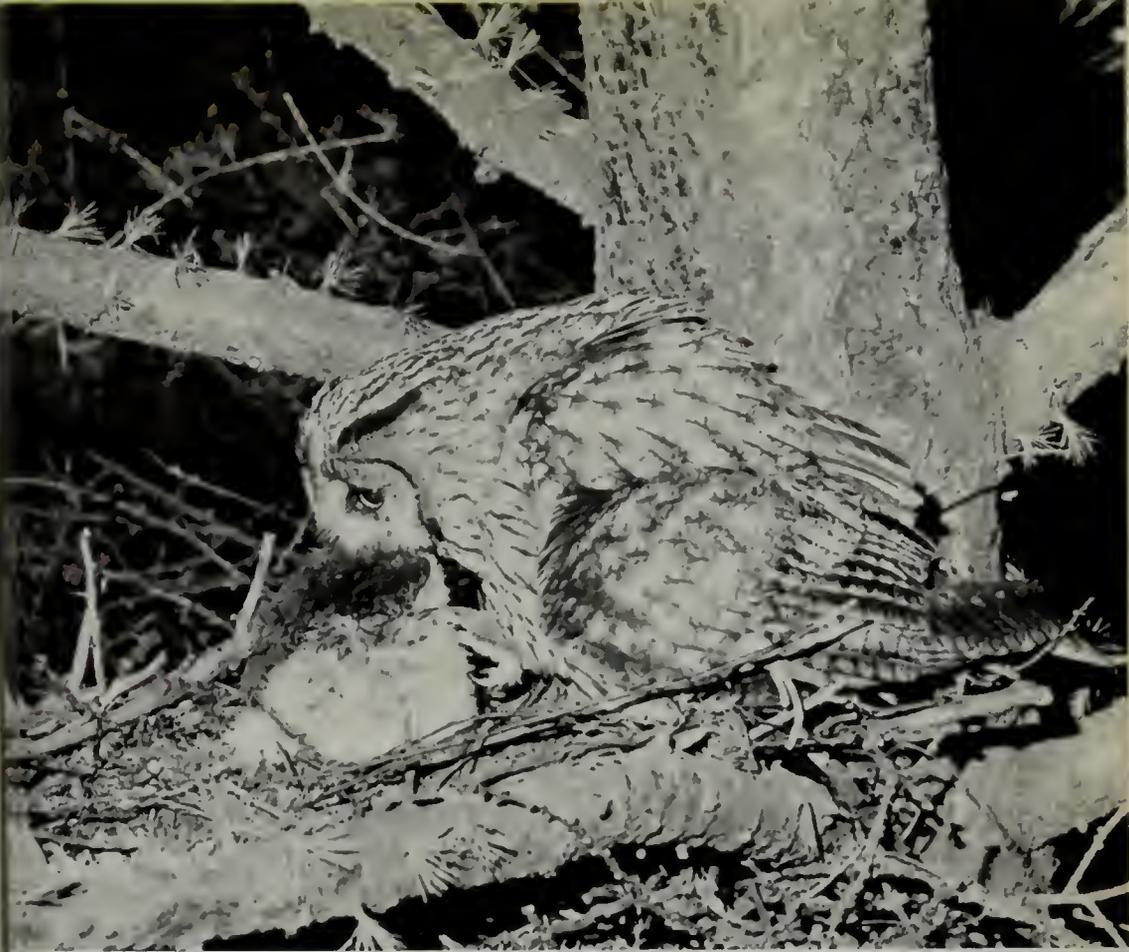
Nature of nest site	BTO nest records	A. Whitaker's
	1942-74	records 1904-44
EGGS LAID IN NEST VACATED BY		
Carrion Crow <i>Corvus corone corone</i>	50	—
Magpie <i>Pica pica</i>	33	80
Hooded Crow <i>C. c. cornix</i>	16	—
Unidentified crows (Corvidae)	22	—
Woodpigeon <i>Columba palumbus</i>	11	2
Sparrowhawk <i>Accipiter nisus</i>	7	12
Kestrel <i>Falco tinnunculus</i>	2	—
Grey Heron <i>Ardea cinerea</i>	1	—
Jay <i>Garrulus glandarius</i>	—	1
Grey Squirrel <i>Sciurus carolinensis</i>	1	1
EGGS LAID IN OR ON		
Natural tree growths ('witches' brooms')	3	—
Large open-fronted nestbox	1	—
Stick nest constructed by man	1	1
Natural cavity in willow <i>Salix</i>	1	—
Ground beneath dead bracken <i>Pteridium aquilinum</i> or bramble <i>Rubus</i>	2	6
Ground among heather <i>Calluna</i> / <i>Erica</i>	2	—
TOTALS	153	103

larches are favoured; the uppermost branches of hawthorns and the main forks of oaks and willows *Salix* are regularly occupied, and some use branches covered with ivy *Hedera helix* or honeysuckle *Lonicera periclymenum*.

Ground nests are usual where suitable platforms are lacking: for examples, in open heather *Calluna*/*Erica* (Shetland), scattered pines (Angus) or gale-damaged copses (Suffolk). The scrape or nest is commonly among the cover of heather, dead bracken *Pteridium aquilinum* or bramble *Rubus*, often at the base of a tree or beneath a fallen tree. An interesting example of a ground nest among reeds *Phragmites australis* is shown in Hosking and Newberry (1945, plate 36). Surprisingly for an owl, twigs are sometimes used to construct a distinct nest cup; Scott watched a male Long-eared Owl carry a larch twig to an occupied but empty tree nest which contained eggs a few days later. Fresh material found in four other nests may have been involved in the complicated courtship display.

Imitation crow nests constructed of sticks by ornithologists in copses lacking nest platforms were occupied successfully in two cases. On the Continent, Long-eared Owls use duck nesting baskets (Haverschmidt 1946), and occasionally open-fronted nest boxes, sometimes with relatively high occupation rates (e.g. Cave 1968). Further experiments with artificial nests and boxes in British and Irish woods devoid of suitable platforms but holding roosting owls could prove fruitful.

82 and 83. Long-eared Owls *Asio otus* at nest on lateral branch of larch *Larix*, Nottinghamshire, May 1973 (Derick Scott). Top, female transferring water vole *Arvicola terrestris*, just brought by male, from bill to foot before feeding downy young; bottom, female brooding smaller young, while eldest owlet nestles close



Breeding season

In late October and early November, males begin territorial marking, although residents hold territory all year. There is little activity from early December until early January, then much from late January to mid March and even later (Scott). First egg dates were calculated for nests where the timing of egg-laying, egg-hatching or young fledging was known, or where the young had been accurately aged. Data from 140 nests show (fig. 2) that most clutches are laid during late March to early April (mean 4th April, including repeats), although the laying season extends from 4th March (Dorset in 1957) to 7th June (Suffolk in 1971). February clutches are not unknown: Whitaker found one definite and one probable case of eggs laid in the last few days of that month; Scott describes February eggs as exceptional, his earliest clutches being 13th (unsuccessful) and 23rd February (three young fledged from four eggs), while Campbell and Ferguson-Lees (1972) stated that a few eggs are laid from the first quarter of February.

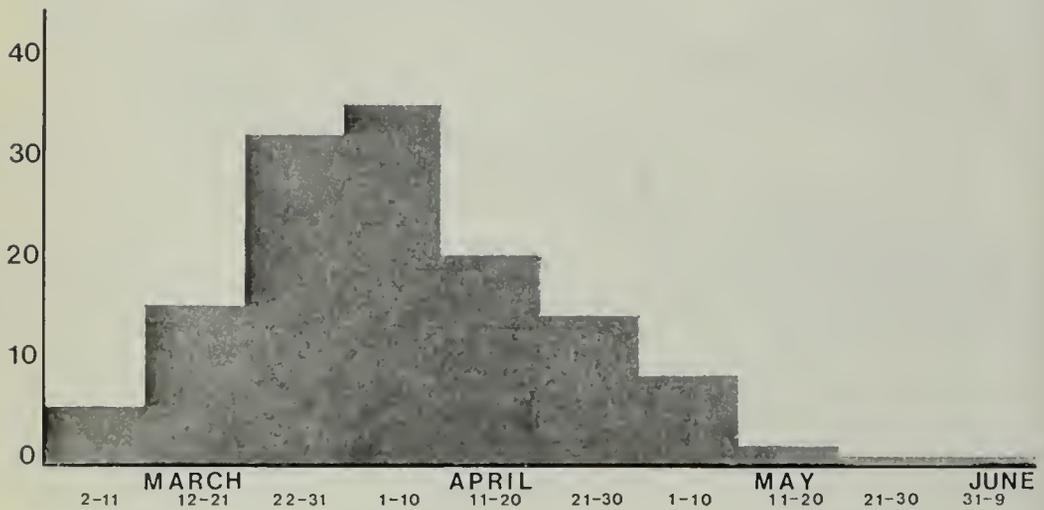


Fig. 2. First-egg laying dates calculated from 140 nest records of Long-eared Owls *Asio otus*, 1942-74. Mean laying date 4th April

While resident owls start laying in March and April, others of probable Continental origin continue to roost communally in adjacent woodland. On Fair Isle, for instance, Long-eared Owls bound for the Continent occur on spring passage between 18th February and 26th June, the bulk from late March to early May (Davis 1965), when most British and Irish residents are incubating full clutches. Such early nesting means that the majority of young will be developing and fledging during May and June, coinciding with the first flush of young rodents and small passerines.

Long-eared Owls regularly occupy copses throughout the summer without apparently attempting to nest. The recovery of ringed birds at the nest during the first year argues against these being immatures. As with

84 and 85. Long-eared Owls *Asio otus* at nest, Nottinghamshire, May 1973 (*Derick Scott*). Top, male arriving at nest with prey: female arches her wings and shields small young protectively; bottom, male at left has just had avian prey snatched from him by female, who 'barked' and is preparing to feed owlets



the Tawny Owl (Southern 1954, 1970), breeding attempts are probably governed by food availability, which probably also influences the number of replacement clutches and second broods. Records indicate frequent replacement of lost clutches (22 cases, four in the same nest) and occasionally a second brood (four). Two of the latter were in a detailed study by Scott in central England: at one site a second clutch of two eggs was laid in the original nest, and, at the other, a second nest 10 m from the first one was used; all were in Magpie nests in hawthorns.

Food at the nest

The male owl deposits prey at the nest before egg-laying starts, delivers food to the female throughout the incubation period, and collects most of the food for the fledglings. Voles (Cricetidae), mice (Muridae), rats *Rattus* and shrews (Soricidae) form, on average, over 90% of the diet during the breeding season (Glue and Hammond 1974), with birds of secondary importance. The prey is usually delivered fresh and unmutilated.

The range of surplus prey identified at nests includes many species typical of grassland, field and moor, illustrating that the Long-eared Owl hunts commonly over open country, as well as in closed woodland: short-tailed vole *Microtus agrestis* 8, wood mouse *Apodemus sylvaticus* 8, rabbit *Oryctolagus cuniculus* (young) 3, brown rat *Rattus norvegicus* 2, mole *Talpa europaea* 1, water vole *Arvicola terrestris* 1, Wheatear *Oenanthe oenanthe* 2, Chaffinch *Fringilla coelebs* 2, Reed Bunting *Emberiza schoeniclus* 2, House Sparrow *Passer domesticus* 2, Pheasant *Phasianus colchicus* (poult) 1, Woodpigeon *Columba palumbus* (squab) 1, Skylark *Alauda arvensis* 1, Song Thrush *Turdus philomelos* 1, Whitethroat *Sylvia communis* 1, and Meadow Pipit *Anthus pratensis* 1.

Clutch size

In calculating clutch sizes of Long-eared Owls, nest histories were considered only when two or more visits over 48 hours apart were made to an active nest during the incubation period. From 72 nests, clutches of three to five eggs are shown to be frequent, two and six occasional, and one rare (table 6). Replacement clutches of three were usual. Clutches of seven and eight have been reported (Walpole-Bond 1938, Witherby *et al.* 1940). The mean clutch size from nest records (3.91) is significantly lower than the 4.53 for 15 clutches collected during 1867-1922 and housed in the British Museum (Natural History) (table 6), but the extent to which the latter were selected for their size is not known.

Before egg-laying, one or both parents roosts at or close to the nest. The eggs are short, elliptical, white and slightly glossy, and are normally

Table 6. Numbers and sizes of clutches of Long-eared Owls *Asio otus* from 72 British Trust for Ornithology nest record cards and the British Museum (Natural History) collection

	CLUTCH SIZE						Average clutch size
	1	2	3	4	5	6	
BTO nest records	1	4	20	26	18	3	3.91
British Museum	0	0	2	4	8	1	4.53



86. Young Long-eared Owl *Asio otus* about three weeks old, fledged previous night, Dumfriesshire, May 1971 (Robert T. Smith)



87. Young Long-eared Owl *Asio otus*, resting in typical pose on lateral branch against trunk. Co. Cork, June 1976 (Richard T. Mills)

Table 7. Brood sizes of Long-eared Owls *Asio otus* from 89 British Trust for Ornithology nest record cards

	BROOD SIZE						Average brood size
	1	2	3	4	5	6	
No. of broods	15	33	33	7	1	0	2.39

laid on alternate days. As a rule, incubation starts with the first egg, but may be delayed. It ranges from 25 to 30 days (Witherby *et al.* 1940) and is undertaken by the female, although the male has been known to incubate for short periods and to brood tiny young (Scott). Many females sit tight, not flushing until the tree is climbed; others will leave when the tree trunk is rapped.

Breeding success

It is difficult to confirm the precise number of young successfully fledging because, when nests are examined, well-developed owlets will climb away along branches at tree nests or hide among the cover of bracken or brambles on the ground. A successful brood, therefore, is defined as one where the owlets were thought capable of leaving the nest when last seen. Young remain in the nest for 21 to 24 days, occasionally up to 26 or 27. Of 78 nests found during incubation and followed through to the fledging period, 32 (41%) resulted in at least one owlet reaching the flying stage.

Losses of complete clutches were high: in 39 (85%) of the 46 nests that failed. Where known, failure was caused by robbery by man (13), or infertile or addled eggs (4), with single clutches destroyed by rain, and taken by Hooded Crow and Jay; one nest was taken over by a Kestrel. Of the 267 eggs laid, at least 87 hatched and 69 young flew, but both are underestimates owing to early losses of young and premature fledging.

In most nests, one or two young died during the fledging period; only seven complete broods were lost, but only three of the 72 nests were proved to have raised the complete clutch successfully. More intensive studies are needed to show how strongly the breeding season and clutch size are related to the food supply, but it is clear that, in most years, the Long-eared Owl produces more eggs and hatches more young than it can hope to fledge.

Acknowledgements

This summary was made possible by the many members of the BTO who submitted nest record cards. Derick Scott has spent hundreds of hours in the field studying Long-eared Owls and kindly added comments from his experience to the first draft of this paper; Tony Hardy, Robert Morgan and the late Kenneth Williamson also provided helpful criticism. Thanks are also due to Mrs A. Whitaker, who made available her late husband's diaries, and to Michael Walters, who extracted the British Museum (Natural History) data on owl clutches. Miss Stella Woodman typed from my manuscript and drew fig. 2.

Summary

Details of breeding biology from 329 nests of Long-eared Owls *Asio otus* in Britain and Ireland during 1904-74 were studied. The chief nesting places were isolated plantations, shelter-belts, copses, hedges, scrub or scattered trees on heath and moor (33% of nests), farmland (24%), coastal/wetlands (15%) and woodlands (25.5%). Platforms formed by

old nests of other large birds (especially Magpie *Pica pica*, Carrion Crow *Corvus corone corone*, Hooded Crow *C. c. cornix* and Sparrowhawk *Accipiter nisus*), high in trees (73% conifers), were the main nest sites; less often, a cavity, nestbox or the ground was used. The laying season extended from late February to early June (mean for first egg, 4th April), with regular replacement clutches, but rarely a second brood. Clutch size ranged from one to eight eggs (usually three to five, mean 3.91); brood size one to five (usually two to three, mean 2.39). Some aspects of breeding behaviour are described.

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Little Gulls nesting on the Ouse Washes

C. A. Carson, G. A. Cornford
and G. J. Thomas

The first confirmed nesting in Britain of this attractive gull unfortunately ended in disaster



Up to five Little Gulls *Larus minutus* had been recorded on the Ouse Washes, Cambridgeshire Norfolk, in autumn in three of the seven years preceding 1975, mostly in October and November; one immature had also been seen in May 1971. In 1975, coinciding with an exceptional

flood lasting from mid May into June, up to five adult, sub-adult and first-summer Little Gulls were seen regularly and, during early June, a maximum of nine was counted.

On 11th June, an adult alighted within the periphery of a colony of about 100 pairs of Black-headed Gulls *L. ridibundus* and was not seen to rise again. On 13th June, a sub-adult was seen taking off from the same spot and a search revealed a nest containing three eggs; the nest and the eggs were both considerably smaller than those of the surrounding Black-headed Gulls. The eggs measured 40 mm × 28 mm (average) and were khaki-green, with dark brown blotches concentrated towards the blunt end. The nest site was revisited on 21st June and two of the three eggs had been broken and an adult Little Gull was found dead about 1 m away. A post-mortem examination established that it was a female, dead for about four days. Wounds were found on its neck, which may have been caused by brown rats *Rattus norvegicus*. Rat footprints were found in some bare mud alongside the corpse. The two damaged eggs contained well developed veins, indicating that the eggs had been fertile.

The nest was near the edge of a 12-ha rectangular area that had been embanked to retain winter flood water during the spring and summer in order to attract breeding ducks and waders. When the nest was found, the water depth in the area was 0.60 cm, with much emergent vegetation showing in the shallower parts. The nest was raised about 14 cm above wet mud, but would have been surrounded by shallow water when first constructed. It was made of dead and live reed sweet-grass *Glyceria maxima* interwoven with the stems of rooted amphibious bistort *Polygonum amphibium*. The dominant plant at the nest site was greater pond-sedge *Carex riparia*, with smaller amounts of reed canary-grass *Phalaris arundinacea*, both standing about 15 cm above the ground surface. Other plants within 10 m of the nest included patches of common meadow-rue *Thalictrum flavum* and yellow iris *Iris pseudacorus*. The topography was undulating and the plants were patchily clumped.

Although the embanked area held some 5.6 ha of water at the end of June, after the flood had abated, the Little Gull's nest, built in the shallower water, was left high and dry; ultimately, about 50 Black-headed Gull nests were also destroyed by predators. This was obviously an isolated breeding attempt by passage birds taking advantage of the conditions provided by the exceptional flood in mid May. We know of no other relevant records of confirmed casual nesting and, indeed, there is no real indication of any expansion in breeding range of this species in Europe, where numbers remain small.

Summary

The first confirmed nesting in Britain of Little Gulls *Larus minutus* is described. In 1975, three fertile eggs were laid in a nest within a colony of Black-headed Gulls *L. ridibundus* on the Ouse Washes, Cambridgeshire/Norfolk. The female was killed on or near the nest, and two of the eggs were broken, possibly by brown rats *Rattus norvegicus*.

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'Fly-away trick' of some arctic waders

Hans Meltofte

Waders have several ploys to confuse potential predators; the 'fly-away trick' has apparently not been described before

During 1973-76, I studied the breeding biology of waders in northeast Greenland: in Peary Land, Scoresby Sund, Danmarks Havn and Hochstetter Forland. I studied behaviour only when this was related directly to population counts or to finding nests or young (Meltofte 1976). Distraction behaviour, particularly injury-feigning, by waders is well known and many small tundra species of *Calidris* commonly perform 'rodent-running' (e.g. Duffey *et al.* 1950, Simmons 1955, Ogilvie 1975). I recorded also another type of behaviour by *Calidris*, the full sequence of which is as follows.

When a potential predator (a human observer) comes within a certain distance of the wader's nest or chicks, one or both parents often start to perform some sort of distraction behaviour, or to give alarm calls, until the predator moves away from the nest. The distances vary according to the species and individual. Normally, one parent then returns and continues incubation or attendance of the young. After a short time, however, it may fly off, perhaps at some height, and disappear at least 100 m away behind a hill or other topographic feature. After a while, sometimes more than a minute, it flies back, keeping near to the ground and following depressions in the terrain, and alights silently beside the nest or young. When this has been seen, only one adult has been involved. Manniche (1910) observed Sanderlings *C. alba* behaving in a somewhat similar way at Danmarks Havn in 1906-08. He wrote: 'Already when at a distance of some 200 to 300 metres from the young ones, the old female would rush towards me and by all kinds of flapping and creeping movements in an opposite direction try to lead me astray; all the while she would now squeak like a young one and growl angrily striving to draw my attention towards herself only. Now and then she would rise very high in the air in a rapid flight to disappear behind a rock on the opposite beach of a lake, etc. From quite another direction she soon appeared again just before my feet.'

I first became aware of this behaviour, which I have termed the 'fly-away trick', on 21st July 1974, at Kap Stewart in the Scoresby Sund district. A Knot *C. canutus* started to perform injury-feigning and rodent-running about 50 m to one side of me. After I had hidden behind a rock about 150 m away, it returned to its original position, which I have called the 'hot spot', and stood or ran about for a while. Shortly after, it flew up to a height of about 50 m and sang a few fragments of song before alighting again some distance away, when it disappeared. Some time later, it suddenly reappeared close to the starting point. The same thing happened

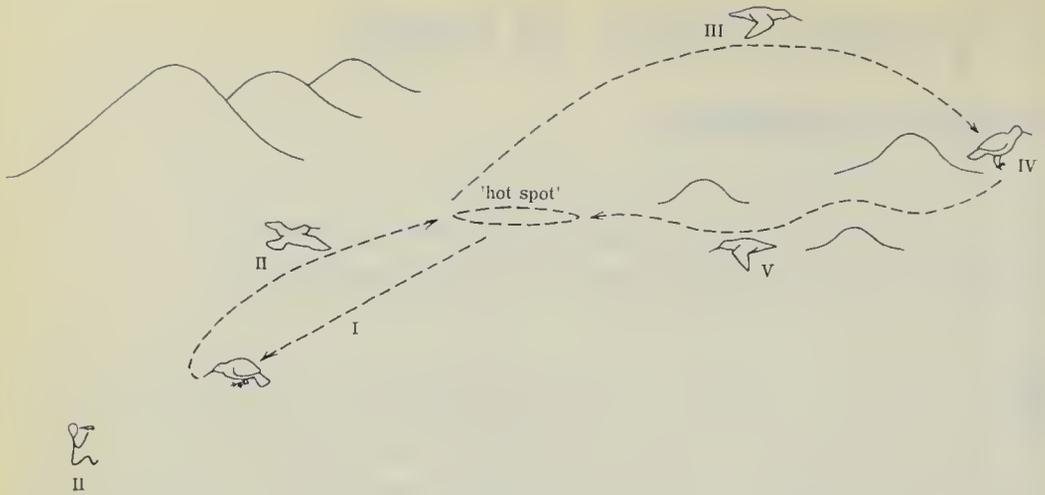


Fig. 1. The 'fly-away trick' performed by a Purple Sandpiper *Calidris maritima* at Kap Tobin, Scoresby Sund, northeast Greenland, on 4th August 1974. The 'hot spot' holds nest or young, probably the latter. I. The bird performs 'rodent-running' in front of the observer, up to 250 m from the hot spot. II. The observer hides and the bird returns to the hot spot. III. The bird lifts again and flies away at some height, disappearing behind a hill or ridge several hundred metres distant. IV. The bird sits in hiding for a few minutes. V. The bird flies low back to nest or young, following the depressions in the terrain

each time that I disturbed the Knot, but, on the final occasion, I saw it fly back very close to the ground. I then found three downy chicks less than one week old near the hot spot.

On 4th August 1974, close to Kap Tobin, a Purple Sandpiper *C. maritima* performed rodent-running in front of me about 250 m from a hot spot. Song fragments and calls were heard. Whenever I took shelter some distance away, the sandpiper went back to the hot spot, but, after a short time, it would fly off at a height of about 50 m, either away from or to one side of me, and disappear at several hundred metres behind a hill or ridge. Two or three times, I returned after a while to the hot spot, and on each occasion the bird was already there. On the last, however, I saw it flying back just a few centimetres above the ground, following the depressions in the terrain. I did not find the nest or young and saw only one adult. This observation is illustrated in fig. 1.

On 25th June 1976, on Hochstetter Forland, when the area was still mostly snow-covered, I observed a female Sanderling giving alarm calls about 50 m from her nest, which I found later. After I had hidden (but was still visible to the bird), she first foraged for a while and then flew about 30 m, landed and stood stretching her neck, before flying off at a height of 20-30 m and alighting on the snow 300-500 m away, where she became invisible to me. More than five times, she lifted and flew a little farther, and then stood watching me with her neck stretched. A few minutes later, she flew back about 50 cm above the snow, straight towards the nest, alighted nearby and soon settled to incubate. The nest contained four eggs, which, according to the breeding schedule of the local Sanderling population, would have been incubated for less than one week.

Although I have seen the complete sequence of the fly-away trick only these three times, I have frequently observed waders behaving suspiciously before flying away. Recent studies of the breeding biology and behaviour of the Knot (Nettleship 1974), the Purple Sandpiper (Bengtson 1970, Ogilvie 1975) and the Sanderling (Parmelee 1970) have not mentioned this behaviour. Parmelee (1970), however, described Sanderlings in arctic Canada simply walking off the nest and flying away when an intruder approached, instead of giving alarm calls or performing distraction behaviour. I, too, frequently recorded this, by Ringed Plovers *Charadrius hiaticula*, Turnstones *Arenaria interpres* and Sanderlings in Peary Land (Meltofte 1976), and by those species, Dunlins *Calidris alpina* and Grey Phalaropes *Phalaropus fulicarius* at Danmarks Havn, when the waders walked off the nest for some metres and then flew away low over the terrain. Nests were often apparently unattended on repeated visits, even though the eggs were always warm, and sometimes one or both adults were seen silently foraging or standing a few hundred metres from the nest.

While the fly-away trick may be a distraction behaviour, it is not a display in the sense that injury-feigning or the rodent-run are. On the three observed occasions, the bird was well aware that I was still present, and it seems likely that the behaviour was a precautionary response, to make me think that it had left the site. On some occasions, the bird clearly watched me from the point of disappearance, and the very low return flights, especially observed at the two first occasions, were clearly intended to enable it to return to the hot spot unnoticed. This low return flight was significantly different from normal undisturbed flight to the nest site.

It seems quite likely that it is advantageous not to respond in only one way to the presence of a potential predator, but to use several different strategies: sitting tight on the nest, various types of distraction and diversionary display, and merely flying away when the predator is at long range. Behaviour may depend on individual temperament, the weather, the urgency to cover eggs or chicks, and the behaviour of the intruder. The same bird may behave differently on different occasions.

The true function of the fly-away trick and its effectiveness against predators are not clearly understood. The aim of this paper is to draw attention to the phenomenon.

Acknowledgements

I should like to thank Dr Bruce Campbell, G. H. Green and Dr K. E. L. Simmons for their most helpful criticisms and suggestions.

Summary

During 1973-76, observations were made on breeding waders in northeast Greenland. A type of behaviour observed on three occasions, and apparently not previously recorded, is described. This is termed the 'fly-away trick'. Its possible interpretation is discussed briefly, but its function and effectiveness are not clearly understood.

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Personalities

8 Bernard King

Bernard King's name must be one of the most familiar to readers of this journal: his regular contributions, mostly in the 'Notes' section, started in 1942 with 'Unusual migrants in Surrey' (*Brit. Birds* 36: 76) and the latest—the 113th!—appears in this issue (70: 341). Together with nearly 40 more notes or papers, mostly in *Reports of the Wildfowl Trust* and *Bristol Ornithology*, these form a considerable contribution from a purely amateur ornithologist who still claims, with genuine humility and sincerity, to 'know very little about birds'. Many of his contributions have joint authors: this gives a clue to his character, for he is not a loner, preferring to share his hobby with friends. He has covered a very wide range of topics, but these especially reflect his interest in the behaviour of autumn migrants and of seabirds.

Bernard was born in Bristol of Cornish parents and these connections have been dominant features of his birdwatching and, indeed, of his life. It was not until 1938, when in his 31st year, that he was introduced to the hobby. He values greatly the friendship and guidance shown by Humphrey Tetley, of Bristol Museum, and H. F. Witherby in those early years. During the war, he saw service in Africa and Norway. In 1945, he joined the Admiralty as a civilian. It was at this time that he became one of the country's first duck-counters: he started regularly visiting Blagdon and Cheddar Reservoirs, Somerset (the former now Avon), with Hugh Boyd. For 23 years, from 1948 until 1971, Bernard organised duck-counting in Somerset. When flooding of Chew Valley Lake (now Avon) started in 1952, he counted almost the very first birds to arrive; for the next two years, he was the only birdwatching permit-holder, much to the chagrin of other local birdwatchers: the retelling of this story brings more than a

twinkle to his eye. The counting team usually consisted of two or three experienced counters, a couple of beginners and Bernard at the helm. He has always encouraged newcomers to the hobby and particularly children. Bernard watched geese at the New Grounds before the Slimbridge Wildfowl Trust was founded, but he took to the new establishment much as the geese and swans have, and is proud to have been made an honorary warden. His interest in seabirds prompted him, in 1946, to apply for membership of the Royal Naval Bird Watching Society, normally open only to serving naval personnel: a change in the rules allowed Bernard to become the first civilian member.

As well as being one of the vice-presidents of the Bristol Naturalists' Society, Bernard has served on several of its committees and been a regular leader of field meetings; he also organised the British Trust for Ornithology's Heronry Census in Somerset for 15 years. I came to know him in the middle of all this. We first met in 1962 at—where else?—Chew Valley Lake, when he was in the middle of a brood-count. I was gently

88. Bernard King (*J. B. and S. Bottomley*)



idling into birdwatching then, but, after an instant course on counting ducks and ducklings, I found myself welcomed into his team of counters. I remember his referring to me as 'Old dear', in his inimitable way, and not knowing quite how to take it—until I learnt that he was a Cornishman.

Bernard's annual holidays, mostly spent in Cornwall or the Isles of Scilly, are, of course, usually arranged in September or October, when autumn landbird migration and seabird movements are at their peaks. He enjoys watching common birds and is emphatic that there is a lot to be learnt from them; but he does not avoid rarities: when there is an exciting one to be seen, he is not happy until he is at the spot, although if, as so often happens, he has missed it, he is never crestfallen. Bernard does not tolerate bad behaviour in the field, especially if it causes alarm to the birds: the offender quickly receives a dressing-down. He is, however, the first to congratulate someone on a piece of good birding, for example, a difficult or quick identification. Lunch time will find Bernard offering his soup, sandwiches and cakes to his companions: he has a generous nature. These breaks and journeys on expeditions are invariably accompanied by his humorous anecdotes.

Most of Bernard's field experience has been gained in Britain, but he has visited Mallorca, Spain and the United States (Florida, where his daughter, Elizabeth, now lives). In 1966, he added a new species to the British and Irish list: a Parula Warbler *Parula americana*, seen at one of his favourite haunts, by the Great Pool on Tresco, Isles of Scilly (*Brit. Birds* 63: 149-151).

On his retirement in 1971, Bernard and his wife Marjorie moved to Cornwall; Bernard now watches birds almost full time. Never one for relaxing—even though he is 70 this month—'spare' time is now spent learning the arts of fabric printing and rug weaving, and watching sport on television. He told me recently that he values above all his honorary life membership of the Bristol Ornithological Club, which he received, in recognition of his distinguished service to ornithology in the Bristol area, when the club was formed in 1967. He has been and still is a great friend to many birdwatchers who have him to thank for early encouragement and continued guidance.

ROBIN PRYTHERCH

Mystery photographs

8 Scanning through an autumn party of common *Calidris* waders, one seems smaller and quicker than its companions. It lacks, however, the compactness and constant activity of a stint and, because it looks noticeably long in outline, is rather a puzzle. Attention to its plumage shows that it manages to combine a head pattern recalling a short-billed Dunlin *C. alpina* in winter with a back and wing appearance suggesting a Curlew Sandpiper *C. ferruginea* in its first autumn. Yet its legs are rather short, certainly for the latter, and the extension of the folded wing-tips continues to attract attention. Study of the bird shows that, in particular,

89. Mystery photograph 9. What is this species? Answer next month



the grey neck and chest markings, the latter sufficient to form a bib (from certain angles), do not fit the immature of either of the two species just mentioned. Clearly, it is an unusual and rare *Calidris*.

Since it is autumn and the wind has been westerly, the bird could be a Nearctic vagrant. As this possibility is considered, the bird at last offers real help. It stops winding its way between its companions and takes flight, showing once again the extraordinary length of its wings, but also giving a glimpse of white above the tail, apparently not in a solid, broad band across the rump (as in the Curlew Sandpiper), but in a small patch across the base of the tail. With a growing conviction that the bird is not an aberrant example of a common species, it takes on a highly individual character: suddenly, it stops to preen its rump, drops its tail and reveals that it is only the uppertail-coverts that are white. This is the diagnostic character of only one small wader—the White-rumped Sandpiper *C. fuscicollis* of North America.

Once seen and its character understood, the White-rumped Sandpiper is a relatively easy species to identify. Although very puzzling on the ground (where the summer adult may also suggest a Temminck's Stint *C. temminckii*), no other small wader shows in flight its long, sometimes narrow-looking wings and its small white 'rump'. Another important distinction from the Curlew Sandpiper is its commonest call: a short, high-pitched 'jeet', quite unlike the long, rolled, low-pitched 'chirrup' of the former. The White-rumped Sandpiper has become the second commonest transatlantic vagrant to Britain and Ireland in recent years. The bird illustrated was an immature, photographed by J. H. Johns at Porth Hellick, St Mary's, Isles of Scilly, on 6th October 1970. DIMW

Notes

Kestrel hiding food At dusk on 6th April 1976, at Ynys-hir, Dyfed, J. Parry and I saw a male Kestrel *Falco tinnunculus* fly on to a bank below us about 20 m away. The falcon was carrying prey in one foot, which we later found to be a Wheatear *Oenanthe oenanthe*. The Kestrel stood on top of the bank for about five



minutes, looking around and bobbing his head nervously. He then hopped along the top and stuffed the corpse into the base of a clump of soft rushes *Juncus effusus*, pushing hard with his head from above. He remained nearby on the bank for ten minutes, dust-bathing and poking around in the dust, before flying off. We investigated and found the dead bird well hidden in the base of the rushes. Two days later, however, the Wheatear had gone. Leslie Brown (1976, *British Birds of Prey*) stated that Kestrels sometimes cache food when prey is scarce or during hard weather, but neither of these circumstances applied to our observation.

ALAN PARKER

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Oystercatcher up-ending On 16th March 1975, I noticed an Oystercatcher *Haematopus ostralegus* swimming in calm sea about 1½ m from rocks on the shore of Loch na Keal, Isle of Mull, Strathclyde. It up-ended in a little over 30 cm of water, in dabbling duck fashion, and soon surfaced with a mussel (Mytilidae), which it carried in its bill to a rock. It walked ashore and dealt with the prey in the usual manner.

RICHARD COOMBER

Staffa Cottages Guest House, Tobermory, Isle of Mull, Strathclyde PA75 6PL

Reaction of Oystercatcher to aggression by Hooded Crow On 8th February 1976, at Malahide, Dublin, I observed an Oystercatcher *Haematopus ostralegus* calling hysterically as it was being pursued in flight by a Hooded Crow *Corvus corone cornix* over a deep, swift-flowing tidal channel about 25 m wide. The Oystercatcher eventually alighted on the water and dived, thereby avoiding further attack. It remained submerged for about seven seconds and the crow abandoned the chase. After surfacing, the Oystercatcher unsuccessfully attempted to take flight from the water several times. It then swam to within 5 m of the bank, while drifting seaward on the current, when it was suddenly disturbed by people. At this point, the wader managed, with great effort, to fly from the surface of the water. The entire incident lasted about 25 minutes, the Oystercatcher piping anxiously all the while.

J. O'MAHONY

29 Upper Mount Street, Dublin 2

Cuckoo parasitising Twite On 25th June 1976, at Tarn Moor, Orton, Cumbria, I was shown the nest of a pair of Twites *Acanthis flavirostris* which contained three eggs of that species and one of a Cuckoo *Cuculus canorus*. On 29th, it held a newly hatched Cuckoo, with the Twites' eggs strewn over the side. On 4th July, I found the Cuckoo lying outside, over the rim of the nest; it seemed to have been dead for no more than a few hours.

R. W. ROBSON

The Ings, Banks Lane, Appleby, Cumbria CA16 6RA

This is apparently the first recorded instance of a Cuckoo parasitising Twites, at least in Britain. David Glue and Robert Morgan (*Bird Study* 19: 187-192) reported no such records, although the Linnet *A. cannabina* was the fifth most frequently recorded fosterer after Dunnock *Prunella*

modularis, Reed Warbler *Acrocephalus scirpaceus*, Meadow Pipit *Anthus pratensis* and Robin *Erithacus rubecula* (but only equal 15th in the proportion of cuckolded nests, 0.1%). Dr David Lack (*Bird Study* 10: 185-202) also knew of no such records for the Twite, out of 1,946 cuckolded nests from seven sources. Robert Morgan (*in litt.*) informs us that Mr Robson's is the only such record submitted to the Nest Record Scheme. EDS

Swallows wintering in Cornwall The British Ornithologists' Union (1971, *The Status of Birds in Britain and Ireland*) described the Swallow *Hirundo rustica* as occasional in winter, especially in southwest England; and Robert Hudson (1973, *Early and Late Dates for Summer Migrants*) mentioned 30 occurrences for December and January. The Cornwall Bird-Watching and Preservation Society's annual report for 1974 included seven winter records of Swallows up to the end of that year; further, RDP (*Birds of the Cornish Country*, in prep.) will include two additional records, for December 1817 and December 1943 (three).

Evidence of wintering of Swallows in Cornwall was long inconclusive, although it was assumed that the same individuals were present from October to February. Almost daily observations in the winter of 1974/75 indicated that one Swallow remained in the Marazion-Penzance Newlyn area throughout the winter. During October and well into November, 15 first-year birds were seen, especially over Marazion marsh and beach. Much of their flight-feeding was at low altitudes; occasionally, two or three rested on the piles of seaweed, picking up small flies or grubs; sometimes, individuals took insects or grit on the sand. On inclement days, especially those with gales and rain, the Swallows left Marazion and Penzance for Buryas Bridge, near Newlyn, some 7 km away. There, they flight-fed in the lee of a small coniferous grove where winged insects were plentiful. At other times, they were also found around the more sheltered houses of Newlyn itself. This pattern of behaviour indicated that the same individuals were involved throughout. Numbers dwindled to five in the middle of November, three in early January and one by the third week of January. The sole survivor remained until 28th February 1975; BK often found it resting on the Marazion-Penzance beach, apparently picking up edible items; it was also observed pressing its body on patches of fairly dry sand close to the sea-wall, which had been warmed by the reflected rays of the sun. By the second week of January, it had acquired partial adult plumage, and, when last observed, appeared in healthy and vigorous condition. Presumably, these late winter Swallows had to roost about 15 hours out of every 24; their ability to obtain grounded insects must have considerably aided their survival.

BERNARD KING and R. D. PENHALLURICK
Gull Cry, 9 Park Road, Newlyn, Penzance, Cornwall

Chaffinches rearing two broods In 1974, at Northlew Manor, near Okehampton, Devon, an exceptionally tame female Chaffinch *Fringilla coelebs* built a nest in ivy growing on my house; four young fledged by 18th May. She then built another nest about 60 cm above the first and

three young fledged from this on 22nd June. Both broods were fed on insects and small pieces of nuts. In April 1975, the same bird built a nest in an ornamental fir tree in a rockery, fledging four young on 20th May. She then built again in a nearby small shrub and fledged four young at the end of June. This Chaffinch continued to follow me around the garden with her family, but unfortunately died before the winter. In 1976, another female Chaffinch, which had become as tame as the first, built a nest in the ivy and fledged several young in May; she, too, fed these on insects and nuts. She then built another nest about 3 m higher than the first, and four young were fledged in June. CHRISTINE A. MARTIN
Northlew Manor, near Okehampton, Devon EX20 3PP

R. A. Morgan, who runs the Nest Record Scheme, has commented that, since they were unringed, there must be an element of doubt that the same bird was involved in the first two years and a different one in the third. Miss Martin's intimate knowledge, however, of the individual birds in her garden, makes this almost certain. Dr Ian Newton (*Bird Study* 11: 47-68) showed that, of over 2,500 laying dates during 1934-69, only 10% were after 26th May; taking three recent years, there were only five records of double broods during 1972-74. Miss Martin's observations suggest that some individuals may regularly rear two broods, but a colour-ringing study would be necessary to confirm this. EDS

Recent later arrivals of summer migrants in Leicestershire The effect of climatic changes on the status and distribution of birds has recently received considerable attention (e.g. Williamson 1976). The effect of climate on arrival dates of migrants has been less well documented, although Hudson (1973) reported that migrants had been arriving earlier in the preceding 30 years in Britain, probably due to an amelioration of climate in northwest Europe.

The arrival dates of summer migrants in Leicestershire have been regularly recorded in the annual reports of the Leicestershire and Rutland Ornithological Society since 1942 and I have summarised the long-term average arrivals of 23 species over the period 1942-68 (Mason 1969). An examination of the data for the subsequent six years has suggested that migrants have been arriving later.

The long-term average arrival dates for 23 species are compared with the mean during 1969-74 in table 1 (which includes the scientific names). Three species—Turtle Dove, Sand Martin and Yellow Wagtail—showed no change in arrival date. Blackcaps arrived earlier, but this may be related to generally milder winters during the period 1969-74, allowing more to overwinter here and nearby on the Continent and, thereby, influence the arrival date. The remaining 19 species were, on average, recorded later in the second period. The greatest differences were those for Nightingale (13 days) and Wood Warbler (17 days), although both species are very local in Leicestershire and the first arrivals are liable to be overlooked. The lateness of most species was a matter of only a few days, but was examined using the Wilcoxon matched-pairs signed-ranks test and was highly significant ($P < 0.00003$).

Table 1. The arrival of summer migrants in Leicestershire in 1969-74 compared with the long-term average for 1942-68

	PERIOD 1942-68		PERIOD 1969-74		Differ- ence (days)
	No. of years with records	Mean arrival date	No. of years with records	Mean arrival date	
Turtle Dove <i>Streptopelia turtur</i>	24	April 28	6	April 28	0
Cuckoo <i>Cuculus canorus</i>	24	April 13	6	April 18	5
Swift <i>Apus apus</i>	24	April 26	6	April 27	1
Swallow <i>Hirundo rustica</i>	24	April 2	6	April 7	5
House Martin <i>Delichon urbica</i>	24	April 11	6	April 16	5
Sand Martin <i>Riparia riparia</i>	24	March 28	6	March 28	0
Wheatcar <i>Oenanthe oenanthe</i>	22	March 24	6	March 30	6
Whinchat <i>Saxicola rubetra</i>	22	April 18	5	April 25	7
Redstart <i>Phoenicurus phoenicurus</i>	21	April 13	5	April 15	2
Nightingale <i>Luscinia megarhynchos</i>	21	April 26	5	May 9	13
Grasshopper Warbler <i>Locustella naevia</i>	19	April 21	5	April 26	5
Reed Warbler <i>Acrocephalus scirpaceus</i>	19	April 27	5	May 4	7
Sedge Warbler <i>A. schoenobaenus</i>	24	April 20	4	April 23	3
Blackcap <i>Sylvia atricapilla</i>	23	April 13	5	April 10	- 3
Garden Warbler <i>S. borin</i>	23	April 22	6	April 26	4
Whitethroat <i>S. communis</i>	24	April 17	5	April 24	7
Lesser Whitethroat <i>S. curruca</i>	22	April 21	5	April 25	4
Willow Warbler <i>Phylloscopus trochilus</i>	24	April 1	6	April 2	1
Chiffchaff <i>P. collybita</i>	22	March 21	6	March 24	3
Wood Warbler <i>P. sibilatrix</i>	22	April 25	5	May 12	17
Spotted Flycatcher <i>Muscicapa striata</i>	21	May 2	6	May 9	7
Tree Pipit <i>Anthus trivialis</i>	21	April 8	6	April 17	9
Yellow Wagtail <i>Motacilla flava</i>	22	April 3	6	April 3	0

This trend for later arrival appears to have reversed, at least temporarily, that for earlier arrival noted by Hudson (1973); it may be related to colder springs. Mean April daily air-temperatures at sea-level in England and Wales for the period 1969-74 (HMSO 1975) were cooler than the 1941-70 average (8.8°C) in five of these six years; the annual values (°C) were 7.9, 7.1, 8.1, 8.8, 7.6 and 8.3.

Isolated phenological records are of little interest, but the regular collection of a wide variety of such easily made observations could be very valuable in future examination of the effects of climatic change on biological communities. I suggest that a national initiative is required.

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Reviews

Birds of the Coast and Sea : Britain and Northern Europe. By Bruce Campbell, with illustrations by Raymond Watson. Oxford University Press, Oxford, 1977. 152 pages; 64 colour plates. £3.75.

This is an attractive small book with a well-written and authoritative text accompanying 64 very pleasing colour plates depicting 76 species of coastal and sea birds of Britain and northern Europe. The choice of species is a trifle arbitrary, as Dr Campbell admits in his introduction. There seems little reason for excluding such a coastal species as Wigeon, yet including Common, Green and Wood Sandpipers; but perhaps the choice was not his.

A seven-page foreword by Robert Dougall takes a conservationist's view of coast and sea birds, with emphasis on the role of the Royal Society for the Protection of Birds, but deals only with Britain, not northern Europe. The brief introduction is followed by a glossary, and then, before the main body of the book, the index.

Each plate occupies about three-quarters of each right-hand page. Facing it, and sometimes filling the remaining quarter of a page, is the relevant text. The plates are very attractive, each bird being set in a background of sea, mudflat or shingle beach, the detail of which is often delightful. The colour reproduction is mostly excellent. One or more plumages are shown, with additional line-drawings covering others, even though this is not an identification guide. The artist suffers slightly from that not uncommon problem of not knowing quite how to stick the legs on his birds; the geese are especially bad in this respect, as are some of the gulls. The proportions are also a little awry in a few cases. For example, the bill of the Little Tern is too long, while the wings of the Shelduck are too short. These minor faults, however, do not detract from the very pleasing general effect of the plates, the originals of which would grace anyone's walls.

The text, as one would expect from this author, is easy to read, very informative, and has few errors. In a maximum of 1,000 words, often much less, he covers identification, habitat, breeding range, food, display and breeding biology, with information on numbers if available.

Although a slim volume, it is very moderately priced considering the number and quality of the colour plates.

M. A. OGILVIE

The Naturalized Animals of the British Isles. By Christopher Lever. Hutchinson, London, 1977. 600 pages; many maps and line-drawings. £7.50.

Although 'naturalized' is defined on page 17 as 'established in the wild in self-maintaining and self-perpetuating populations unsupported by man', this book also includes 'acclimatized' species 'able to survive in the wild only with the support of man' and goes beyond this to include some which

are even more precariously part of our fauna. As with its earlier counterpart, R. S. R. Fitter's *The Ark in our Midst* (1959), the reader gains from this wide interpretation.

The four main sections, which deal with mammals, birds, amphibians and reptiles, and fish, are divided into 59 chapters, each covering one (or sometimes several closely related) species; nearly one-third of the main part of the book is devoted to birds. The documentation of introduction and establishment is usually exceedingly detailed: the researcher should have few problems tracing statements back to their original sources; indeed, the plethora of footnotes gives the book a Victorian flavour. A total of 36 pages is devoted to a useful species-by-species bibliography. Most accounts are accompanied by a map of the relevant part of Britain and Ireland, with the animal's distribution shown in black on grey; they are useful, but one wonders why the precision of 10-km squares and dot-distributions was eschewed. Likewise, although there is a line-drawing of each species by Ann Thomson (more successful for the animals other than birds), it seems sad that the opportunity was not taken to include photographs of each species: those on the cover show something of what we have missed.

The bird situation was not new to me, but I nevertheless found it dealt with interestingly and in useful detail. My biggest surprises, however, came in the other groups. I knew that we had feral red-necked wallabies in the Peak District and Sussex, but not that a release, following filming for BBC Television's *Tales of the River Bank*, may be in the process of leading to the establishment of Mongolian gerbils on the Isle of Wight; that there were feral Himalayan porcupines in Devon, but not that some of the wels at Woburn, Bedfordshire, have reached 27 kg and exceeded $1\frac{1}{2}$ m in length. This is an intriguing book.

There are three indices: of people, species and places. The first might be helpful if the need arose to trace the exploits of a particular introducer, but is too complete, including every trivial mention; the second is a standard index; the third is perhaps the book's most useful individual feature. Every mention of an exotic animal is indexed by county and, within each county, by locality, enabling the reader to find very easily the interesting facts about any area.

Although rather expensive, this is a well-produced tome and on a cost-per-fact basis must work out relatively cheaply. No serious naturalist can afford not to have it available for reference on his bookshelves; and it also provides fascinating browsing.

J. T. R. SHARROCK

Letters

Melanistic Grey Heron Bryan L. Sage (*in litt.*) has confirmed that, when making his recent comment (*Brit. Birds* 70: 76), he had overlooked my record of a melanistic Grey Heron *Ardea cinerea* at Little Tring

Reservoir, Tring, Hertfordshire, on 29th September 1949 (*Trans. Herts. Nat. Hist. Soc.* 23: 224, and B. L. Sage, 1959, *A History of the Birds of Hertfordshire*, page 31).

J. N. HOBBS

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Field identification of Spotted Sandpipers From 9th October to 20th November 1975, I was fortunate enough to watch an immature Spotted Sandpiper *Tringa macularia* almost daily at Ynys-hir, Dyfed. During the first two weeks of its stay, it was often accompanied by an immature Common Sandpiper *T. hypoleucos*, providing excellent comparisons.

All the identification criteria put forward by D. I. M. Wallace in 1970 (*Brit. Birds* 63: 168-173) were supported. He stated, however, that: 'Their shape and size, behaviour and habitat selection in no way indicated that they were of a different species'; the Ynys-hir bird contradicted

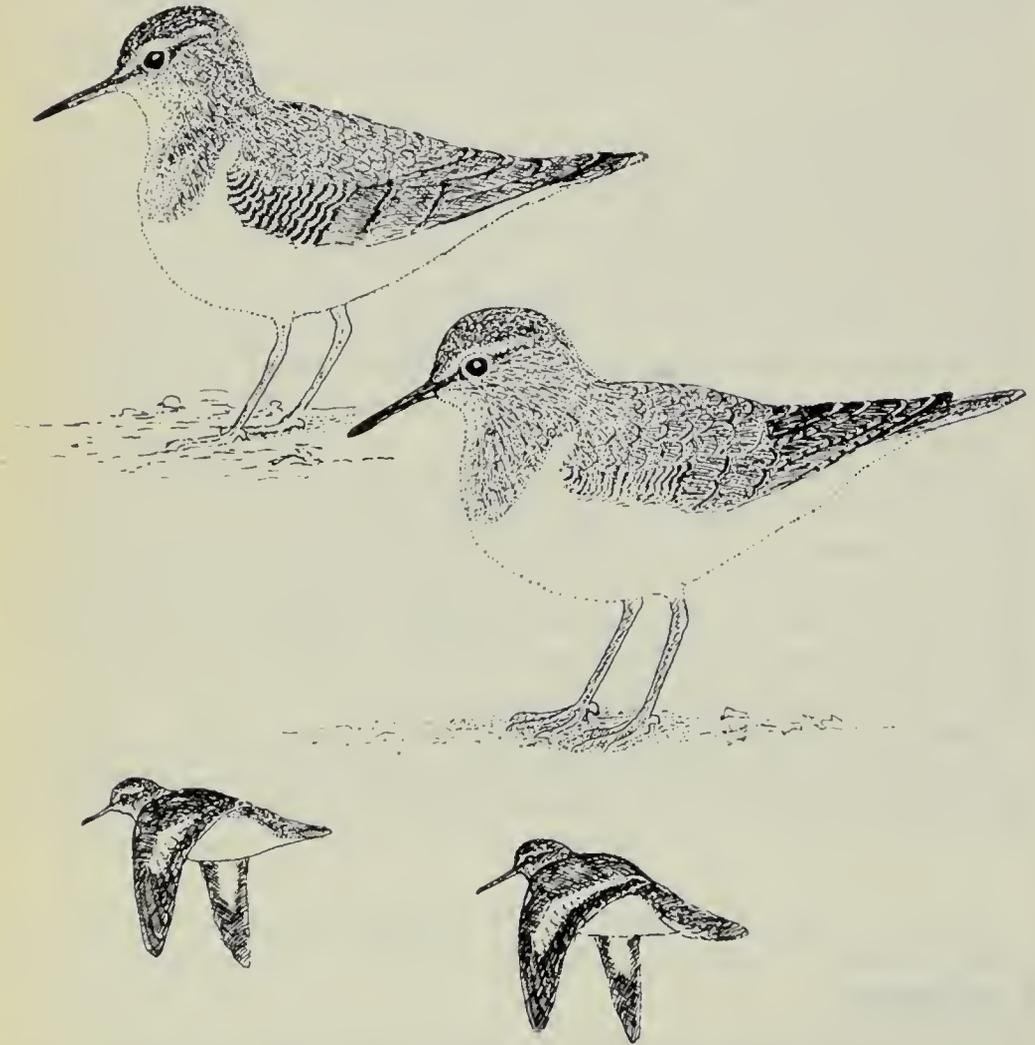


Fig. 1. Spotted Sandpipers *Tringa macularia* (left two birds) and Common Sandpipers *T. hypoleucos* (right two) in first-autumn plumage, at rest and in flight. Note differences in tertial fringe markings, shorter tail of Spotted and, in flight, more extensive wing-bar and fanned tail of Common

the first part of this statement, since it was noticeably smaller and shorter-tailed than the accompanying Common Sandpiper.

Measurements given in *The Handbook* (vol. 4: 301-302, 305) support the fact that the Spotted Sandpiper is rather smaller than the Common Sandpiper, although there is an area of overlap (wings of males are given as: Spotted 101-110 mm and Common 106-114 mm). The Ynys-hir bird could have been at the small end of the range, but the size difference when it was with the Common was most noticeable.

The shorter tail, however, was a most obvious field-character, even when the bird was alone, and the Spotted could be picked out in silhouette on occasions when the light was not good enough to see the leg colour or the more subtle plumage differences. So far as I am aware, this point has not been recorded elsewhere, although it can be clearly seen in previous photographs in this journal; it is perhaps best shown by comparing *Brit. Birds* 64: plate 19a with 67: plate 31a. The only other Spotted Sandpiper that I have seen was on St Mary's, Isles of Scilly, in October 1969, and my sketches of that bird also show a relatively short tail. I found, when comparing skins of the two species at the British Museum (Natural History), that the longer tails of Common Sandpipers were very apparent. C. Winn (*in litt.*) informs me that he looked carefully at Common Sandpipers in Yorkshire in autumn 1976, and at Spotted Sandpipers in the United States in November 1976, and fully agrees that the latter look markedly shorter-tailed. This tail feature has been overlooked in the past probably because of the lack of direct field comparison between the two species.

The Ynys-hir Spotted Sandpiper showed another difference: in flight the wing-bar seemed to be more restricted to the inner primaries, whereas that of the Common Sandpiper extends visibly along the bases of the secondaries. This point was not brought out by Wallace (1970), and his flight sketches were misleading, since the greater coverts probably normally cover the white in the secondaries of the Spotted Sandpiper in flight; this was, however, shown well in plate 31 of that paper.

In most cases, a critical examination of a suspected Spotted Sandpiper is possible, since the species seems to be relatively approachable and most observers use telescopes when looking at waders. The markings along the fringes of the tertials should be studied, since these seem to be diagnostic for first-autumn birds: those of Common Sandpipers are whitish-buff with dark notches, whereas those of Spotted Sandpipers are simply tipped greyish-white with a darker subterminal bar. The tertial markings are, however, visible only in close views with ideal light conditions.

The Ynys-hir Spotted Sandpiper was apparently reluctant to fan its tail, either when flushed or when fighting with a Common Sandpiper (which it frequently did); Common Sandpipers, on the other hand, seem to fan their tails when flushed, showing the extensive white outer tail feathers. I do not know whether this habit of not fanning the tail is typical of Spotted Sandpipers.

Finally, I should like to comment on the individual with intermediate characters photographed in Spain (*Brit. Birds* 65: 306 and plate 48a),

which D. I. M. Wallace considered was probably a Common Sandpiper. The photograph shows a long tail as well as tertial fringes patterned like those of a Common Sandpiper, which the bird must have been.

S. C. MADGE

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Song of Tawny Owl For years, the traditional version of the song of the Tawny Owl *Strix aluco* has been written 'tu-whit, tu-who', presumably at least since Shakespeare (1623) included those words in *Love's Labour's Lost* (Act V, Scene II, lines 920-937). This has always puzzled me because, as usually spoken, it quite obviously does not represent the actual song of the Tawny Owl. Heinzel, Fitter and Parslow (1973) attempted to explain it by saying that the long, quavering hoot and the 'ke-wick' call together form the origin of the traditional version. I do not accept this, as those two sounds are rarely, if ever, heard together so conveniently. I have, therefore, attempted to write down the song of the Tawny Owl as it sounds to me: 'tooo' (a falling hoot, followed by a pause), 'whit-tuwoooo' (the last note being drawn out, quavering and having a slight crescendo in the middle). This can be made to fit the traditional version if one accepts the syllables but alters the phrasing. I looked again, however, at what Shakespeare actually wrote:

'Then nightly sings the staring owl,
Tu-who;
 Tu-whit, tu-who—a merry note,
 While greasy Joan doth keel the pot.'

Applying Shakespeare's version of the song to mine, one finds that his first 'tu-who' roughly equates to my opening 'tooo', and is then followed by a semi-colon (i.e. a short pause). The remainder, usually quoted (incorrectly) in isolation, roughly equates to my 'whit-tuwoooo'. Thus, although the traditional short version can be made to represent the actual song, it seems that once more it has been shown to have been 'much better done in Shakespeare' (John Dryden, *Essay of Dramatic Poesy*).

A. M. MACFARLANE

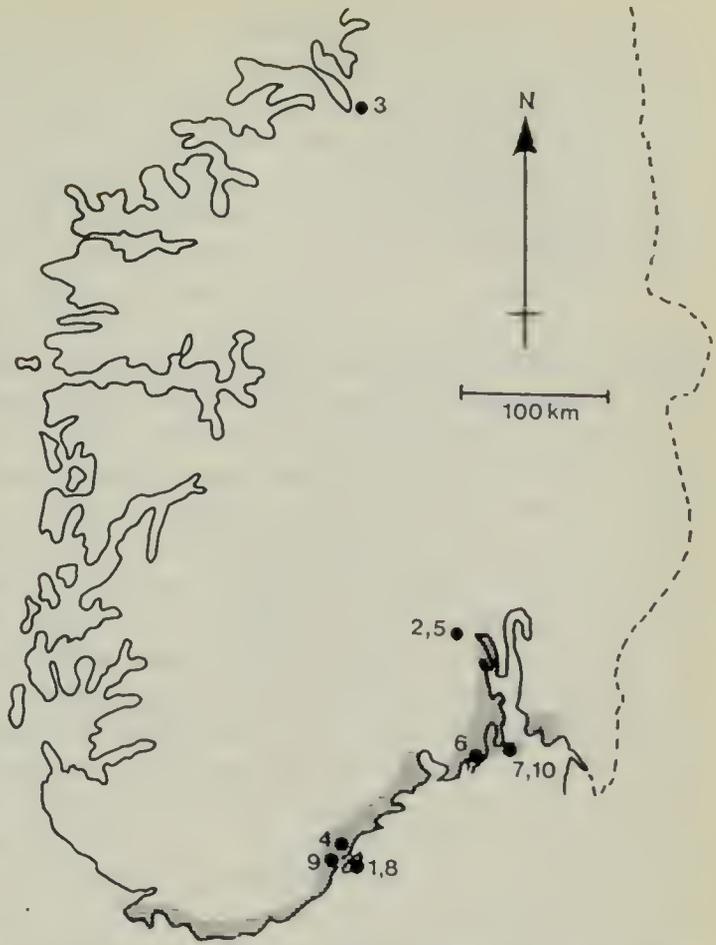
c/o FCO (Damascus), King Charles Street, London SW1A 2AH

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Status of Thrush Nightingale in Norway The absence of comment in Norman Orr's text (*Brit. Birds* 69: 265-271) suggests that the recent rapid increase of the Thrush Nightingale *Luscinia luscinia* in Norway is not well known outside the country. In the standard work on the birds of Norway, Professor Svein Haftorn (1971, *Norges Fugler*) noted about 20 observations in eight counties, and one instance of breeding in 1964. There has since been a remarkable increase, indicated by the number of records (almost all of singing males) in the seven years 1970-76: six, 16, 24, 41, 57, 61 and about 100. About half of the records have been in Vestfold on the west

Fig. 1. Probable breeding range of Thrush Nightingale *Luscinia luscinia* in southern Norway (shaded area), with sites of the ten confirmed breeding records up to 1976 shown by dots. 1 = 1964; 2-4 = 1972; 5 = 1973; 6 = 1974; 7-8 = 1975; 9-10 = 1976 (from information supplied by Jörn Thollesen)



side of Oslo Fjord, although there are records from 14 of Norway's 18 counties. There are now nine instances of breeding in the coastal counties from Aust-Agder to Buskerud, and one on the west coast in Møre og Romsdal (fig. 1); these probably represent only a fraction of the number actually breeding.

This information has been supplied by Jörn Thollesen, who is collecting data on the species.

GEOFFREY ACKLAM

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Tail-cocking by Moustached Warblers The identification literature stresses the importance of tail-cocking as a field character of the Moustached Warbler *Acrocephalus melanopogon*. For instance, 'cocks its tail in a manner quite unlike [other *Acrocephalus* warblers], which habits otherwise resemble' (B. W. Tucker, 1940, in *The Handbook*, vol. 2); 'Can be distinguished from Sedge [*A. schoenobaenus*] and Aquatic [*A. paludicola*] by *perky habit of cocking its rather short, rounded tail*' (Roger Peterson *et al.*, 1974, *A Field Guide to the Birds of Britain and Europe*, third edition); and 'Differs from Sedge Warbler by . . . habit of cocking up and spreading graduated tail' (Hermann Heinzel *et al.*, 1972, *The Birds of Britain and Europe with North Africa and the Middle East*).

When I first encountered this species, in Mallorca in April 1975, I

particularly looked for this character. I watched up to 20 individuals in a day, but on no occasion did I observe tail-cocking. I concluded that the habit must be less common than the literature suggests and less typical of Moustached Warblers than it is, for instance, of Fan-tailed Warblers *Cisticola juncidis* or Cetti's Warblers *Cettia cetti*. This might have particular relevance in the case of an observation of a vagrant, dark-capped, streaked *Acrocephalus* warbler: lack of habitual tail-cocking does not rule out Moustached Warbler.

J. T. R. SHARROCK

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Ringling on Skokholm and the early history of bird observatories and field centres in Britain It was a shock to read in 'News and comment' (*Brit. Birds* 69: 518) that the hereditary owner of my old home of Skokholm, Dyfed, has decided, when renewing the lease to the West Wales Naturalists' Trust in autumn 1976, not to allow ringing to continue. The work of ringing birds there began in 1927, when the present owner's father, Col. R. Lloyd-Phillips, granted me a 21 years' lease at £25 per annum, plus £1 for the sporting rights. So, it was 50 years ago that, urged by H. F. Witherby, who supplied the rings, I began to study those little-known birds, Manx Shearwaters *Puffinus puffinus*, Storm Petrels *Hydrobates pelagicus*, auks (Alcidae) and gulls (Laridae): studies which, except for the war period, have been carried on by other observers ever since.

But it was in August 1933 (not, as Peter Conder stated, in 1937) that, supported by H. Morrey Salmon and G. C. S. Ingram, I opened the first British bird observatory on Skokholm. In the next year, W. B. Alexander and I assisted Midlothian ornithologists to start the second observatory, on the Isle of May, Fife. Both observatories were closed during the war, but, in 1946, with two years of my lease still to run, I reopened Skokholm under the aegis of the West Wales Field Society, which in that year set up what I believe to have been the first 'field study centre', based on Skomer Island. The Society was overwhelmed with offers of help: one member lent us his yacht, my old boat *Storm-Petrel* was used as a cargo carrier, and a mainland base was set up at Martinshaven, just opposite the islands, where Miss Pat Higgenson—now Mrs Peter Conder—gathered visitors and stores with skilful aplomb in a tiny bungalow, sometimes for several days when there was bad weather. The Field Centre was directed from the ancient farm buildings in the centre of Skomer by a series of eager honorary wardens (with such names as Julian Huxley, L. Harrison Matthews, John Buxton, Stephen Marchant, John Fursdon and Edwin Cohen).

There had been great enthusiasm among us during the war to set up a chain of bird observatories as soon as peace came; and, in December 1945, the nucleus of the first Bird Observatories Committee got together at E. J. M. Buxton's cottage at Long Crendon, Buckinghamshire: W. B. Alexander, John Buxton, Dr Bruce Campbell, George Waterston and myself; and co-opted R. M. Garnett (then busy erecting a Heligoland trap at Spurn, Yorkshire) and Frank Elder of the Isle of May. In due course, the British Trust for Ornithology took over this committee. In

1947, Fair Isle and Lundy Bird Observatories were born, followed by Spurn (1948), Gibraltar Point and Cley (1949); and, while temporarily resident in Jersey, Channel Islands, I was instrumental in persuading the Ornithological Section of the Société Jersiaise to open in 1950 the present observatory at St Ouen's Pond.

Meanwhile, the success of the Field Centre on Skomer persuaded the WWFS to move to a headland on the mainland. The converted fortress of Dale Fort was brought on a full mortgage of £6,000, supplied by a member, and the scientific equipment and furniture were moved from Skomer at the end of 1946—while Skokholm remained an active bird observatory. Subsequently, the newly created Council for the Promotion of Field Studies, having started field centres at Flatford Mill, Essex, and Juniper Hall, Surrey, offered to take over Dale Fort and, at the same time, provide the WWFS with a permanent base there. The fort was, therefore, rented to the CPFS, and a gentleman's agreement entered into whereby Skokholm was served by boat from Dale Fort, every visitor who stayed on the island having first to join the WWFS. John Fursdon had been honorary warden of Skokholm in 1946, but, in the summer of 1947, he handed over to Peter Conder, who was assisted by Joan Keighley. Peter Conder conducted his well-known studies on Wheatears *Oenanthe oenanthe* and other birds for the next six years. On joining the staff of the Royal Society for the Protection of Birds in 1954, he was succeeded by Peter Davis, who studied the life history of the Storm Petrel for three years, until he, in turn, moved on in 1957 to become warden of Fair Isle.

In 1948, my lease of Skokholm expired, and, his father having died earlier, the present owner, Hugh Lloyd-Phillips, renewed the lease for another 21 years in favour of the WWFS. Nothing was said about objections to bird ringing; in fact, the change-over was most amicable, and the rent remained low—£.75 per annum.

Skomer Island had meanwhile been sold to the industrialist Leonard P. Lee, while the WWFS was still struggling to raise the money to buy it. Mr Lee never lived there, but allowed the gales to strip the roof of the old farmhouse which the WWFS had maintained as a field study centre in 1946. Eventually, he generously allowed the society to buy Skomer at cost—£10,000. This was possible by means of a model arrangement with the Nature Conservancy, which had been unable to buy the island because the government valuer declared that it was not worth more than £6,000 (and no nonsense about the finest southern seabird sanctuary in Europe!). The WWFS (soon to become the West Wales Naturalists' Trust) raised £4,000 and sold the island to the Nature Conservancy the same day for £6,000, thereby securing Skomer as a permanent National Nature Reserve and, in return, was given a lease at a peppercorn rent, and an agreement that, as landlord, the Conservancy would erect a purpose-built warden's house in a strategic position commanding the two landing places. (The plans included a laboratory for research workers, and a cellarage designed to accommodate nesting Manx Shearwaters and Puffins *Fratercula arctica*—which continue there today as sub-tenants.) The Conservancy took over Skomer on 15th June 1959 and a warden was appointed by the WWNT,

which continues to manage the island both successfully and viably (landing fees generally covering the salary and expenses of the warden).

When the second long lease of Skokholm expired in 1969, the owner renewed in the WWNT's favour for seven years, again without protest against the ringing studies, but with a greatly increased rent of £500 per annum. It is hoped that, in view of the long history of study and conservation of birds at Skokholm, the landlord will cancel the restriction on ringing which he imposed when he renewed the lease—yet again—in 1976. We are pleading with him to do so.

Meanwhile, the ringing studies on Skomer—for nearly half a century complementary to those on Skokholm—continue unchanged.

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Photographers are reminded that colour transparencies and black-and-white prints taken during 1977 will be eligible for the second 'Bird Photograph of the Year' award. The rules will be the same as in 1976 (*Brit. Birds* 69: 421). Entries should not be submitted yet: this announcement merely gives advance notice; full details will be published in a future issue.

Request

Birds of Corfu Information is being collected on the birds of Corfu. All records are required, even of the commonest species; proof of breeding will be particularly valuable. All correspondence will be acknowledged; records should be sent to Norman McCaneh, Sandwich Bay Bird Observatory, Guilford Road, Sandwich Bay, Sandwich, Kent CT13 9PF.

News and comment

Peter Conder and Mike Everett

An oily spring The first half of 1977 has been distinguished by the occurrence of five at least equally interesting and instructive oil pollution incidents, which have received vastly different amounts of

comment. On 13th February, 80 tons of oil escaped from a valve at the land-based submarine testing station HMS *Vulcan* at Dounreay, north Caithness, polluting 200 m of rocky shore and killing at least

150 auks and ducks. On 5th March, the chain mooring the 115,000-ton tanker *Nacella* in Scapa Flow parted in a gale, releasing 10 tons of oil from loading pipes and a damaged singlepoint mooring, which killed at least another 100 birds. In late February, and again over Easter, oil polluted the Royal Society for the Protection of Birds reserve at Bempton in Humberside, killing 700 birds on the first occasion and over 1,000 on the second. Finally, between 22nd and 30th April, a blowout occurred at the Ekofisk oilfield in the centre of the North Sea, releasing some 10,000-30,000 tons of oil, amid worldwide publicity, but apparently harming few birds. The following points are of interest. While the Royal Navy held an enquiry, they remain immune to pollution legislation and adverse publicity. Both the Scapa Flow and Ekofisk incidents involved double failures of equipment: in the first case, the failure at 90 tons of a chain tested to 359 tons and fracture of the pipe at the base of a singlepoint mooring; in the second case, the installation of a blowout preventer upside down with unsatisfactory rams. The first Bempton incident involved fuel oil, probably of Nigerian origin, and the second weathered crude oil, probably of Middle Eastern origin, both presumably discharged by ships, and not North Sea crude. It appears, from both the Scapa Flow and Ekofisk incidents (which occurred before it is generally appreciated that birds return to the colonies), that the authorities were dilatory in arranging aerial surveys to assess the damage and rehabilitation of the birds; the RSPB themselves had organised a cheap flight in the first Bempton instance: yet, despite this experience, everyone seems to have been caught on the hop during Easter with the second incident six weeks later.

Finally, light Ekofisk crude oil proved capable of forming the much-feared 'chocolate mousse' water-in-oil emulsion of *Torrey Canyon* ill-fame, but it also dispersed within 40 km of the blowout and 24 hours of formation, doing little damage. It seems unwise to rely on the same thing happening with the much waxier oil from the Mesa field 19 km off the east coast of Sutherland, which has already given rise to at least two leaks last autumn without legal action. It is currently proposed to collect it in a moored 200,000-ton tanker for transshipment into small tankers

within a few kilometres of tens of thousands of pairs of seabirds breeding along the east coast of Caithness to the north and thousands of scaducks wintering off Dornoch and Burghcad in the Moray Firth to the south. It is to be hoped that these tankers will have better valves and stronger chains, pipes and mooring terminals than were used at Dounreay and Ekofisk and in Scapa Flow. (Contributed by Dr W. R. P. Bourne.)

Consciences awakened at last A Europe-wide appeal to end the slaughter of migratory birds has recently been launched by the International Council for Bird Preservation. The aim of the appeal is to help the Italians to stop the appalling slaughter of millions of migratory birds. Another prong of attack on this problem by the European Economic Community was reported in this column (70: 174). This particular move of tackling the problem was initiated by the Anglo-Italian Society for the Protection of Animals, which goaded the RSPB, the ICBP and the Dutch Bird Protection Society into activity. Donations should be sent to the appeal 'Stop the Massacre' Fund, ICBP, Panda House, 29 Granville Street, London EC1N 8AK.

The Ornithological Society of Turkey This organisation, which is largely based in western Europe and has no Turkish subscribers, is coming to the conclusion that its title is misleading, and, in view of the need for some kind of organ for the international dissemination of ornithological data from the whole of the Middle East, feels that the time may be appropriate for giving itself a broader base. The society's secretary, R. F. Porter, is asking members for comments. His address is c/o RSPB, Abinger House, Abinger Road, Portslade-by-Sea, Brighton BN4 1SB.

Norwegian Atlas It is pleasing to learn that the Norwegian ornithological society, Norsk Ornitologisk Forening, is planning to undertake an Atlas project. It has elected a delegate to the European Ornithological Atlas Committee: Steinar Eldoy, Liljevegen 2, 4300 Sandnes, Norway.

Protection of Birds Act licences The Nature Conservancy Council Licensing Section has been transferred to the NCC's London office. The NCC has responsibility

under the Protection of Birds Acts 1954-67 to issue licences for a variety of purposes connected with scientific research and conservation. Enquiries should be directed to A. J. Lennox, Nature Conservancy Council, 19 Belgrave Square, London SW1X 8PY.

New reserves The RSPB has announced the acquisition of three new reserves. First, it has leased 6,500 ha of hillside, moorland, woodland and part of Lake Vyrnwy itself in North Wales from the Severn-Trent Water Authority. This is the RSPB's largest reserve to date and also the largest nature reserve of any designation in Wales. Secondly, it has also leased nearly all of Loch of Kinnordy near the town of Kirriemuir, in Angus. This 80-ha loch was drained during the last century, but, more recently, the drainage system has fallen into disrepair and the whole area is now a shallow marsh with a tremendous variety of aquatic plants attracting large numbers of waterfowl. Thirdly, by leasing 110 ha of saltmarsh from Rodney Dawson in Lincolnshire, the size of the RSPB's Tetney reserve has been increased to 1,250 ha.

Congratulations to . . . Leo Batten. There are, of course, plenty of ornithological PhDs gained by students researching full-time in university zoology departments. It is far less easy to squeeze the necessary work into an already busy working life. We, therefore, give hearty congratulations to Leo Batten of the British Trust for Ornithology's Populations Section, who has just been awarded an external PhD by London University.

And to . . . Ronald Lockley, whose life history of the Manx Shearwater studied on

his former island home of Skokholm in Dyfed is a classic, and whose later work has included studies of other burrow-living animals such as the Puffin and rabbit. He has just received an honorary MSc from the University of Wales.

And to . . . the Young Ornithologists' Club, whose 'phone-in' has been such a huge success. Members of the YOC were invited to phone in with news of their latest observations of returning summer migrants. This gave the youngsters enormous opportunities of talking to experienced people about the 'little brown birds' that they had seen. It was also gratifying that the BBC's 'Blue Peter' programme adopted it and gave it fortnightly coverage. The YOC must be congratulated on its extremely imaginative promotion of the interests of birds among the young, which we hope will promise well for the welfare of the birds in 30 years' time.

Bottom of the class The 1979-80 campaign of the European Centre for Nature Conservation of the Council for Europe is (subject to the approval of the Committee of Ministers) 'Wildlife and Natural Habitats'. The central purpose of the campaign will be - guess what? - to make the public aware of the threat of the imminent extinction of many plants and animals, etc., etc. We rather suspect that Recommendation 7 from the World Conference on Birds of Prey, Vienna, asking for a Council for Europe campaign for the protection of birds of prey ran up against inter-disciplinary jealousies! If the European Centre cannot use more imagination than this, it should drop the idea of the campaign. The response will be the same. Or ask the YOC!

Opinions expressed in this feature are not necessarily those of the editors of British Birds

Recent reports

K. Allsopp and S. C. Madge

[We are pleased to announce that S. C. Madge, recently co-opted on to the Rarities Committee (*Brit. Birds* 70: 307), has joined K. Allsopp as co-author of this feature. Eds]

This report covers May and the first part of June. Unless otherwise stated, all dates refer to May.

Most autumn vagrants are first-winter

birds; the more experienced individuals which survive to make the return spring migration are less likely to wander. The number of vagrants reported during May

was, however, exceptional. Migration is usually more urgent in spring, and most grounded migrants do not stay very long, leaving many frustrated birdwatchers behind them. The weather pattern during the month was not favourable to the birds. The mid Atlantic anticyclone which brought cold northerly air across the country in April persisted until 6th, and was followed by a week of wet, westerly weather. On 14th, high pressure began to build over the country and an anticyclone remained over northern areas until early June. The winds were mainly from the northeast, bringing cool but clear conditions, except for a warm period from 22nd to 28th.

Displaced migrants

The most remarkable arrivals came not from Europe but from America. Two **White-crowned Sparrows** *Zonotrichia leucophrys* were reported—one on Fair Isle (Shetland) on 15th and 16th and the other at Hornsea Mere (Humberside) on 22nd—yet this species had not been recorded in Britain and Ireland before; it breeds abundantly in northwest Canada and winters in the southern United States and Mexico. A **Myrtle Warbler** *Dendroica coronata* on Fair Isle on 18th was a further surprise. The possibility that these three birds had overwintered on this side of the Atlantic, following the influx of Neartic vagrants in autumn 1976, seemed likely, until there were reports of a **Yellow Warbler** *D. petechia* on St Kilda (Western Isles) and a **Cape May Warbler** *D. tigrina* near Glasgow; the latter will, if accepted, be new to Europe.

Among the displaced north European migrants during the easterly weather, **Red-backed Shrikes** *Lanius collurio* were the most obvious. Fair Isle reported 15 on 20th and a maximum of 27 on 25th. Farther south, there were ten on the Tyne-side coast during 15th to 29th, five at South Gare (Cleveland) during 23rd to 29th and seven at Spurn Point (Humberside) on 28th. Only singles were seen on the south coast, at Portland Bill (Dorset) on 17th, Sandwich Bay (Kent) on 26th and on the Isles of Scilly. Records of **Bluethroats** *Luscinia svecica* showed a similar pattern, with eight on Fair Isle on 19th, two at Spurn Point on 28th, two at South Gare, two at Flamborough and singles at Bempton (Humberside), Holy Island and

Farne Islands (both Northumberland), all during 19th to 28th; one also reached the Calf of Man on 17th, only the second Manx record.



Nightingales *L. megarhynchos* were reported from east coast areas, with several singing in non-breeding areas inland. The rarer **Thrush Nightingale** *L. luscinia* appeared on Fair Isle on 21st and 28th and in Lincolnshire on 21st. Two other species, **Savi's Warbler** *Locustella luscinoides* and **Wood Warbler** *Phylloscopus sibilatrix*, were also seen and heard in new areas, the latter reaching as far west as Cape Clear Island (Cork) for the first time in spring. Other notable displaced migrants included **Icterine Warblers** *Hippolais icterina* at Sandwich Bay from 22nd, Holy Island on 22nd, Spurn Point on 28th (two) and Fair Isle on 25th to 27th, **Red-throated Pipits** *Antlus cervinus* at Spurn Point and Salthouse (Norfolk) on 29th, a **Citrine Wagtail** *Motacilla citreola* at Dungeness (a new bird for the area) on 21st, and a **Yellow-breasted Bunting** *Emberiza aureola* at Gibraltar Point (Lincolnshire) on 14th.

Late spring usually produces several overshooting vagrants from southern and eastern Europe. The most unusual this year were single **Rufous Bush Robins** *Cercotrichas galactotes* on Cape Clear Island on 14th and at Keighley (West Yorkshire) on 8th, and **Subalpine Warblers** *Sylvia cantillans* at Spurn Point on 22nd, Fair Isle on 29th, Calf of Man on 1st June and St Mary's (Isles of Scilly) on 8th June. The numbers of other species were mostly unexceptional: reports included four **Red-footed Falcons** *Falco vespertinus*, a **Collared Pratincole** *Glareola pratincola*, a **Bee-eater** *Merops apiaster*, a **Short-toed Lark** *Calandrella cinerea* and a **Red-breasted Flycatcher** *Ficedula parva*. In contrast to the numbers of Red-backed Shrikes, we have heard of only two **Lesser Grey** *L. minor* and four **Woodchat Shrikes** *L. senator*.

Cranes, storks and harriers

Some of these larger birds obviously had difficulty in making headway against the northerly winds and became stranded on this side of the Channel. **Cranes** *Grus grus* were reported from Yorkshire in March and April, and subsequently there were two to four in Northumberland during May and singles at Leighton Moss (Lancashire) on 15th and Dungeness on 29th. **White Storks** *Ciconia ciconia* showed a similar pattern, being seen along the east coast in early spring and subsequently in Kent, where at least two were present on the coast throughout May and into June. A **Black Stork** *C. nigra* surprised a carload of birdwatchers when it flew over Barton Mills (Suffolk) on 4th June. Scattered reports of **Marsh Harriers** *Circus aeruginosus* were received including

nine sightings in Devon and Cornwall, suggesting a fairly large influx.

Gulls and terns

Except on 27th, when there were 90 **Black Terns** *Chlidonias niger* at Leighton Moss and 35 at Fairburn Ings (Yorkshire), the easterlies did not bring the expected numbers of this species. Four **White-winged Black Terns** *C. leucopterus* were also seen at this time. The most unusual report, however, was of two **Great Black-headed Gulls** *Larus ichthyæetus* in summer plumage at Slapton (Devon) in late May.

Latest news

In mid July: male **King Eider** *Somateria spectabilis* at Colne Point (Essex); **Pectoral Sandpiper** *Calidris melanotos* and two **Temminck's Stints** *C. temminckii* at Cley (Norfolk)

These are largely unchecked reports, not authenticated records

County, regional and bird observatory recorders in Britain and Ireland

The main aims of this list of bird recorders and editors are to ensure that observers on holiday away from their home areas send records to the right people, to encourage co-operation at the inter-county and intra-county levels, and to provide a source of reference for those collating records on a national basis. Several counties are divided into areas for recording purposes, but to save space, and because we believe it is less confusing, the list generally includes one name only against each county or region. At the request of the Bird Observatories Council, we have returned to our former practice of listing the names and addresses of observatory recorders or wardens; these appear separately at the end. Titles of publications are added only when they do not include the name of the county or counties concerned. We shall be glad to know of any errors, omissions or changes of address.

ENGLAND

All counties or regions are now publishing or intending to publish annual reports, though recording arrangements have been somewhat complicated by local government reorganisation. All county names refer to the *new* counties (see *Brit. Birds* 68: 1-4) except where otherwise specified. The recording area is described only where it differs in any way from the new county concerned; an *italicised* cross-reference indicates an apparent

overlap in recording territory (in some cases very slight) (see also *Brit. Birds* 68: 256, fig. 1). A number of other reports overlap with adjacent ones to a greater or lesser extent and cover parts of one or more counties; among the most important is the *North-Western Bird Report*, published by the Merseyside Naturalists Association (Eric Hardy, 47 Woodsorrel Road, Liverpool L15 6UB), which not only covers Merseyside but ranges widely over northwest England and north Wales. There is now generally a good exchange of information between overlapping reports and between local and county publications, but in a few instances co-operation is still only partial or even lacking and we again urge those concerned to resolve such situations, which greatly add to the work of any national collator and confuse the casual visitor. Likewise, we hope that county societies which cover areas where the boundaries have been altered attempt to reduce unnecessary overlaps and (most important) ensure that no areas are left without a recorder.

- Avon* P. J. Chadwick, 3 Hill Burn, Henleaze, Bristol BS9 4RH. See also *Somerset*
- Bedfordshire* B. D. Harding, 66 Salters Way, Dunstable, Bedfordshire LU6 7BT
- Berkshire* P. E. Standley, Siskins, 7 Llanvair Drive, South Ascot, Berkshire SL5 9US. See also *Buckinghamshire*
- Buckinghamshire* R. E. Youngman, 53 Seymour Park Road, Marlow, Buckinghamshire SL7 3ER. Report (*The Middle-Thames Naturalist*) covers Buckinghamshire and *Berkshire* east of the River Loddon. See also *London*
- Cambridgeshire* For the old county of Cambridgeshire: Mrs I. Jennings, 168 Huntingdon Road, Cambridge CB3 0LB. For the old county of Huntingdonshire, including the Soke of Peterborough: J. D. Limentani, 10 Kingfisher Green, St Ives, Huntingdon, Cambridgeshire PE17 4US. Records for the whole of the new county will be published in the Cambridgeshire report, but Huntingdonshire records will also be abstracted for separate publication.
- Cheshire* Dr R. J. Raines, 34 Beryl Road, Noctorum, Birkenhead, Merseyside. Report covers the old county of Cheshire apart from the Longdendale area, now in Derbyshire; and a small, newly acquired area from Hale to Moss Side, formerly in *Lancashire*
- Cleveland* G. W. Follows, 9 De Brus Court, Marine Parade, Saltburn, Cleveland TS12 1EH. See also *Durham*
- Cornwall* D. J. Barker, Calidris, Four Lanes, Redruth, Cornwall
- Cumbria* For the old county of Cumberland: Ralph Stokoe, 4 Fern Bank, Cockermouth. Cumbria CA13 0DF. For the rest of Cumbria: Malcolm Hutcheson, Garden Cottage, Sizergh Castle, Kendal, Cumbria LA8 8AE. See also *Lancashire*
- Derbyshire* David Amedro, 212 Derby Road, Ilkeston, Derbyshire DE7 5FB
- Devon* P. W. Ellicott, Clitters, Trusham, Newton Abbot, Devon TQ13 0LX
- Dorset* J. V. Boys, 21 Moor Road, Broadstone, Dorset BH18 8BA
- Durham* Brian Unwin, 2 Albyn Gardens, Sunderland, Tyne & Wear. Report also covers those parts of *Cleveland* and Tyne & Wear which were included in the old county of Durham, and the former Startforth rural district, which used to be in Yorkshire but is now in Durham. See also *North, South and West Yorkshire*
- East and West Sussex* J. Cooper, 72 Filching Road, Eastbourne, East Sussex BN20 8SD
- Essex* P. J. Howard, 6 St Bride Court, Colchester, Essex CO4 4PQ and J. Thorogood, 3 Sceptre Close, Tollesbury, Essex CH9 8XB. Report also covers Greater London east of the River Lea and north of the Thames. See also *London*
- Gloucestershire* C. M. Swaine, Mill House, Rendcomb, Cirencester, Gloucestershire
- Greater London* See *London*
- Greater Manchester* See *Cheshire* and *Lancashire*
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- Lincolnshire* K. Atkin, 5 Hazel Grovc, Louth, Lincolnshirc LNI 1 8RU. Report also covers South Humberside
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WALES

The annual 'Welsh Bird Report', compiled by P. E. Davis and P. Hope Jones, is published in the twice-yearly journal *Nature in Wales*. Reprints

are obtainable from D. R. Saunders, 20a High Street, Haverfordwest, Dyfed (price 20p post free). This presents a summary of records in Wales as a whole, but county or regional reports are also published and recording is mainly on an 'old county' basis. The names of the new counties are, however, used in the following list:

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 (*Annual Report of Cambrian Ornithological Society*)
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The annual 'Scottish Bird Report', compiled by R. H. Dennis, is published in the quarterly journal *Scottish Birds*, the editor of which is D. Bates, Scottish Ornithologists' Club, 21 Regent Terrace, Edinburgh EH7 5BT. This presents a summary of records in the whole of Scotland, but for the time being recording continues to be on a regional basis (not corresponding to the new administrative regions), partly by old counties and partly by the 'faunal areas' shown on the map at the end of volume 2 of E. V. Baxter and L. J. Rintoul's *The Birds of Scotland* (1953). Note that Skye and the Hebrides are treated separately from the counties in which they lie. The recording areas are listed from north to south under old county names:

In addition to the 'Scottish Bird Report', there are annual reports covering Shetland (except Fair Isle), Fair Isle, the Aberdeen area, the old county of Perthshire, the Isle of May, and the Clyde.

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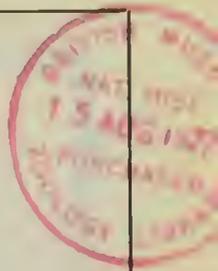
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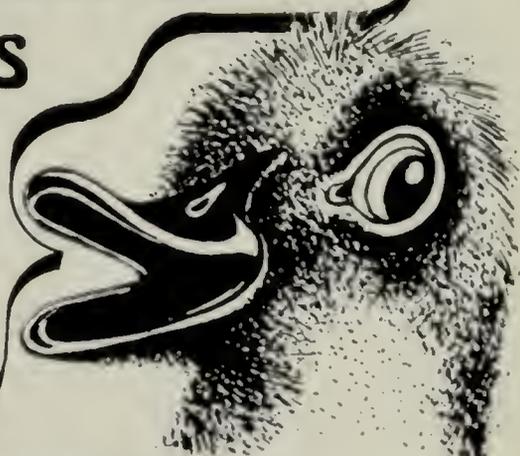
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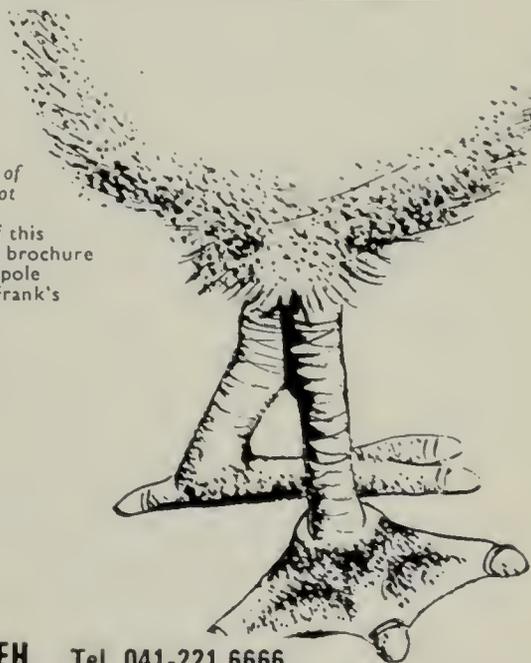


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British Birds

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Peter Harrison

Siberian Blue Robin: new to Europe

Gannets and toxic chemicals

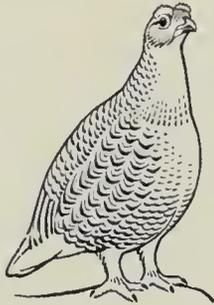
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British Birds

VOLUME 70 NUMBER 9 SEPTEMBER 1977

Siberian Blue Robin: new to Europe

F. R. G. Rountree

Autumn 1975 was remarkable for rare birds in western Europe, but the appearance of this east Palearctic species in the Channel Islands was one of the most unexpected events



At 12.50 GMT on 27th October 1975, Philip J. Guille approached a mist-net set under the canopy of sycamores *Acer pseudoplatanus* alongside scrub consisting of blackthorns *Prunus spinosa* at the head of the Banquette valley in Sark, Channel Islands. Hanging in the net was a small passerine and, as he extracted it, PJG realised that the species was unknown to him. Although recalling a small thrush *Turdus* or rather large, short-tailed Robin *Erithacus rubecula* in form, its basic plumage pattern of dark olive-brown upperparts and mainly white underparts recalled no small turdid regular in the west Palearctic. Having safely bagged the bird, PJG summoned assistance and shortly afterwards Alan Marsden, Mrs A. Marsden, my wife and I arrived to witness the customary handling of such a bird and its release. Initially, none of us recognised its identity, but eventually we all agreed that our description and the photographs taken by AM were of a Siberian Blue Robin *Luscinia cyane*, in what was probably first-autumn female plumage. The record was accepted by the Sark Rare Bird Panel and, later, by the *British Birds* Rarities Committee, to which body we submitted it in view of the international importance of the occurrence. The rest of this paper gives the details of what was perhaps the most astonishing rarity of a great year for extralimital vagrants throughout western Europe.

The bird in the hand

The bird was obviously a small thrush or chat and, during its extraction from the net, it gave the long, harsh calls typical of such passerines. Its

form most recalled a Robin, but was made distinctive by a rather short tail and noticeably longer and more robust legs. The following description and measurements were taken:

Upper mandible dark horn, lower paler; mouth pinkish with blue cast. Iris dark brown. Upperparts including tail uniformly dark olive-brown; sides of face and neck similarly coloured, but with slightly darker lores, a distinctive whitish-buff eye-ring and fine buff streaks on the ear-coverts. Wings also dark olive-brown, but with a wing-bar formed by reddish-buff tips of the greater coverts and with the folded flight feathers (actually the leading edges of both primaries and secondaries) buffish-olive and appearing much paler than the rest of the upperparts. Underparts basically white and vividly so below the breast, but with olive-buff tips on the throat and strong mottling of buff tipped olive on the upper breast

and of olive on the flanks and the underwing. Plumage fresh and unabraded, except for slightly worn tips to the pointed tail feathers. Legs and feet pink, darker in front.

Weight 15.75 g. Wing 71 mm (maximum chord), tail 48.5 mm (almost square, but with outer feathers 5.5 mm shorter). Bill (to skull) 14 mm, tarsus 27 mm. Approximate length from bill tip to tail tip 123 mm.

Wing formula: 4th longest (4 mm longer than primary coverts), 5th -0.5 mm, 6th -6.5 mm, 7th -9.0 mm, 8th -11.5 mm, 9th -13.5 mm, 10th and secondaries -15.5 mm, 3rd -2.0 mm, 2nd -8.5 mm; primary emargination obvious on 3rd, 4th and 5th, slight on 6th.

The bird remained silent during handling and we were hopeful of studying it in the field. Unfortunately, upon release it flew off immediately, calling 'tchak' as it did so. We noted its flight as low and undulating and then it was gone as mysteriously as it had come.

The process of identification

We could find no hint of what species we had observed in any field guide or other common book of reference, but a wider search of the Palearctic literature showed us that, in addition to the Red-flanked Bluetail *Tarsiger cyanurus*, which occasionally reaches the western seaboard of Europe, there were several other small related chats to be considered. The search for one that was, like *Tarsiger*, strongly migratory led us to the Siberian Blue Robin and, with the aid of Kobayashi (1956), King *et al.* (1975), Dementiev and Gladkov (1968) and other references, we were able to complete the identification. The bird's measurements fell within the limited ranges given by Dementiev and Gladkov, except for the bill, which was 2 mm shorter than any of the 12 quoted, and its plumage accorded with that given for the adult female, except that we did not note the rufous tinge of the tail and uppertail-coverts mentioned by Dresser (1902) and Salim Ali and Ripley (1973), or the brown 'scales' on the breast stressed by King *et al.* (1975). These last discrepancies may indicate that the bird was immature and certainly the presence of a wing-bar, like that of a young Robin, suggests a bird in its first year. The combination of the eye-ring, the rather short tail and the long, robust and pale legs was central to the diagnosis and any confusion with the Black-throated Robin *L. obscurus* was prevented by the absence of white bases to the outer tail feathers.

Against the possibility that must now exist of further occurrences, additional description of the Siberian Blue Robin is essential. Only the

adult male earns its name, its upperparts being almost wholly slaty-blue (palest on the forehead and crown) and interrupted only by black lores, cheeks and throat sides (providing a noticeable black band through the face on to the neck) and olive-brown flight feathers. The male's underparts contrast markedly with the upperparts, being basically white, but often tinged with bluish-slate or grey-brown on the flanks and across the chest. Like the Red-flanked Bluetail, young males and old females may have their uppertail-coverts and tail washed with blue (King *et al.* 1975) and such birds would be confusable with *Tarsiger* on a brief rear view, particularly since they also share a prominent eye-ring with that species.



90. Siberian Blue Robin *Luscinia cyane*, probably first-year female, Channel Islands, October 1975 (A. Marsden)

The Red-flanked Bluetail, however, shows orange-red flanks at all ages and it is not so short-tailed or noticeably long-legged. D. I. M. Wallace tells me that the character of captive males reminded him of a rather plump, long-legged, short-tailed redstart *Phoenicurus* and certainly most texts stress the frequent movement of the tail in both 'quivering' and 'cocking' actions. The alarm call of the Siberian Blue Robin is normally written 'chuck-chuck-chuck', but our experience indicates that it can sound sharper than that. In its normal range, the Siberian Blue Robin is a secretive, apparently rather silent chat, which spends much time on the ground. Clearly, it is another small rarity that may elude the sharpest-eyed observer. Fig. 1 illustrates the general character of the species and plate 90 shows the Sark bird in the hand.

Associated occurrences

The migration of the Siberian Blue Robin is oriented to the southeast and, before our record, the species had not been reported west of Bengal (Salim Ali and Ripley 1973); the capture of one in Sark was thus unprecedented. Fuller research into its distribution, however, tends to lessen the surprise, for the Siberian Blue Robin is closely sympatric in central Asia with the Pallas's Warbler *Phylloscopus proregulus*, whose west European records are fast mounting, and other regular extralimital vagrants, such as Radde's Warbler *P. schwarzi*. The Sark bird appeared

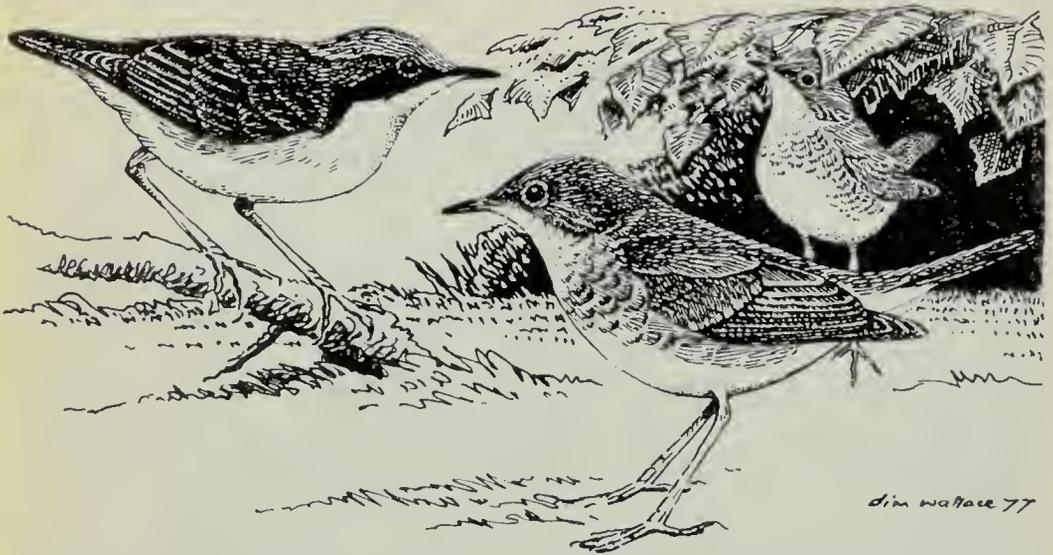


Fig. 1. Siberian Blue Robin *Luscinia cyane*. Left, adult male, with dark blue upperparts and black mask (extending to neck) contrasting with snow-white underparts; right (foreground), immature, with dark brown upperparts and mottled or scaled chest on mainly white underparts; and right (background), adult female, patterned as immature, but lacking pale covert tips (and often with blue tones in upperparts of older birds). Note, at all ages, obvious length of pale legs and dusky flanks, and, on immature and female, prominent eye-ring (D. I. M. Wallace)

in the middle of a ten-day flood of such birds (*Brit. Birds* 69: 324) and there can be no doubt that this complex arrival was influenced by the presence of a strong easterly airstream out of Russia, created by a large anticyclone centred over the Baltic Sea. A review of other past records suggests that the Siberian Blue Robin is no more unlikely to reach Europe than the Siberian Thrush *Turdus sibiricus* and the Thick-billed Warbler *Acrocephalus aedon* or those two other astonishing occurrences in October 1975, the Siberian Rubythroat *Luscinia calliope* and the Yellow-browed Bunting *Emberiza chrysophrys* (*Brit. Birds* 69: 346 and 357). Certainly, in the general autumn context of unprecedented 'reversed migration', we see no reason to doubt that the robin was a wild bird and this was also the view of the Rarities Committee, which examined the possibility of an escape.

Notes on the species

The systematics of robins, nightingales and other related small chats remain confused, but Dementiev and Gladkov (1968), Flint *et al.* (1968)

and Vaurie (1959) all placed the Siberian Blue Robin in the genus *Luscinia*—with ten other species, among which are the more familiar Nightingale *L. megarhynchos* and Bluethroat *L. svecica*. The Siberian Blue Robin forms a species-pair with the Indian Blue Robin *L. brunnea* (but the latter undertakes a shorter migration from the Himalayas to Ceylon at most and is a very unlikely candidate for vagrancy) and, like all its congeners, it favours dense ground cover at all times of the year. The Siberian Blue Robin is apparently the most terrestrial of its kind, with the adaptations of a relatively strong bill, long legs and short tail to show for such a niche. In its breeding range, which stretches east of the Altai across southern Siberia to Korea, it is a fairly common, occasionally abundant species of mixed forest. The breeding cycle begins in May, with males singing 'sweetly and melodiously' from low cover or the ground. The nest is on the ground and is usually well hidden. Eggs are laid in late May and through June; they are plain greenish-blue and range in size from 19.0×13.7 to 18.2×15.0 mm (Dresser 1902). Details of incubation and fledging periods are apparently unknown. Adults moult in the breeding range from the last ten days of July to mid August. Details of the dispersal from the nesting areas are incomplete, but autumn arrivals are noted in Burma in October. The winter range of the Siberian Blue Robin stretches from Assam eastwards through southeast Asia to southern China; it includes Borneo, Sumatra and the Philippines.

Acknowledgements

I express my gratitude to Dr A. S. Cheke, C. E. Davies, J. N. Dymond, R. R. Kersley, Dr J. T. R. Sharrock, D. I. M. Wallace and the Rarities Committee for their invaluable assistance.

Summary

An account is given of the first known European occurrence of Siberian Blue Robin *Luscinia cyane*, mist-netted on Sark in the Channel Islands on 27th October 1975.

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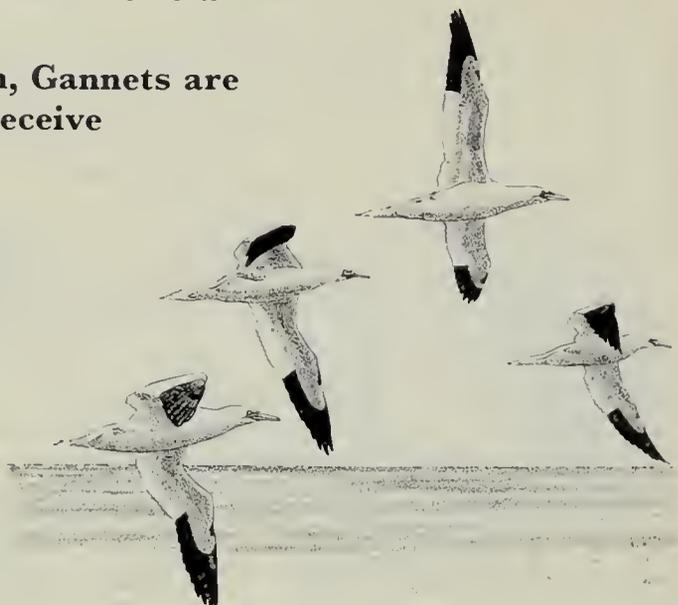
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F. R. G. Rountree, La Perronerie, Sark, Channel Islands

Gannets and toxic chemicals

J. L. F. Parslow and D. J. Jefferies

Feeding on large fish, Gannets are especially prone to receive large quantities of certain toxic chemicals. Eggshell thinning has been recorded



A programme to investigate the occurrence and effects of chemical pollutants in British seabirds has been in progress at Monks Wood Experimental Station, Cambridgeshire, for some years. While the main effort has been concentrated on the auks (*Alcidae*), some information is also available for other species, including the Gannet *Sula bassana*.

Toxic chemicals in full-grown Gannets

Tissues or organs (usually livers) from 19 Gannets (16 adults, two two-year-olds, one first-autumn) found dead or dying during 1968-74 have been analysed for various toxic chemical residues. Twelve were from the west coast (Cumbria to north Devon), five from the east (Fife to Norfolk), one from the south (south Devon) and one from inland (Northampton). Most had been washed up dead or moribund and were light in weight, having evidently starved before dying; seven were among many Gannets in an incident involving unusually heavy mortality on the Lancashire coast during late May and early June 1972, the cause of which was not fully established (Parslow *et al.* 1973).

Organochlorine insecticides and PCB

Measurable residues of polychlorinated biphenyls (PCB) and DDE (the chief breakdown product of DDT found in birds) are present in virtually all British seabirds; many contain residues of other organochlorine materials, such as dieldrin and hexachlorobenzene (HCB), usually in much smaller quantities; PCB and HCB derive chiefly from industrial use, the others mainly from agricultural insecticides. All are fat soluble, and most are highly persistent; they probably enter seabirds mainly in their food. In fish such as the cod *Gadus morhua*, it has been found that the

concentrations of DDT in the liver increase with the animal's weight (Stenersen and Kvalvag 1972): thus, large fish carry actually and relatively greater organochlorine residues than do small fish. This is probably related to the amount of lipid in the bodies of the large fish. Since Gannets feed on large fish (such as pollack *Pollachius pollachius*, saithe *P. virens* and haddock *Melanogrammus aeglefinus*; Witherby *et al.* 1940) compared with most other British seabirds, they tend to contain larger residues of organochlorines than other species which frequent the offshore marine zone.

In healthy birds, organochlorine concentrations in organs such as the liver are low; the greatest are in subcutaneous and other fat, where they are probably inert. They can, however, be mobilised at times of stress, when birds utilise their fat; on release into the circulatory system, they pass to other organs and can affect, for example, the endocrine system (Jefferies and Parslow 1972); if the amounts are high enough, they can cause death (Prestt *et al.* 1970). The concentrations of organochlorines present in different organs thus depend in part on the bird's state of health before death: a bird dying after a period of debilitation, without fat deposits, contains higher liver residues than one dying rapidly, due to an accident, for instance (Parslow and Jefferies 1973). Partly because of this, but also because of individual and interspecific differences in sensitivity to diverse materials, interpretation of the biological significance of different liver residues is difficult. A high concentration of, say, PCB may have contributed towards a bird's death, but, at the levels found in British seabirds, is unlikely to have been the initial cause of it.

Results of various chemical analyses of British Gannets are set out in table 1. The following main conclusions can be drawn:

1. As in all British seabirds, PCBs are present in higher amounts than is DDE.
2. Mean liver concentrations and amounts in Gannets dying after a period of starvation are higher than in most other seabirds. For example, the mean PCB concentration in the livers of the seven Lancashire Gannets was 200 parts per million (ppm) wet weight, nearly twice as high as in the livers of 57 Guillemots *Uria aalge* which died in the Irish Sea in autumn 1969 (mean, 116 ppm) (Holdgate 1971, Parslow and Jefferies 1973); and their total body loads were probably five to ten times higher (25-29 mg compared with 3.6-5.5 mg) (Parslow *et al.* 1973).
3. There is some indication that Gannets dying on the west coast of Britain contain rather more PCB than those dying on the east, and proportionately more PCB than DDE, but the differences are less marked than in some more sedentary seabird species.
4. In five Gannets whose brain tissues were analysed, PCB (also DDE) concentrations in the brain were about three times lower than in the liver: in birds which had died from PCB poisoning, brain residues might be expected to be much closer to liver residues (Prestt *et al.* 1970).

Heavy metals

Mercury and cadmium are of particular concern because of their high toxicity. Both occur naturally in seawater, and locally increased levels can arise through natural causes as well as through contamination. Fish-eating seabirds contain higher levels of mercury in their livers than most other British birds. Among about 30 marine and estuarine species (about 750 livers analysed), arithmetic mean concentrations of mercury in the

Table 1. Chemical analyses of tissues and organs from 19 Gannets *Sula bassana* found dead in Britain during 1969-74

* = not measured. Under 'Tissue', L = liver, F = fat, M = muscle, B = brain.
 '% fat' column refers to proportion of crude, hexane-extractable fat in sample. Hg = mercury, Cd = cadmium

County	Date	Age	Body wt (g)	Liver wt (g)	Tissue	% fat	PPM WET WEIGHT		% Dieldrin water	PPM DRY WT		LIVER LOAD (μg)	
							PCB	DDE		Hg	Cd	Hg	Cd
N Devon	8.8.70	Ad	*	35.12	L	*	*	*	75.77	53	2.4	450	20
Cumbria	12.11.69	Ad	1660	53.16	L	2.52	120	12	73.98	27	9.2	372	128
Cumbria	12.11.69	Ad	3140	34.74	L	3.18	150	10	*	*	*	*	*
Lancashire	30.5.72	Ad	1900	29.37	L	3.39	112	10	*	16	*	102	*
Lancashire	1.6.72	Ad	2100	37.80	L	3.75	198	13	*	21	*	197	*
Lancashire	26.5.72	2Y	2180	40.02	L	3.11	115	8	*	16	*	129	*
Lancashire	5.6.72	Ad	2300	54.30	L	2.53	226	13	*	20	*	254	*
Lancashire	4.6.72	Ad	2230	34.91	L	3.35	321	14	*	20	*	176	*
Lancashire	4.6.72	Ad	2710	57.88	L	3.15	227	15	*	18	*	293	*
Lancashire	4.6.72	Ad	2290	46.46	L	3.16	204	15	4.0	98	*	1135	*
Fife	27.2.72	Ad	2325	96.39	L	8.87	11	8	66.81	9	*	279	*
Fife	26.3.72	Ad	3685	58.85	F	66.71	70	39	*	*	*	*	*
Yorkshire	25.4.72	Ad	*	33.63	L	2.71	<1	<1	68.54	6	*	109	*
Northampton	4.1.73	Ad	*	24.48	L	85.68	62	7	*	*	*	*	*
Pembroke	31.8.73	Ad	1690	39.37	L	3.57	45	18	77.99	18	6.3	132	46
Northumberland	28.4.74	Ad	1820	26.94	M	1.06	21	5	*	*	*	*	*
Somerset	28.8.74	2Y	1780	27.23	L	4.41	51	13	72.23	8	5.5	56	37
S Devon	15.9.74	1Y	1840	27.55	L	3.30	35	6	71.31	12	4.1	135	47
Norfolk	23.10.74	Ad	1915	37.17	B	7.52	13	3	80.44	3	<0.8	*	*
					B	5.80	151	57	73.65	17	0.5	119	4
					L	8.03	51	13	81.59	6	<0.7	*	*
					L	4.14	201	42	73.73	8	2.8	57	20
					B	7.56	34	12	80.43	3	<0.7	*	*
					L	3.73	16	3	75.30	6	<0.5	40	<4
					B	6.26	5	2	83.28	2	<0.7	*	*
					L	2.34	42	10	76.47	17	4.6	145	41
					B	6.47	21	5	82.16	4	<0.7	*	*

19 Gannets listed in table 1 (22 ppm dry weight) were exceeded only by four estuarine or inshore feeders: the Shag *Phalacrocorax aristotelis* (23 ppm), Cormorant *P. carbo* (36 ppm), Common Scoter *Melanitta nigra* (37 ppm) and Red-breasted Merganser *Mergus serrator* (40 ppm). Other species feeding mainly offshore, such as Guillemots and Razorbills *Alca torda*, contained, on average, lower concentrations in their livers than did Gannets, while oceanic birds contained much less mercury. This pattern is probably related to differences in exposure to mercury through food: inshore animals are in general more contaminated than those offshore, and larger fish carry actually and relatively higher amounts of mercury than do smaller ones (Johnels *et al.* 1967, Suzuki *et al.* 1973). Mercury amounts in the livers of nine west coast adult Gannets (mean 246 µg) were higher than in five east coast adults (mean 157 µg), though the difference is not significant.

In the case of cadmium, the picture is different. Gannets, in common with other seabirds which feed mainly in offshore waters, contain less cadmium in their livers (mean 4.7 ppm dry weight, seven adults) than do mainly pelagic feeders (e.g. Fulmar *Fulmarus glacialis*, mean 37 ppm, 11 individuals) or certain littoral and sublittoral mollusc feeders (e.g. Oystercatcher *Haematopus ostralegus*, mean 29 ppm, 16 adults; Eider *Somateria mollissima*, mean 10 ppm, eight adults). The higher concentrations found in oceanic and some littoral species are probably due to certain invertebrates on which they feed being themselves concentrators of cadmium.

Toxic chemicals in Gannet eggs

During 1971-74, series of Gannet eggs were collected for chemical analysis and investigation of shell thickness from four colonies: Ailsa Craig, Strathclyde (annually), Bass Rock, Lothian (1973-74), Scar Rocks, Strathclyde (1972-73) and Little Skellig, Kerry (1973). Seabird eggs can be of value in monitoring changes in pollutant levels: in many species, residues in eggs lie within comparatively narrow limits at any one locality, this being particularly true for the more sedentary birds which feed on a more limited range of fish species than the Gannet. Nevertheless, it is possible to demonstrate, for example, that, in Gannet eggs collected in 1974 and analysed in a single series, residues of PCB, DDE, dieldrin and mercury averaged significantly higher at the Ailsa Craig colony than at the Bass Rock, and zinc levels averaged significantly lower (table 2). Taking all analyses for mercury, for which there appears to have been little annual variation within each colony, mean concentrations in eggs from the Scar Rocks (10.5 ppm dry weight) were about twice as high as in those from Ailsa Craig, three times higher than Little Skellig and four times higher than the Bass Rock (table 3). A similar pattern of mercury contamination holds true for the eggs of the more sedentary Guillemot (Parslow and Jefferies 1975).

Eggshell thinning

Since the introduction of DDT in the 1940s, one of the observable effects

Table 2. Means and standard errors of concentrations of PCB, DDE and dieldrin (ppm fat weight) and certain heavy metals (ppm dry weight) in eggs of Gannets *Sula bassana* from two Scottish colonies in 1974

Sample sizes: Bass Rock 10 eggs; Ailsa Craig 11 eggs

	Bass Rock	Ailsa Craig
PCB	169.4 ± 29.4	412.5 ± 64.4
DDE	25.6 ± 3.7	54.2 ± 6.6
Dieldrin	11.4 ± 1.2	26.9 ± 4.1
Mercury	2.61 ± 0.21	4.7 ± 0.37
Copper	4.72 ± 0.13	4.53 ± 0.28
Zinc	52.8 ± 3.6	38.5 ± 2.4
Cadmium	max. < 0.3	max. < 0.4

Table 3. Means and standard errors of concentrations of mercury (ppm dry weight) in eggs of Gannets *Sula bassana* from four colonies

Colony	Years	No. of eggs	Mean mercury concentration
Scar Rocks, Strathclyde	1972-73	18	10.47 ± 0.71
Ailsa Craig, Strathclyde	1971-74	29	4.54 ± 0.36
Bass Rock, Lothian	1973-74	18	2.62 ± 0.17
Little Skellig, Kerry	1973	7	3.21 ± 0.35

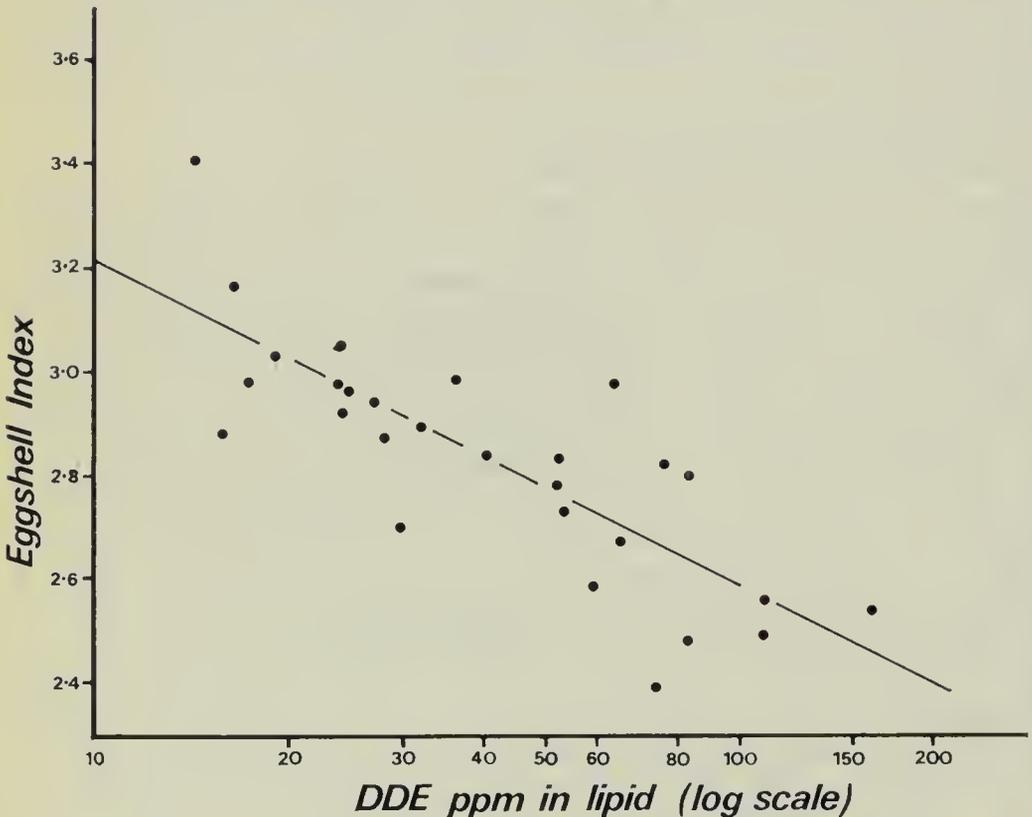


Fig. 1. The correlation between the decreasing index of eggshell thickness and the increasing DDE concentration in the lipid of eggs of British Gannets *Sula bassana*. Also shown is the calculated regression line for this correlation ($y = 3.839 - 0.627x$, where y = eggshell thickness index and x = log DDE concentration in the egg lipid in parts per million by weight)

of DDE contamination has been the phenomenon of eggshell thinning among populations of at least 40 different bird species belonging to 12 or more families (see Ratcliffe 1967, 1970; Cooke 1973). Shell thickness indices (shell weight in mg/length \times breadth of egg in mm; Ratcliffe 1967) were calculated for the blown, dried shells of all Gannet eggs that were received intact. Extreme values varied considerably, one egg laid by an inexperienced individual on Ailsa Craig having a shell (index 2.00) 41% thinner than the thickest-shelled egg collected on the Bass Rock (index 3.40). Most indices, however, fell within a much narrower range (2.5-3.1). At least among experienced breeding pairs of Gannets, shell thickness is inversely correlated to a significant degree ($r = -0.8074$; 26 df; $P < 0.001$) with the DDE concentration in the egg contents (fig. 1): increasing the DDE concentration tenfold, from 15 to 150 ppm in the lipid, decreased the eggshell index by 20.2%. Four eggs collected on Ailsa Craig late in the season, from isolated nests of presumed inexperienced, late-laying, younger individuals, appeared to exhibit extremes of shell thickness, towards high as well as low indices, regardless of DDE content.

Apart from the Shag (Ratcliffe 1970), the Gannet is the only British seabird in which eggshell thinning correlated with increased DDE residues is known to occur to any marked extent. Whether it has any effect on reproductive success is not known.

Acknowledgements

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Summary

Gannets *Sula bassana* found dead or dying on British coasts contained higher concentrations of PCB in the liver than did Guillemots *Uria aalge* which died in the 1969 Irish Sea 'wreck', and rather more on the west coast than on the east. Their mercury content was surpassed by only four out of 30 other marine and estuarine species analysed. Cadmium levels were relatively low. Residues of PCB, DDE, dieldrin and mercury were significantly higher at Ailsa Craig, Strathelyde, than at the Bass Rock, Lothian, and there was a significant inverse correlation between DDE content and the Ratcliffe (1967) index of eggshell thickness.

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Best recent work by British bird-photographers

The 15 photographs featured in this the eighteenth annual selection, were chosen from 194 prints submitted by 30 photographers

The task of selection was far from easy: inevitably some fine photographs had to be omitted. Six of the 17 species have not been shown before in this series, and these bring the grand totals to 159 species by 78 photographers. In comparison with larger, more spectacular birds, passerines tend to be ignored, particularly away from the nest. This year's ratio of 11 non-passerines to four passerines reflects the photographers' emphasis. Action shots of passerines would be particularly welcome in future.

The first three photographs are all of birds in action. The Pochard *Aythya ferina* in flight (plate 91) seemed outstanding to us; Keith Atkin's photographs always have a refreshingly adventurous approach. J. B. and S. Bottomley regularly submit exceptional work: indeed, this is the twelfth year in which an example has been included in the series. At first glance, their photograph of Black Terns *Chlidonias niger* on passage (plate 92) is not a typical 'Bottomley', but it strongly conveys the feeling of movement and migration so difficult to capture in a still photograph. The Buzzard *Buteo buteo* with its wings arched over bait, by R. J. C. Blewitt (plate 93), is one of a fine series (including some with a Red Kite *Milvus milvus*, sadly spoilt photographically by a prominent Nature Conservancy Council wing-tag).

J. F. Reynolds's unusual shot of a Squacco Heron *Ardeola ralloides*, with its neck stretched seemingly to the limit (plate 94), shows every detail of its feathers. Tree Sparrows *Passer montanus* have not been featured in this series for a long time, and the study by J. Russell (plate 95), set against a very pleasing, unobtrusive background, shows the species' perky charm admirably. Similarly, the Dunlins *Calidris alpina* and Ringed Plovers *Charadrius hiaticula* (plate 96) have an attractive grey sea backdrop, so much more effective than if it were sky: this lively photograph by Harold E. Grenfell shows all the detail of these fast-flying birds, not easy with a flock of twisting, turning waders.

Tawny Owls *Strix aluco* have been tackled by many photographers, but Derick Scott has caught a splendid piece of action here (plate 97): the adult, with eyes closed, feeds an earthworm to the eager, down-covered owlet. We do not recall ever seeing a photograph of a Quail *Coturnix coturnix* on the nest and G. H. E. Young's shot (plate 98) shows to perfection the species' camouflage; despite being exposed when a barley field was harvested by combine, all ten eggs hatched. Kingfishers *Alcedo atthis* have been portrayed by a large number of photographers and, probably for this reason, been included in this series only once before; the quality of the study by Robert T. Smith (plate 99) and the bird's serene natural pose made selection a certainty: it surprises us to realise that this is the first time that his work has been included in this series.

Ravens *Corvus corax* at the nest are favourite subjects, but the portrait by Keri Williams (plate 100) shows in fine detail the adult and its well-grown young in the still-leafless tree of early summer. Graham F. Date has depicted clearly the complicated back-pattern of the Common Sandpiper *Tringa hypoleucos* on its nest (plate 103)—not an easy subject.

Only once in the past 17 years has more than one photograph by a single photographer been included. This year, however, we had such difficulty deciding between prints that we chose to do this twice. The two photographs by E. A. Janes feature three of our thrushes in winter settings: the Mistle Thrush *Turdus viscivorus* and Redwing *T. iliacus* feeding on apples among the snow (plate 101) and the Fieldfare *T. pilaris* on a frosty branch (plate 102) not only provide portraits of each species, including one interesting size-comparison, but are also highly evocative of the season. The second of this year's pair of photographs is by Dennis Green. His Teal *Anas crecca* (plate 104) were photographed by flash as they fed, in the shallows of a pond baited with barley, at 01.15 GMT on a misty February night. There is clearly scope for further work depicting nocturnal behaviour. Equally unusual is the female Merlin *Falco columbarius* (plate 105), shown as she picks up and eats an eggshell.

We are already looking forward to the pleasure of studying the next selection. The closing date for submitting black-and-white prints will be 31st March 1978. Please note on the back of each print, in addition to photographer's name and address, the species, the county (or country if taken abroad) and the month and year.

As usual, we must remind photographers that birds on Schedule 1 of the Protection of Birds Act 1967 (see *Brit. Birds* 61: 215; 64: 189) may not be



91, 92 and 93. Above, Pochard *Aythya ferina*, Lincolnshire, March 1976 (*Keith Atkin*); below, Black Terns *Chlidonias niger*, the Netherlands, September 1972 (*J. B. and S. Bottomley*); right, Buzzard *Buteo buteo*, Wales, December 1976 (*R. J. C. Blewitt*)









94, 95 and 96. Left, Squacco Heron *Ardeola ralloides*, Kenya, April 1976 (*J. F. Reynolds*); above, Field Sparrow *Passer montanus*, Derbyshire, December 1976 (*J. Russell*); below, Dunlins *Calidris alpina* and Ringed Plovers *Charadrius hiaticula*, West Glamorgan, September 1976 (*Harold E. Grenfell*)

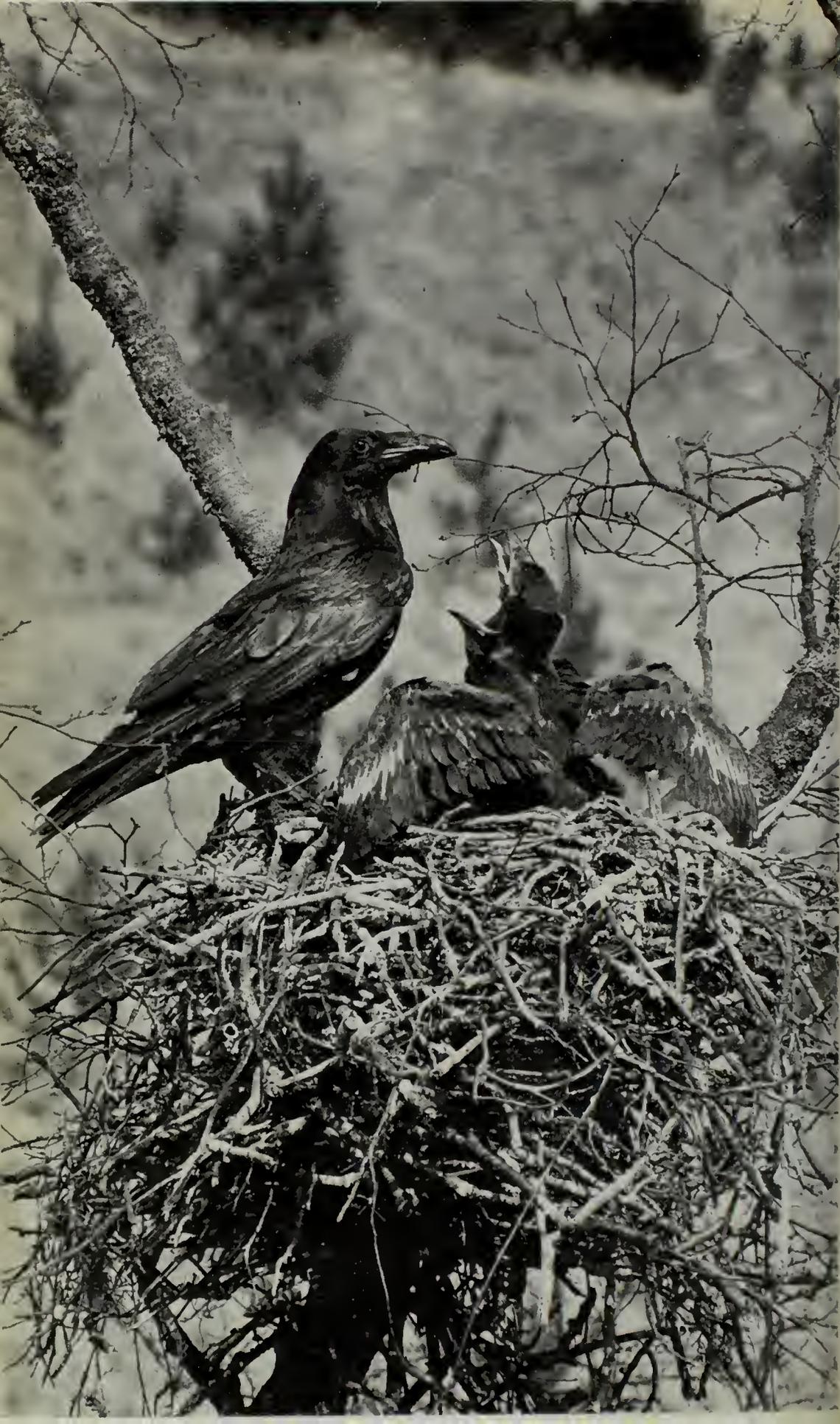




97, 98 and 99. Above, Tawny Owls *Strix aluco*, Nottinghamshire, July 1971 (Derick Scott); below, Quail *Coturnix coturnix*, Devon/Somerset, July 1976 (G. H. E. Young); right, Kingfisher *Alcedo atthis*, Kirkcudbrightshire, August 1974 (Robert T. Smith)









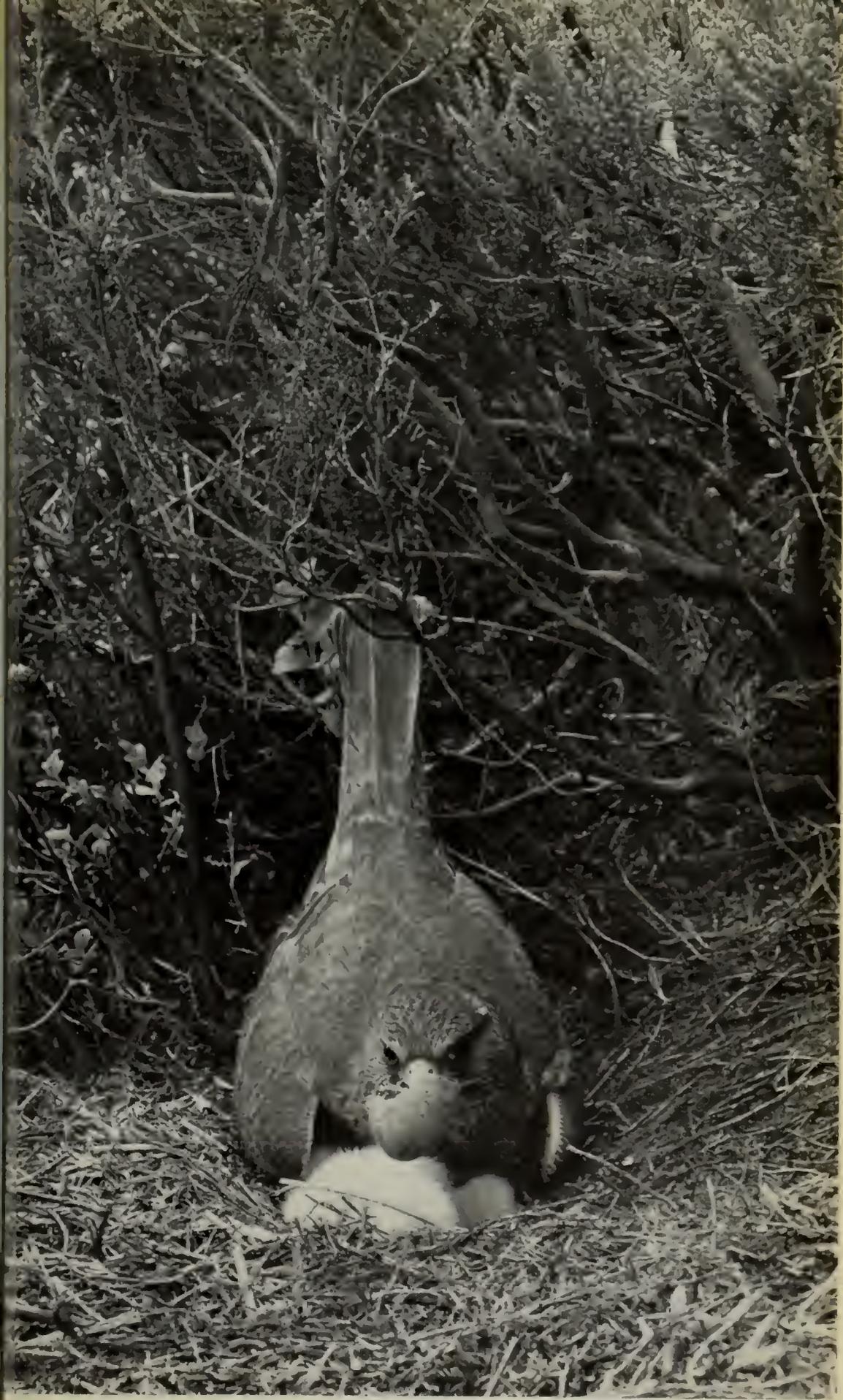
000, 101 and 102. Left, Ravens *Corvus corax*, Dyfed, May 1975 (Keri Williams); above, Mistle Thrush *Turdus viscivorus* and Redwing *T. iliacus*, Hertfordshire, February 1976 (E. A. Janes); below, Fieldfare *T. pilaris*, Hertfordshire, February 1976 (E. A. Janes)





103, 104 and 105. Above, Common Sandpiper *Tringa hypoleucos*, Dyfed, July 1976 (*Graham F. Date*); below, Teal *Anas crecca*, Lancashire, February 1976 (*Dennis Green*); right, Merlin *Falco columbarius*, Clwyd, June 1973 (*Dennis Green*)





disturbed at or near the nest without special approval from the Nature Conservancy Council (write to A. J. Lennox, 19-20 Belgrave Square, London SW1X 8PY). Ten species were added to Schedule 1 in 1977: Purple Heron *Ardea purpurea*, Pintail *Anas acuta*, Gyrfalcon *Falco rusticolus*, Green Sandpiper *Tringa ochropus*, Little Gull *Larus minutus*, Mediterranean Gull *L. melanocephalus*, Shore Lark *Eremophila alpestris*, Short-toed Tree-creeper *Certhia brachydactyla*, Cetti's Warbler *Cettia cetti* and Scarlet Rosefinch *Carpodacus erythrinus*. MWR, IJF-L and JTRS

Obituaries

Sir Landsborough Thomson, CB, OBE, DSc, Hon.LLD (1890-1977)

As early as September 1907, in the first volume of *British Birds*, there appeared a characteristically concise and accurate note on 'A clutch of white eggs of the Woodcock', validated, after their desertion by the parent, by deposit in the museum of Marischal College, Aberdeen, and signed 'A. Landsborough Thomson'. From that May day in a Highland wood, until he attended his last meeting of the International Council for Bird Preservation, his active role in British ornithology spanned exactly 70 years.

No less remarkable than its duration was its range. Already, as a 17-year-old, he spent a fortnight in autumn 1908 at Rossitten on the Baltic, studying the pioneer work, which he described six months later in this journal as 'liberating birds marked with metal foot-rings'. He promptly followed this up by initiating, through the Natural History Department of Aberdeen University, where he was an undergraduate, a bird-marking scheme, simultaneous with that inaugurated by H. F. Witherby through *British Birds*. Thus arose a lifelong and fruitful interest in bird migration. Before he was 21, he was calling attention to the newly emerging problem of the 'position and nature of the boundary between the south-westerly and south-easterly flying Storks' in Europe, just revealed by ringing, adding, with habitual caution, 'But in the meantime we must not build too much on a single record.' This blend of imagination and realism remained always at the core of his work. No less significant was his intimate connection, through his studies at Heidelberg and Vienna, with the wider European scientific community, and his readiness to learn and pursue ideas unknown to his more insular colleagues.

He was in the age-group most heavily caught up in the First World War, serving in the Argyll and Sutherland Highlanders. He once told me that, of a group of nine young friends and contemporaries who had pursued natural history at Aberdeen University, he was the only survivor of that ghastly holocaust. One incidental effect was, of course, the abrupt termination of the ringing project into which he had put so much effort. With



106. Sir Landsborough Thomson CB, OBE, DSc, Hon LLD (1890-1977) (Bassano Studio)

characteristic stoicism and devotion, he made it one of his first post-war tasks to distil the entire experience and results in a form of most practical value to other workers on bird-marking.

Among the few valuable legacies of war was a new recognition of the importance of medical research. When the Medical Research Council was established, in 1919, he became, and remained until his retirement in 1957, its second officer, at successively higher gradings, achieving a knighthood for his services in 1953. (This, incidentally, ended the chronic confusion of those who assumed that a Dr Landsborough Thomson in such a post must be a medical doctor, whereas it was the MRC's great good fortune to have at its centre, instead, a biological DSc to balance the medical men.) Throughout the 1920s, his interest in bird-marking remained uppermost. Among his communications on the subject in *British Birds* was an amusing letter in 1926 on early bird-marking records, in which he recorded that one Johann Leonard Frisch proved in 1740 that Swallows did not hibernate under water, by tying to their feet coloured

threads, which had not had the dye washed out when they returned next year.

During this period, he wrote several valuable books, including *Problems of Bird Migration* (1926), *Birds: An Introduction to Ornithology* (1927) and *Bird Migration: A Short Account* (1936). He also gave a paper to the 1930 Amsterdam International Ornithological Congress on abmigration among the ducks, and wrote the article on migration of birds for the 14th edition of the *Encyclopaedia Britannica* in 1929. Wider aspects were touched upon in *Nature* (terrestrial magnetism, orientation, and foot-and-mouth disease) and in *The Auk* (photo-periodism). A less known but primary interest of his was mountaineering.

It was only during the later 1930s that the growing number and activity of ornithological bodies and the need for more effective conduct of their affairs led to recognition that his high administrative capacity could be so harnessed. Having become, in 1938, chairman of the British Ornithologists' Club, he was quickly prevailed upon three years later to undertake the same office for the British Trust for Ornithology. After a stint of six years there, he became president of the British Ornithologists' Union in 1948 and, at the ensuing International Ornithological Congress at Uppsala, this made him a natural choice for the presidency of the following XI Conference at Basel in 1954. There, he delivered a memorable presidential address on the theme that 'the contributions of ornithology to general biology have been immense; that along several lines in the advance of biological knowledge ornithology has taken a leading part, and sometimes the greatest part of all'. He concluded that we must 'apply to our own discipline all the methods which modern biology places at our disposal. It is only by what may be called the interplay of the disciplines that the full value can be extracted from the rich phenomena which birds present to us.' He spoke very much as his father's son, for it was Professor Sir J. Arthur Thomson who had stoutly vindicated ornithology's role in biology through the lean early years of this century, when it was rated rather as a hobby than as a science.

Now the floodgates of demands upon him were open. In quick succession, he found himself president of the Zoological Society of London from 1954 to 1960, a member of the crucial Committee of Enquiry on the Serengeti National Park (1957), chairman of the Home Office Advisory Committee on the Protection of Birds from the 1954 Act until 1969, chairman of the Scientific Advisory Committee of the Wildfowl Trust from its inception in 1953, a trustee of the British National Appcal of the World Wildlife Fund, chairman of the Council for Nature and, finally, chairman of the Trustees of the British Muscum (Natural History) from 1967 to 1969. This chronicle speaks for itself; he was, in the formal phrase of the Privy Council, 'our right trusty and well-beloved' stalwart, on whom burden after burden could be laid with the assurance that he would uncomplainingly and successfully carry them. For, at that period, these tasks were no sinecures, but demanded the setting of new standards, the attainment of rates of progress never before dreamed of in the status and performance of ornithology and conservation, and the training of

committee members and staff hitherto unversed in administration. Hard as it seems to credit, he accompanied these duties with the editing and most of the donkey work on the great *A New Dictionary of Birds*, produced for the BOU in 1964, quite apart from the exacting commitments which he still had to fulfil for the MRC.

Landsborough, as he was usually called, was indeed a pillar of British ornithology during its years of most rapid advance and expansion. He was among the easiest and most helpful of colleagues, the most unfailingly reliable in performance and the readiest with wise counsel and practical aid, in all sorts of difficulty. He had guts, integrity, a quiet humour, an ability to get on with different kinds of people and a terrific capacity for work. Such was his contribution that one was sometimes almost tempted to forget that behind it lay a warm, generous and rare human being, whose like we can, alas, be sure we shall not meet again.

E. M. NICHOLSON

Kenneth Williamson FRSE (1914-1977)

Kenneth Williamson was born on 22nd March 1914 at Bury, Lancashire, and died at his home at Tring on 14th June 1977. Leading authority on migration and population studies, taxonomist, author of several books and many scientific papers, his interests were not confined to ornithology, but ranged over folklore, archaeology and meteorology, as well as a love of music and literature.

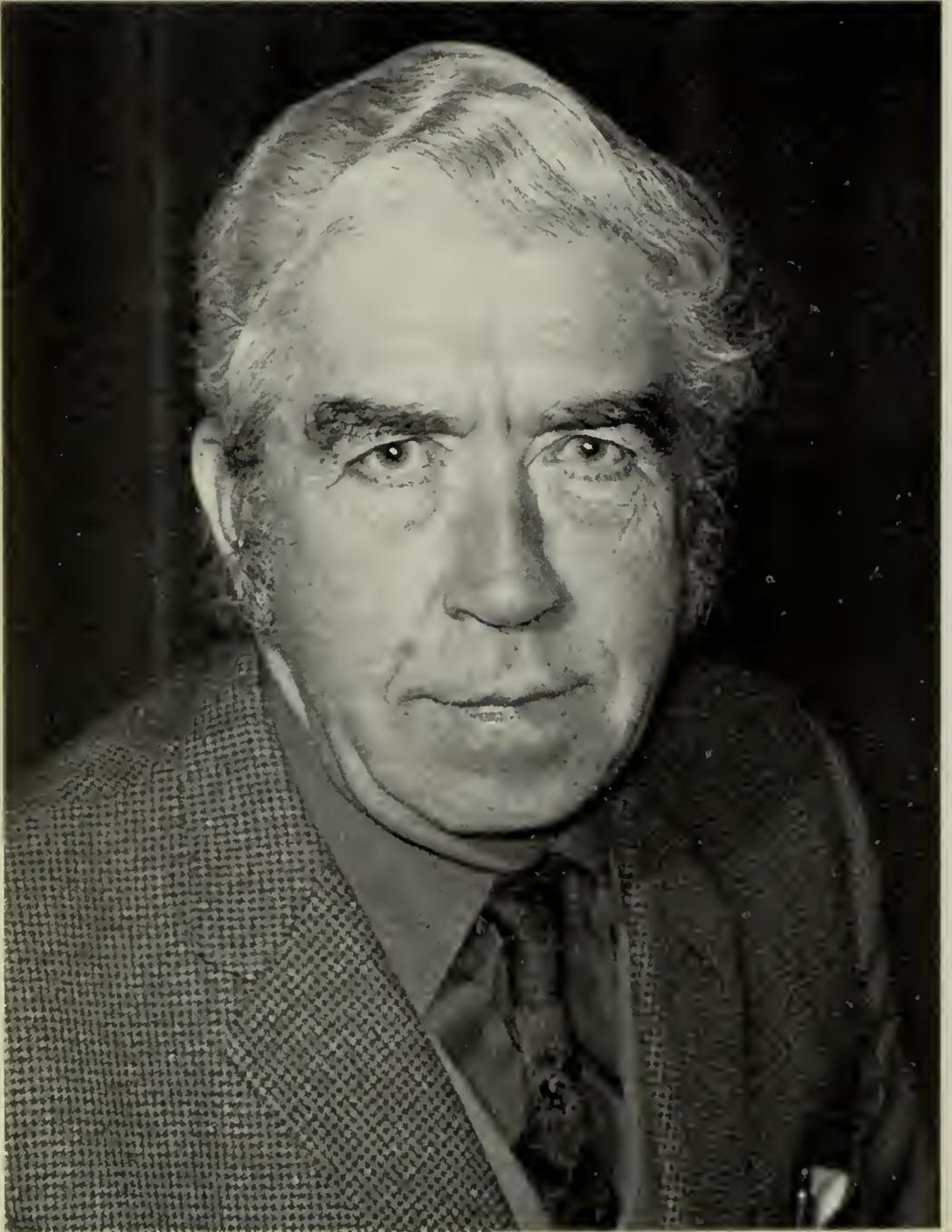
Ken's ornithological career began at the Manx Museum, where he developed an interest in taxonomic problems that was later to stand him in good stead when, after the Second World War, he became, in 1948, the first warden of the new Fair Isle Bird Observatory. In the meantime, he had spent four of the war years on service in the Faeroes, where he met his future wife, Esther, to whom he was married in 1944. That life in the Faeroes appealed to him, with his great love of islands, is apparent from his vivid account of Faeroese life and ornithology in *The Atlantic Islands* (1948).

From his Manx days, Ken had a strong interest in migration and, at Fair Isle, he soon enhanced the reputation which this remote island had acquired since the days of Eagle Clarke, introducing a new dimension to observatory work with, for example, his studies of moult and ectoparasites. Ken never did anything half-heartedly and, having realised the great part which weather played in migratory movements, he soon turned himself into a competent meteorologist. A large number of papers followed, mainly on the theme played by weather in bringing unusual (and common) migrants to Fair Isle. Although, in time, his theories on migratory drift and the dispersal of first-year birds were to be in some ways overshadowed by radar observations, they remained a very valuable contribution to the study of migration. His eminence in this field was widely recognised and exemplified by lectures on the interrelationship of weather and migration to the XI International Ornithological

Congress in Basel (1954) and the Royal Meteorological Society (1969).

Perhaps one of Ken's greatest qualities was his ability to inspire others, and, under his 'reign', Fair Isle became almost a place of pilgrimage for many budding (and well-known) ornithologists. I remember well, in another context, his enthusiasm for new projects when I spent a week with him and others on Great Saltee: the conversation came back again and again to the subject of finding and manning more migration stations around the Irish coast. Observations on Tory Island were the immediate result.

107. Kenneth Williamson FRSE (1914-1977) (*Eric Hosking*)



After a season in 1957 on St Kilda as Nature Conservancy warden, Ken was appointed Migration Research Officer of the British Trust for Ornithology, a new post instituted, with the support of a generous grant from the Nuffield Foundation, to synthesise the contributions made by individual bird observatories and to achieve as unified a sense of purpose as possible when dealing with many differing and independent institutions. With his unique experience, Ken had the authority to achieve recognition of his ideas and a number of standardised recording techniques were introduced to take the place of the very diverse systems previously in use. During this period, he edited the new journal *Bird Migration* and filled a long-felt want for the improvement of identification criteria by combining his taxonomic knowledge and field experience in three ringers' identification guides, covering all the European warblers. Ken was undoubtedly a source of inspiration to many younger field workers who were encouraged to increase the chain of migration stations or to do more serious studies than they had previously contemplated.

His love of islands was further instanced by three more books—*St Kilda Summer* (1960), *A Mosaic of Islands* in collaboration with J. Morton Boyd (1963) and *Fair Isle and its Birds* (1965). Many people shared his regrets when his direct involvement with migration had to come to an end when the grant terminated, but it was to his great credit that, once established in his new role as Populations Research Officer with the BTO, he very soon became as enthusiastic—and as much associated with it in the popular mind—as he had been with migration studies. In one respect he was lucky: the seeds of the idea of a common birds census had been sown by E. M. Nicholson and adopted by the BTO, but the mechanics and methodology had still to be properly worked out. Thus, he was able to mould the scheme at an early stage, and the present annual index of the breeding population of many of our common birds on farmland and in woodland bears witness to his success. His work in this field was summarised briefly in the citation for the Union Medal which Ken was awarded by the British Ornithologists' Union in 1976 (*Ibis* 118: 472). The sample census scheme was developed under Ken's guidance to assist in conservation planning, through its use in a wide variety of habitats, especially on nature reserves and on land managed by the Forestry Commission. This was an aspect of the work that appealed greatly to him, since it demonstrated the practical value of the technique.

In addition to lecturing widely, both in this country and abroad at international gatherings, he also edited *Bird Study*, the principal journal of the BTO. He received a number of acknowledgements of his work in addition to the Union Medal. In October 1976, he was elected chairman of the International Bird Census Committee, having played a leading part in its formation in 1968. In 1959, he had been elected a fellow of the Royal Society of Edinburgh and, in 1969, of the Royal Forestry Society.

Ken attained his success by sheer hard work and initiative without any formal scientific training. Throughout his career, he gave himself wholeheartedly, both to his work and to encouraging others, and it is for his warmth of personality that he will be fondly remembered by his many

friends, as well as for his important contributions to the study of bird migration and population problems.

We extend our deep sympathy in their loss to his widow, Esther, who helped him greatly by her encouragement, and their two children, Hervör and Robin.

R. C. HOMES

Mystery photographs

9 The photograph (plate 89, page 339) depicts a typical view of a wader in flight. Perhaps it has just been flushed inadvertently, or has suddenly flown into view during a binocular scan across a wader marsh. It is flying away and, in the few seconds before it pitches again, perhaps out of sight behind cover, it is necessary to note accurately as many of its field characters as possible. The obvious features are the white area on the back, the straight bill and the plain wings without prominent markings: the bird could be dismissed as a Spotted Redshank *Tringa erythropus* or a Greenshank *T. nebularia*, both of which have this general appearance. The trained observer, however, will be struck by the unusual proportions of the bird—a combination of the long, rather thick bill (resembling that of a Snipe *Gallinago gallinago*), the long wings and the short tail, with the feet projecting only just beyond the tip. The shape, the white 'slit' up the back (extending from the rump almost to the nape), and the thin, white trailing edge to the inner wing, formed by tips to the secondaries and inner primaries, fit only one identification—a dowitcher *Limnodromus* from North America. With further close views on the ground and the sound of its call note, the observer could pit his abilities against one of the most difficult field-identification problems—the separation of Long-billed Dowitcher *L. scolopaceus* from Short-billed Dowitcher *L. griseus*, which has been covered in this journal by Dr I. C. T. Nisbet (54: 343-357) and D. I. M. Wallace (61: 366-372 and 65: 305-306). The bird in plate 89 proved to be a Long-billed; it was photographed by Richard T. Mills at Ballycotton, Co. Cork, on 15th October 1975.

Quick, incomplete views are the rule rather than the exception in birdwatching, and they fully test the field skills of the observer. Continual attention to two general aspects of identification groundwork is essential if such views are to result in correct identifications, and the occasional



108. Mystery photograph 10. What is this species? Answer next month

rarity is not to be overlooked. First, the importance of complete familiarity with the common species cannot be overstressed: this has to be worked at, noting their appearance in all plumages, at different seasons, in varying light conditions and at varying distances, so that something unusual will immediately impress as such and demand closer attention. This is a continuous process, in which new points will be noted no matter how great the experience of the observer. Secondly, it is important to learn plumage topography, so that field marks can be related to specific groups of feathers: this encourages a detailed rather than a general examination of plumage, highlights specific differences, and enables an accurate description to be taken—essential when a rare species is suspected. P. J. GRANT

Notes

Eiders up-ending On 2nd June 1976, on the west coast of Iona, Strathclyde, my wife and I observed a group of Eiders *Somateria mollissima* up-ending beside rocks at fairly low tide. Both males and females continually behaved in this way. *The Handbook* says of the species, 'does not up-end'.

ARTHUR A. K. WHITEHOUSE
45 High Street, Olney, Buckinghamshire MK46 4EB



Despite the statement in *The Handbook*, Eiders do up-end. P. V. Player (*Wildfowl* 22: 100-106) suggested that up-ending and head-dipping were actually preferred to diving, less energy being expended per food item obtained. EDS

Golden Eagle repeatedly catching sticks in flight On 12th January 1975, on the Isle of Mull, Strathclyde, I noticed an immature Golden Eagle *Aquila chrysaetos* flying over an oak-wood. It was carrying a stick about 1 m long and was pecking at it so furiously that at first I thought that the stick was entangled in its talons. At a range of about $\frac{1}{2}$ km, I could see twigs and pieces of bark being carried away in the wind. The eagle maintained its position by hovering, but on one occasion it became so obsessed with the stick that it appeared to stall and roll like a Raven *Corvus corax* before regaining balance. After a few minutes it landed with the stick on a bare hillside, just out of sight, but soon reappeared, with the stick still in its talons. Shortly thereafter, it descended to the hill again, but this time, when it rose, it was carrying the stick in its bill. Rising on the wind, it transferred the stick to its talons, took up a position about 50 m above the hill, and started a 'game' which lasted for at least ten minutes. The eagle dropped the stick and plummeted down, catching it before reaching the ground, then rose again to a similar height, dropped the stick, but failed to catch it before it landed. The eagle flew up with a fresh stick and proceeded to trim the twigs as before. The new stick

was dropped and retrieved successfully six times in succession; the seventh attempt failed and the stick landed on the hillside. The eagle landed and tossed it about with sharp movements of its bill. It then took off and repeated the procedure as before. I watched ten successive successful stoops before I left.

RICHARD COOMBER

Staffa Cottages Guest House, Tobermory, Isle of Mull, Strathclyde PA75 6PL

Temminck's Stints with black legs From 7th April to 12th May 1974, two Temminck's Stints *Calidris temminckii* with black legs frequented an experimental scrape on the Sandwich Bay marshes, Kent (M. Sutherland, 1975, *Sandwich Bay Bird Observatory Rep.* 1974: 45-46). In 1975, two Temminck's Stints with black legs were again present, from 31st May to 2nd June, on both the Sandwich Bay marshes and the Pegwell Bay side of the River Stour. These were studied in detail, particularly on 31st May, by M. A. Allen, J. Colombé, D. Weaver and me at distances down to about 25 m in good sunlight. Through binoculars, the legs always looked black or greyish-black in the varying light, but once, when viewing through a telescope, I detected a faint greenish tinge. The plumage and behaviour were in all respects typical of Temminck's Stints. It is interesting to note that M. R. Lawn observed of the 1974 birds: 'Legs looked almost black but close to a very slight greenish-brown tint could be seen.' Temminck's Stints with black legs appear to be unknown, this leg colour being given in some field guides as an identification feature of the Little Stint *C. minuta*. It seems likely, therefore, that the same two aberrant individuals were involved in both years.

A. T. M. RUCK

West House, Wrotham, Kent TN15 7AA

Mr Ruck's conclusion, with which we agree, is consistent with the contention that recurring individuals are a regular feature of the passage of this species through Britain and Ireland (J. T. R. Sharrock, 1974, *Scarce Migrant Birds in Britain and Ireland*, page 68). One may also speculate that these two birds were from the same brood. EDS

Food-piracy by Iceland Gull on Oystercatchers On 19th January 1975, at New Brighton, Merseyside, I watched an adult Iceland Gull *Larus glaucoides* persistently stealing food from Oystercatchers *Haematopus ostralegus*. As soon as one of the waders had food in its bill, it was attacked by the gull and forced to drop the food, which the gull then consumed. The method of attack was a simple, straight dive at the Oystercatcher, which offered no resistance. The process was repeated at least ten times during my hour-long observations.

KENNETH A. DUMMIGAN

14 Alexandra Drive, Aigburth, Liverpool L17 8TD

Many species indulge in such behaviour at times, but this is an interesting account of a successful method involving a less well-known gull. EDS

Attempted food-piracy by Gull-billed Terns On 20th October 1975, at Lake Magadi, a highly alkaline Rift Valley lake in Kenya, I spent several hours observing the different strategies used by Little

Egrets *Egretta garzetta*, Yellow-billed Storks *Mycteria ibis*, Greenshanks *Tringa nebularia* and about six Gull-billed Terns *Gelochelidon nilotica* for capturing *Tilapia grahami*, a small cichlid fish which lives in large shoals in shallows about 15 cm deep. Typically, the terns fed by beating to and fro, at a height of about 4 m, along the fairly narrow stretch of shallows and dipping into the water. Once, however, I saw three Gull-billed Terns vigorously pursuing a Greenshank which, having caught a fish too large for immediate consumption, was taking it to the water's edge. The terns chased the Greenshank for some 20 m and then, having failed to make it release its fish, abandoned the chase. No other Greenshanks were seen to be molested during the interval between capture and swallowing of a fish, possibly because their success was not noticed by terns fishing away from their immediate vicinity.

J. F. REYNOLDS

P.O. Box 40584, Nairobi, Kenya

Great Spotted Woodpecker breaking string to obtain fat At the end of January 1976, at Forest Row, East Sussex, a female Great Spotted Woodpecker *Dendrocopos major* came regularly to my bird table for bread and for fat suspended by a string from a horizontal wooden arm. She hung on to the arm in the manner of a tit *Parus*. On a number of occasions, I found the fat, with string attached, lying on the ground, and the string frayed where it had been tied. On 1st February, I saw, for the first time, a male Great Spotted Woodpecker on the wooden arm. He attacked the string knot with vigorous blows, until the fat fell to the ground, where the woodpecker immediately fed on it. The behaviour was observed several times, each sex keeping to its own method of acquiring fat, but both also feeding on bread on the bird table.

C. F. TEBBUTT

The Pheasantry, Wych Cross, Forest Row, East Sussex RH18 5JP

Swallows and Sand Martins roosting in maize On 17th August 1975, at Lacock gravel pits, Wiltshire, we watched about 1,500 Swallows *Hirundo rustica* gathering before going to roost. They spent most of the time over a nearby 10-ha field of maize *Zea mays* and eventually roosted in a small part of it. On the following evening, when Sparrowhawks *Accipiter nisus* and a Hobby *Falco subbuteo* were present, about 750 Swallows and 20 Sand Martins *Riparia riparia* roosted in small groups in various parts of the same field.

JULIAN C. ROLLS and MARGARET J. ROLLS

12 Wadswick Lane, Neston, Corsham, Wiltshire

At dusk on 16th August 1976, near Campsegret, Dordogne, France, I observed about 150 Swallows going to roost in the centre of a 1-ha field of maize 2 m high. Despite the activities of a Hobby, which captured one of them, they twice re-settled in the crop. In view of the vast area of maize grown in France, and the increased planting in Britain, there must be a strong possibility of this habit spreading.

R. E. YOUNGMAN

53 Seymour Park Road, Marlow, Buckinghamshire SK7 3ER

Although perhaps not unusual, this is an interesting variation on the normal roosting sites in beds of reeds *Phragmites australis*. EDS

Great Tit sitting on empty nest On 13th May 1974, at Llanfair Talhaiarn, Clwyd, I inspected some 80 nestboxes in an oak-wood, one of which contained a three-quarter built nest of a Great Tit *Parus major*. I revisited the box on 20th May and found a female Great Tit sitting; she hissed at me, but I did not disturb her further. On 26th, the hen was still sitting so I lifted her off the nest to count the eggs, only to find none; I replaced her. On 1st June, I went through the same procedure, but still there were no eggs. The same happened on 5th, 6th, 9th, 13th and 18th June, and on each occasion the tit crouched in the nest, struck at me and hissed vociferously. I inspected the box for the last time on 25th June, when it was unoccupied and the nest stone-cold. It is well established that sub-adults of certain species, such as the White Stork *Ciconia ciconia*, the Swift *Apus apus* and various seabirds, occupy nests without laying eggs, but I have never come across this phenomenon with a small passerine.

ALAN E. MALE

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Dr C. M. Perrins has commented: 'We do occasionally find empty Great Tit nests, with no signs of predation, which may be of birds, like Mr Male's, which do not ever lay eggs. I have, however, only one certain record of such a situation. In about 1965, we had a bird that "incubated" such an empty nest for several days. Eventually, I caught it. It deserted and built another nest nearby, again laying no eggs, but "incubating". The following year, another nearby nest was empty, but warm. Although the bird was not identified on this occasion, it seems likely that it was the same one.' Eds

Apparent predation of Robin eggs by Blue Tit In April 1975, from the window of my house at Bridge of Allan, Lothian, I observed the construction of the nest of a pair of Robins *Erithacus rubecula* on the edge of a small wood. The clutch was completed on the morning of 14th, and the female began incubation immediately. At 13.30 GMT on 15th April, both Robins were moving agitatedly around a bush directly above the nest, uttering the harsh, rattling 'tic-tic-tic-tic' alarm notes, ascribed by D. Lack (1943, *The Life of the Robin*) to the presence near the nest of a ground predator. As I reached the bush, a Blue Tit *Parus caeruleus* flew up from the vicinity of the nest cup; I examined the contents and found two of the five eggs damaged. Later the same day, all had been damaged and no Robins were in the area. A single puncture had been made through the shell membranes of each egg and the shell was cracked inwards around the circumference of the hole; the contents appeared uneaten. It seems unlikely that the tit had been mobbing a ground predator, in view of the nature of the damage and the fact that the contents were not consumed. The evidence suggests deliberate and persistent destruction of the Robins' eggs by the Blue Tit, a pair of which were building a nest some 30 m away.

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Reviews

Bird Life. By Ad Cameron and Christopher Perrins. Elsevier Phaidon, Oxford, 1976. 160 pages; over 500 illustrations in colour. £5.95.

Not by chance does the artist's name appear before the author's, for this book is obviously designed for visual impact, being lavishly and skilfully illustrated. At the same time, it is avowedly didactic: subjects for illustration have been chosen with care, and the text, as one would expect from so distinguished an author, is crowded with facts. A wide range of topics is dealt with: evolution, anatomy, locomotion, behaviour, feeding, habitats, social behaviour, breeding, migration, bird populations; and it is a healthy counter to our still rather insular attitudes that the examples are drawn from every continent. Unfortunately, many pages lack numbers and the index is to species only.

Its subtitle, 'An Introduction to the World of Birds', invites comparison with *The World of Birds*, by the late James Fisher and Roger Tory Peterson, published in 1964. There are differences, both in matter and emphasis, but, particularly in illustration, there are some striking similarities. The book could perhaps also be compared with that section of *The Reader's Digest/AA Book of British Birds* headed 'The conquest of air, land and sea', which similarly covers the basic elements of bird biology.

To illustrate a vast range of species is a challenge for any artist and the three current best-selling field guides demonstrate that every artist has his weak points. In the hands of a reasonably competent artist a Cock-of-the-rock is unmistakable, but some of Ad Cameron's commonplace birds—Song Thrush, Meadow Pipit and Sedge Warbler, for example—are rather difficult to recognise. Unless he has been betrayed by the colour printers, he too often paints brighter than life: House Sparrows have deep lavender blue heads and rumps; and reds, especially, tend to be far too vivid. The indication of individual feathers sometimes leads to a scaly appearance. There are inaccuracies, such as a Dipper with straw-coloured legs, and there are problems of scale.

It is, however, with the editing that one must find greatest fault. To be blunt, it is slipshod. Captions of Greenfinch and Evening Grosbeak, and of Red-necked Phalarope and Ascension Island Frigate Bird are transposed; Two-barred Crossbills are labelled 'Pine Grosbeaks'. There are confusions with both scientific and vernacular names. For example, the northern Gannet appears as both *Sula bassana* and *Morus bassanus*; *Diomedea exulans* as both Giant Albatross and Wandering Albatross. 'Scops Owl' is used as a specific name for both *Otus scops* and *Otus leucotis*. Doubtless with an eye on the American market, *Troglodytes troglodytes* is always the 'Winter Wren'. There are literals, including (page 143) repetition of an almost entire line.

Perhaps most serious of all, compression of the text has led to misleading generalisations and downright inaccuracies, which both author and advisory editor would surely repudiate. For example, the unwary reader could

conclude that all Greenland Wheatears fly non-stop from Greenland to the north coast of Spain, or that all Chaffinches pass into Britain from northern Europe via Cap Gris Nez. The Fulmar is described (and illustrated) as 'breeding in all the coastal counties'. Razorbills are said to weigh 28 lb and Carrion Crows 17.6 lb.

Reasonably priced, as it is, and with a wealth of information, the work seems destined to reach many bookshelves. Its purchasers are entitled to expect greater reliability than they will get. ROBERT SPENCER

Bird Conservation in Europe. A report prepared for the Environment and Consumer Protection Service, Commission of the European Communities. By Stanley Cramp. Her Majesty's Stationery Office, 1977. 58 pages; 28 photographs. £2.25.

Sometimes when reviewing a book, I have a profound wish to tap a rich pocket in order to fund the widest possible distribution of the work. This is such an occasion. In compelling prose and within 37 pages of text, Stanley Cramp has told the whole story: what has happened to Europe's birds; why it has happened; and what should now be done. It is a publication that could, with profit, be sent to every legislator in Europe's parliaments with a directive from the party leaders to read it. And, suitably translated, it should be lodged in every university and school library from Varanger to Valetta.

The first two sections on effects (the situations of six main groups of birds described) and causes (natural factors and man's direct and indirect activities fully covered) are models of scholarly compression which nonetheless manage to include illuminating references to 159 different species. But it is the third section—'What should be done?'—that will attract the closest attention of conservationists: here are set out the main lines along which future progress must lie.

First, habitats must be preserved: the most clearly threatened are wetlands of all kinds. The European Economic Community is an increasingly important fulcrum through which pressure can be exerted on member countries (which may soon number 12). But the pressure of public opinion to buttress Brussels must be vigorous and constant, for the patchy tale of the Ramsar Conventions on Wetlands of International Importance is not one of undiluted success and governments have a natural tendency to bow before the strongest wind, whether it comes from conservationists or airport builders.

Secondly, improved protective legislation must come; and it must be harmonised. This the EEC can and should do within its boundaries, and thereby set an example for the rest of Europe. The target must be for full protection to be given to all species, apart from game birds in due season and a small number of species proved to be doing economic damage. Thirdly, environmental pollution must be reduced and, although significant progress can be claimed, it is salutary to remind ourselves that it may be 30 years before Sweden's rivers are free from mercury, while, in the African homelands of so many of Europe's birds, controls on persistent chemicals are virtually non-existent. Fourthly, there is the need for more

research into bird populations and their trends. In all these affairs it is emphasised that the EEC can provide both a lead and an inspiration.

The author has himself inspired us by writing this book, which should now be followed up by an EEC working manual on the *detailed forms* of 'the conservation message' to legislators, farmers, drainage engineers, British gamekeepers, Belgian bird-catchers, and Mediterranean gunners and song-bird picklers. Just *how*, for example, do you influence someone intent on a weekend with a gun among the Robins and Honey Buzzards? In some countries, might not funds be better employed in developing clay-pigeon shooting as a national pastime rather than on posters, proselytising and prosecutions? Such matters are worthy of the closest study.

DEREK BARBER

Short reviews

Rather than dismiss some of the many books submitted for review in a bare list headed 'Also received', we shall in future be devoting a few words to each.

And Then They Fly Away. By Clifford Christie. (Constable, London, 1976. 159 pages; 16 black-and-white plates. £3.95.)

Tending sick and injured birds, such as 'Fishy the Kingfisher' and 'Olly the Owl'.

They Love and Kill: Sex, Sympathy and Aggression in Courtship and Mating. By Vitus B. Dröscher. (W. H. Allen, London, 1977. 363 pages; 24 black-and-white plates; 16 colour plates; 21 line-drawings. £6.50.)

Translated from the German by Jan van Heurck. A 'far-ranging exploration of mating and sexual relations in animals and humans' written in a readable style, but less popularised than would be suggested by the lurid chapter headings: e.g. 'Virgins bear young', 'Love at first sight', 'Am I male or female?', 'Can brothers marry sisters?'.

As the Falcon Her Bells. By Phillip Glasier. (White Lion Publishers Ltd, London, Sydney and Toronto, 1977. 223 pages; 48 black-and-white plates; many line-drawings. £5.95.)

Falconry; partly autobiographical; reprint (first published in 1963).

How to Watch Birds. By John Gooders. (Pan Books, London, 1977. 155 pages; 25 line-drawings. 95p.)

The Introduction actually says, 'Altogether too many books have been written about watching birds.' This one is better than some.

The Third Bird-watchers' Book. Compiled and edited by John Gooders. (David & Charles, Newton Abbot, 1976. 160 pages; many black-and-white plates. £3.95.)

The 13 chapters each take a different topic by a different author. When the authors include such names as Guy Mountfort, Dr M. P. Harris, Dr Ian Newton and M. D. England, one can guarantee that the reading will be reliable, interesting and instructive. An excellent bedside book.

Where to Watch Birds. By John Gooders. (Pan Books, London & Sydney, 1977. 343 pages; 32 sketch-maps. £1.50.) Paper-back version of the 1974 revamp of the successful 1967 original (see review in *Brit. Birds* 61: 89-90). Of the four counties that we know best in Britain, three are well-covered by this book. Although some people may not agree that it is sensible to direct hordes of birdwatchers to the 'good' areas, this is a useful book to have in the car.

Poultry Diseases. Edited by R. F. Gordon. (Baillière Tindall, London, 1977. 352 pages; 2 colour plates; 50 black-and-white photographs and line-drawings. £9.00.)

Chicken sicknesses.

Le Hibou Grand-duc. By Jacques Grosjean. (Editions Lechevalier, Paris, 1976. x + 137 pages; 19 line-drawings. Fr. 150.)

A study of all the aspects of the Eagle Owl, from ecology and anatomy to human impacts, with an impassioned plea for more effective conservation.

Atlas of the Non-marine Mollusca of the British Isles. Edited by M. P. Kerney. (Institute of Terrestrial Ecology, Cambridge, 1976. 211 pages; 200 maps. £3.00.)

An attractive volume showing achievements of the field

work and literature search by the Conchological Society of Great Britain and Ireland. Mapping is by 10-km squares with, in many cases, records from 1950 onwards distinguished from those before 1950. The addition of vernacular names (even if these are seldom employed by conchologists), a drawing of each species and a few lines of text would have been of great benefit to the non-specialist. Nevertheless, good value. **Die Zwergseeschwalbe. By Tilo Nadler.** (Die Neue-Brehm Bücherei, Wittenberg Lutherstadt, 1976. 136 pages; 64 black-and-white plates; 24 line-drawings and maps. DM 10.40.) Devoted to the Little Tern, which breeds in six continents, often well inland, it discusses morphology, behaviour, voice, breeding, food, moult, migrations and even parasites, but, curiously, omits any mention of recent population declines in Britain and Ireland. **The Proud Eagles. By Mary Patchett.** (White Lion Publishers Ltd, London, Sydney and Toronto, 1977. 215 pages; several line-drawings. £4.95.) A novel about a boy and Australian Wedge-tailed Eagles. **Kolibris. By Dieter Poley.** (Die Neue-Brehm Bücherei, Wittenberg Lutherstadt, 1976. 158 pages; 25 black-and-white photographs; 12 colour photographs; 51 line-drawings and maps. DM 16.90.) Devoted entirely to the hummingbirds (Trochilidae), a single family of 327 species, restricted to the New World (where they occur from Alaska to Tierra del Fuego, although the greatest numbers and variety are found in the tropics of South America); also covering, besides a wealth of biological material (including a 24-page identification key), hummingbirds in religion,

legend and art. **Everyday Birds. By Tony Soper, illustrated by Robert Gillmor.** (David & Charles, Newton Abbot, 1976. 126 pages; 14 black-and-white plates; many line-drawings. £2.95) Nine of the ten chapters are devoted to single common birds, with titles such as 'Hear my song . . . the Robin', 'Blue Tit . . . the acrobat'. This approach and the large type suggest that the book is aimed at the junior market, but this does not excuse statements such as (chapter 1, paragraph 1) 'Should one sad, misguided yellow-browed warbler take a wrong turn on its journey across North America . . . making an exhausted landfall on the wild coast of Wales or Scotland or the south-west.' Robert Gillmor's drawings, however, are, as always, a delight. **Coloured Canaries. By G. B. R. Walker, illustrated by Dennis Avon and Tony Tilford.** (Blandford Press, Poole, 1976. 140 pages; 63 colour photographs; several line-drawings. £4.25.) The blurb claims, modestly, that the 'plates are the work of possibly the finest bird photographers in the world'. One can have no objection to the captive-photograph technique when used on Canaries. **A New Guide to the Birds of Hong Kong. By Michael Webster, illustrated by Karen Phillipps.** (Sino-American Publishing Co., Hong Kong, 1976. 111 pages; 40 black-and-white plates; 8 colour plates. £2.75.) The text is brief, and heavy reliance is placed on the illustrations, some in not too successful colour, but most in black-and-white. Many of the drawings of European species are strikingly similar to those in another well-known guide. Status in Hong Kong and Chinese names are given. JTRS and SC

Letters

Early nesting by Great Crested Grebes As a result of our involvement as organisers of the British Trust for Ornithology's census of Great Crested Grebes *Podiceps cristatus*, we received a number of records of early nesting in 1975, which corroborate those in Hampshire and Wiltshire by C. F. Tydeman and Julian C. Rolls (*Brit. Birds* 70: 74, 75-76).

In several counties in England and Wales, grebes returned to their breeding waters, from which they are normally absent in winter, during December 1974 and January 1975. On 10th January 1975, a pair was building a nest in Regent's Park, London, but, like several other early nesters, did not lay until March. Incubation, however, was noted at Wrexham, Clwyd, on 18th January 1975, and there was another very

early record (per R. Buisson—see also *BTO News* 72:2) at Weston Turville Reservoir, Buckinghamshire, where the first of three eggs hatched on 7th February 1975, indicating a laying date of approximately 10th January.

Several clutches were recorded in February from counties as far north as Cheshire, and, in March, young were hatched from five nests in the Old Slade Nature Reserve, Buckinghamshire, and from single nests at Yateley in Hampshire, Woodley in Berkshire and the Cotswold Water Park in Gloucestershire. In England and Wales, March clutches were too numerous to list here. In contrast, the earliest record received from Scotland was of a clutch of four eggs at Selkirk on 31st May 1975.

These records were all incidental to the main purpose of our study; thus, it is quite likely that others were not reported. There is some evidence to suggest that, on some waters, a few nest early in most years; the breeding of these birds could be advanced disproportionately by mild winters.

S. W. M. HUGHES and P. BACON

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Edward Grey Institute of Field Ornithology, South Parks Road, Oxford

Falls of Nearctic passerines in Britain and Ireland I feel that K. Allsopp's discourse on the meteorological conditions governing migration (*Brit. Birds* 70: 43-44) deserves some expansion and correction.

His comment on the astonishing feat of migrants navigating through weather systems is rather strange, since we know that they are, in fact, unable to navigate through major areas of cloud and precipitation. Only in the relatively slow-moving and less active systems can they navigate by the accepted methods, using astronomical clues and visual ground contact.

Migration of rare Eurasian species is often difficult to correlate with weather situations, since there is no way of determining whether landfall has been made en route from their point of origin. This is not so, however, in the case of Nearctic migrants, as no such landfall is possible (except in cases of assisted passage on ships). Once the birds are over the sea, they are normally at the mercy of the windflow if they become involved in the developing cloud systems of weather disturbances. This is most marked in the westerly warm sectors of newly formed and fast-moving depressions leaving the North American continent. Mr Allsopp's remark about the normal synoptic weather chart giving a rather coarse picture of sea level conditions is unfounded, since the isobars normally represent the strength and direction of the wind at a height of 600 to 900 m fairly accurately. This is more true of the straighter isobars in a warm sector than of those with marked curvature. In addition, surface wind directions over the sea do not differ materially from this upper wind direction, due to lack of surface friction, which tends to back winds over the land to a marked degree.

Winds above a typical system normally veer with height ahead of a warm front, and back with height behind a cold front, so that winds at, say, 6,000 m are very approximately parallel to the fronts. In a broad warm sector, however, where there is a homogeneous air mass, wind direction varies little with height. Warm sector winds near the centre of

an active depression are frequently very strong, and it is certainly these that must contribute to a speedy transatlantic crossing for small passerines. It has been found that passerine night migrants fly mainly at levels between 500 m and 1,500 m, often in cloud (E. Eastwood and G. C. Rider, *Brit. Birds* 58: 393-426), and, in this zone, warm sector winds differ little from those measured from isobars on a synoptic chart. Warm sectors are noted for their stability and lack of convection. Thus, it is unlikely that birds gain any benefit in this respect. It is only in the frontal zones themselves that convection occurs, as the warm air is lifted above the earth's surface by the cold air.

I suggest that the Nearctic passerines most likely to make a transatlantic crossing are those departing from the northeastern United States and eastern Canada over the sea in light westerlies on the northern edge of an anticyclone. These birds may often become victims of frontal waves which sweep them out over the Atlantic as the warm sector to the south of the wave develops. Many of these frontal waves do not deepen, and their warm sectors remain up to 2,000 km in width. Such a warm sector crossed the Atlantic during 3rd to 5th October 1976, coinciding with arrivals of Blackpoll Warblers *Dendroica striata* in southwest England from 4th to 10th October. Other, similar conditions occurred later in October, and the whole month was dominated by low pressure to the southwest of Iceland and strong westerlies from eastern Canada to Britain and Ireland at latitudes between 50° and 55° N.

Equally, earlier in the autumn, many of the more southerly-breeding Nearctic migrants become involved with hurricanes. Since hurricanes sometimes move into mid latitudes as extra-tropical depressions with much the same characteristics as those described above, these also contribute to transatlantic crossings, but to a lesser degree.

It is possible to calculate the transatlantic trajectory of a particular parcel of air. Thus, in some instances, given approximate arrival times of Nearctic birds in western Europe, one may be able to calculate an approximate departure time of an individual from North America, and also its area of origin. The duration of a crossing in a westerly wind of 40 to 50 knots (20 to 25 m per second) would be about two to three days, and enough previously-stored fat deposits would be available for survival during this period.

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I cannot dispute Norman Elkins's general description of warm sector and frontal flows, since these are authenticated meteorological phenomena. In view of the unusual concentration of Nearctic passerine vagrants last autumn, however, I considered that the birds might have been converged, during their long flight, into the low-level (1,000 m) jet streams, which have been described by K. A. Browning and C. W. Pardoe (1973, *Quart. J. Roy. Met. Soc.* 99: 619-638). The fine structure of these flows would not be given by the isobars on the normal synoptic weather chart, only their average effects. The detailed flow in a frontal zone has still to be fully understood. If the birds were orientated downwind and found the air

conditions suitable for sustained flight, the general streamline pattern would converge them into the jets after many hours.

Alternatively, if these birds were generally disorientated and were, thus, carried passively by strong winds within warm sectors, they would either have had to travel in flocks, which would be unusual, or have been concentrated by landmarks on arrival. The disorientation of each individual bird would tend to disperse them, because of their air speeds (which cannot be ignored, unless they fly in closed loops or randomly). The air speed of a small bird is of the order of 10 m per second (which is not low compared with 30 m per second for a strong wind), and its neglect in estimating a ground track from an air parcel back-tracking calculation would lead to large accumulated positional errors.

Until more direct evidence on orientation in wind fields and choice of flying altitude with respect to atmospheric conditions becomes available, only tentative theories can be put forward.

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Request

Gulls with white wing-patches A small proportion of gulls of many species have an interesting plumage variation in which some or all the primary coverts of one or both wings are white rather than the normal grey or black (see plate 109, and vol. 62: plate 7). These white feathers form conspicuous wing-patches, which are distinct from those sometimes seen in late summer/autumn and caused by moult of the primary coverts exposing the white shafts of the primaries. In Britain, this plumage condition is most commonly shown by Lesser Black-backed Gulls *Larus fuscus*, but has also been reported for Herring Gulls *L. argentatus*, in which, however, the contrast between any white and the basically pale grey wing is less marked. There appears to be no record of white primary coverts on a Great Black-backed Gull *L. marinus*. Any records from anywhere in the world of any species of gull showing these wing-patches and, if possible, whether they were symmetrical or otherwise, and the frequency of occurrence (e.g. 'two in a colony of about 5,000 pairs'), would be gratefully received by Dr M. P. Harris, Institute of Terrestrial Ecology, Hill of Brathens, Banchory, Kincardineshire AB3 4BY.



109. Lesser Black-backed Gull *Larus fuscus* showing symmetrical wing-patches formed by white primary coverts, Dyfed, July 1965 (M. P. Harris)

News and comment

Peter Conder and Mike Everett

New East African journal Readers with an interest in East African birds will welcome the appearance this year of *Scopus*, produced by the Ornithological Sub-Committee of the East African Natural History Society. It will appear quarterly,

with a fifth issue containing an annual 'East African Bird Report'. Subscriptions (50 Kenya shillings to EANHS members, otherwise 75 shillings) to: D. A. Turner, *Scopus* a/c, Box 48019, Nairobi, Kenya; contributions to the journal (and other

information) from Dr D. J. Pearson, Department of Biochemistry, Box 30197, Nairobi.

Prospect of New Zealand bird observatory Ronald Lockley reports that there is great enthusiasm for the establishment of the first bird observatory in New Zealand. It is hoped that this will be set up at Miranda on the Firth of Thames (North Island), an area noted for its wader roosts, which include many migrants from the Northern Hemisphere, and for large flocks of local migrants from the alpine watersheds of South Island. We wish the venture every success.

Rare raptors *Wildlife* (May 1977) carries the news that the population of Mauritius Kestrels *Falco punctatus* now stands at 13 birds, after successful breeding by two wild pairs, which reared a total of five young. So far, attempts at captive breeding in Mauritius have been unsuccessful. The March issue of *The Wilson Bulletin* includes a fascinating paper on the biology and status of the Monkey-eating Eagle *Pithecopphaga jefferyi* by Robert S. Kennedy. His 1970-73 population estimates for this Philippine species is 300 ± 100 birds, considerably better than the oft-quoted 1969-70 figure of 36-60. Nevertheless, the species is still declining annually as a result of the continued destruction of its native forest habitat.

Finnish eagles Some recent abstracts from *Suomen Luonto* (Finnish Nature), sent to us by the Finnish Association for Nature Protection, tell of the decline of the Golden Eagle in Finland from 200-250 pairs in 1958 to about 100 today. The all-too-familiar causes of persecution, disturbance and habitat destruction are quoted, but it is encouraging to learn that protection has at least halted the decline. The species has had full legal protection since 1962, but in Finnish Lapland only since 1969. It was also interesting to learn that, of some 200 ringed between 1932 and 1974, about 21% have been recovered, mostly from the Soviet Union. The White-tailed Eagle population is given as about 70 adults and about 35 occupied territories: these figures have remained unchanged through the 1970s, but breeding success is still very poor. Full protection for this species dates back to 1924.

Another problem for raptor-watchers Raptor identification is not easy at the best of times. To add to the pitfalls, the latest issue of the Swedish journal *Vår Fågelvärld* records a case of the successful fledging of two hybrid Red \times Black Kites in southern Sweden in 1976 (the only previous instance was in East Germany in 1960). 'Perhaps it is a hybrid' has been the handy excuse reserved for wildfowl-watchers . . . until now!

Maltese atlas The most recent addition to the countries represented on the European Ornithological Atlas Committee is Malta. The delegate, representing the Malta Ornithological Society, is J. Sultana, Sciberras Flats/3, Fleur-de-Lys Junction, Birkirkara, Malta. This raises to 20 the number of nations represented on EOAC.

Wetland film The Derbyshire ornithologist F. G. Hollands tells us that he has now completed a wetland film made up from the best of some of his previous films, as well as a lot of new material featuring European wetlands. It is his personal contribution towards the Council for Europe Wetlands Campaign and shows both fresh and saline wetlands in Britain, Finland, Denmark, Holland, Hungary, Yugoslavia, Greece, France and Portugal. Although birds predominate, it also includes some butterflies and flowers. If any bird club secretaries are interested in seeing this film they should get in touch with Mr Hollands at 5 Vernon Street, Derby DB1 1FF.

Birds new to the USA We learn from Will Russell that, on a recent trip to Alaska, he and his party added no fewer than three new species to the United States list in two days: Dusky Warbler *Phylloscopus fuscaus*, Red-breasted Flycatcher *Ficedula parva* and Brown Shrike *Lanius cristatus*.

Yet another cliff tragedy We were saddened to hear of the death on 20th June of the well-known Irish bird-photographer Tom Keogh, who died in Co. Wicklow while photographing Peregrines for the next Irish Wildbird Conservancy film.

Industry and the Environment' The Committee for Environmental Conservation (CoEnCo) has issued a report and

handbook under this title, designed as a practical aid to industry, which will, hopefully, take heed of the many suggestions it makes towards a better balance between their activities and the need for conservation measures. Chapters are included on wildlife conservation and land preservation. Available from CoEnCo, 29-31 Greville Street, London, EC1N 8AX, at £1.85 post free or £1.50 for orders of ten or more.

Congratulations Two ornithologists were included in the Jubilee and Birthday Honours List: Cecil Lambourne was made an MBE for services to conservation with the Worcestershire Nature Conservation Trust, and C. Douglas ('Jimmy') Deane, deputy director of the Ulster Museum, Belfast, was made an OBE. Jubilee Medals were received by two long-serving members of staff of the Royal Society for the Protection of Birds: Frank Hamilton, who, to use the old phrase, is in charge of birds north of the Border, and the indefatigable librarian, Dorothy Rook.

Ringling in the Republic of Ireland As a result of the implementation of Section 32 of the Wildlife Act 1976, on 1st June

1977, all ringers wishing to operate in the Republic *must* first obtain a licence from the Department of Fisheries, Forest and Wildlife Service, 22 Upper Merrion Street, Dublin 2.

Hungarian Ornithological Society

Formed in 1974, this society now has a rapidly expanding membership and is clearly making tremendous progress in a wide range of activities. It has already established an extensive ringing programme, for example, with special emphasis on studies of *Acrocephalus* warblers, and, on the conservation front, is involved in bird of prey protection, preserving the still large Great Bustard population and the establishment of bird reserves. Robin Chancellor, who brought all this to our attention, says that the society is anxious to make as wide contact as possible with ornithologists in western Europe and, in particular, would welcome spare copies of current books and journals; they are suffering from a severe shortage of literature. Anyone who can help or would like to make contact should write to Dr Janossy, Department of Palaeontology, Natural History Museum, 1088 Budapest, Muzeum Krt. 1,1116, Hungary.

Opinions expressed in this feature are not necessarily those of the editors of British Birds

Recent reports

K. Allsopp and S. C. Madge

These are largely unchecked reports, not authenticated records

This report covers June and the first part of July; except where otherwise stated, all dates refer to June.

This period of the year, although of great importance to our breeding birds, is often regarded as dull by many bird-watchers. Migration is at a standstill, bird song is diminished and, significantly, birds are harder to find in the rank summer vegetation. More knowledge of what they are feeding on—and where this is available—would not only increase observers' success in finding them, but also lead to a wider appreciation of nature and its conservation.

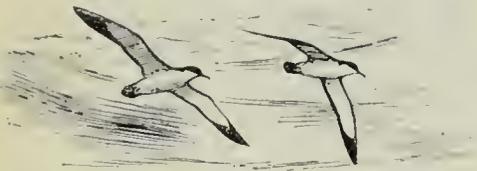
This spring, the weather was cooler than average, delaying plant growth and, con-

sequently, the build-up of insect populations. June was no exception. The first four days were quite warm, but, between 5th and 23rd, temperatures were well below average, with winds predominantly from the northeast. Westerly winds during the last week brought more normal conditions.



Swifts *Apus apus*, relying for food on a good supply of airborne insects, obviously found them scarce. Winged insects will

take off only when the temperature is sufficiently high for their flight muscles to work efficiently, and are then dispersed by the wind. Their flights can last many hours, covering long distances and at several hundred metres altitude. During thunderstorm conditions, convergent wind systems concentrate the insects and the Swifts take advantage of this food supply. From 12th to 14th, thundery conditions tracked across most of England, resulting in large concentrations of Swifts, such as 5,000 at Fairburn Ings (Yorkshire) on 13th and 3,000 at Hornsea Mere (Humberside) and 2,500 at Dungeness (Kent) on 15th; the 16 caught and ringed at the last locality may have been weaker individuals, and several were also killed by traffic near a lakeside in Milton Keynes (Buckinghamshire). Further thundery weather occurred at the end of the month, when Gibraltar Point (Lincolnshire) reported concentrations of up to 5,000 Swifts between 24th and 30th. Fortunately, very warm weather at the beginning of July gave this species the opportunity to continue breeding activities.



Manx Shearwaters *Puffinus puffinus* are often seen off the north Norfolk coast during northerly winds in June. They are usually considered to be stragglers from the feeding flocks of those breeding in the northern North Sea. On 10th, the high total of 126 was noted flying east at Cley (Norfolk). On the following day, Dungeness also reported shearwaters, with two **Cory's Calonectris diomedea**, 22 **Manx** and 44 **Balearic** *P. p. mauretanicus*. The presence of the Mediterranean race suggests that all of these movements were of non-breeders. A very surprising record was that of a **Little Shearwater** *P. assimilis* seen at Rostherne Mere (Cheshire) on 30th and found dead on 3rd July. Fairly strong westerlies with rain occurred during 30th, but other seabirds were not reported inland.

Inconsiderate rarities

Yet another Nearctic passerine was reported this spring—a **Cape May Warbler** *Dendroica tigrina* was found singing at

Paisley (Strathclyde) on Friday 17th. The grapevine was alerted and the rush northwards was ready to start . . . but the bird decided to move on overnight. If accepted by the Rarities Committee and the British Ornithologists' Union Records Committee, this will be a new species for the British and Irish list. In Canada, its habit of singing from the tops of tall spruce trees makes the Cape May difficult to observe closely: most of the other North American wood-warblers are usually much more obliging.



Another inconsiderate bird was a **Marsh Sandpiper** *Tringa stagnatilis*, which arrived at Farlington Marshes (Hampshire) on 5th July. It was last seen on Friday 8th July, leaving the weekend 'twitchers' stranded on the shoreline! Although a fairly common migrant in the Mediterranean, only 22 had been reported in Britain and Ireland up to the end of 1976.

Desirable immigrant

After the first British records of **Fan-tailed Warbler** *Cisticola juncidis* last autumn, a spring occurrence, especially in this rather chilly period, is very good news. One was found in Dorset on 24th, but stayed only until 28th. With its distinctive flight call, this species seems unlikely to go unnoticed for long if a pair does finally stay to breed. We hear from the Netherlands that 20-40 have been found singing from old reedbeds (or dry ditches with old reeds among other plants) in treeless areas of Zeeland. More must surely reach Britain this autumn?

Latest news

In mid August: singing male **Rüppell's Warbler** *Sylvia rueppelli* near Sumbergh (Shetland); at least five **Greenish Warblers** *Phylloscopus trochiloides*; **Thrush Nightingale** *Luscinia luscinia* on Fair Isle (Shetland); **Whiskered Tern** *Chlidonias hybrida* at Staines (Surrey).

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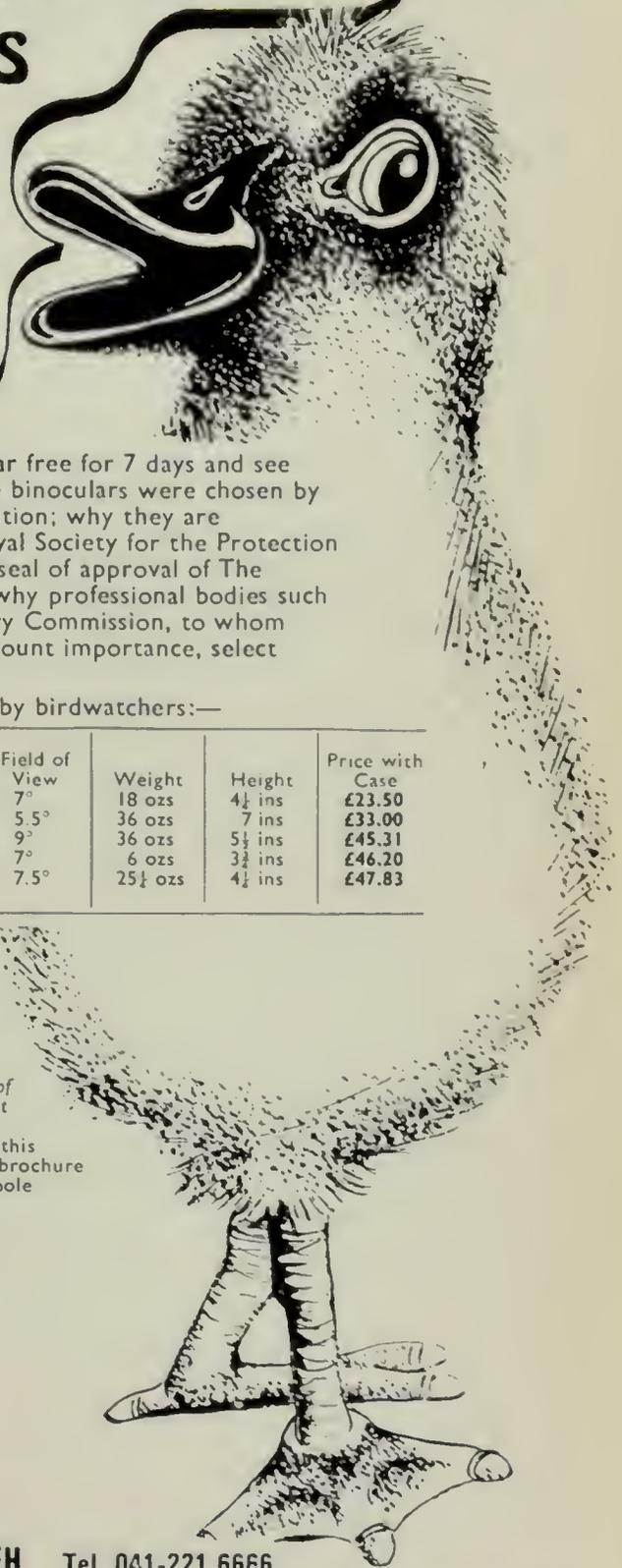
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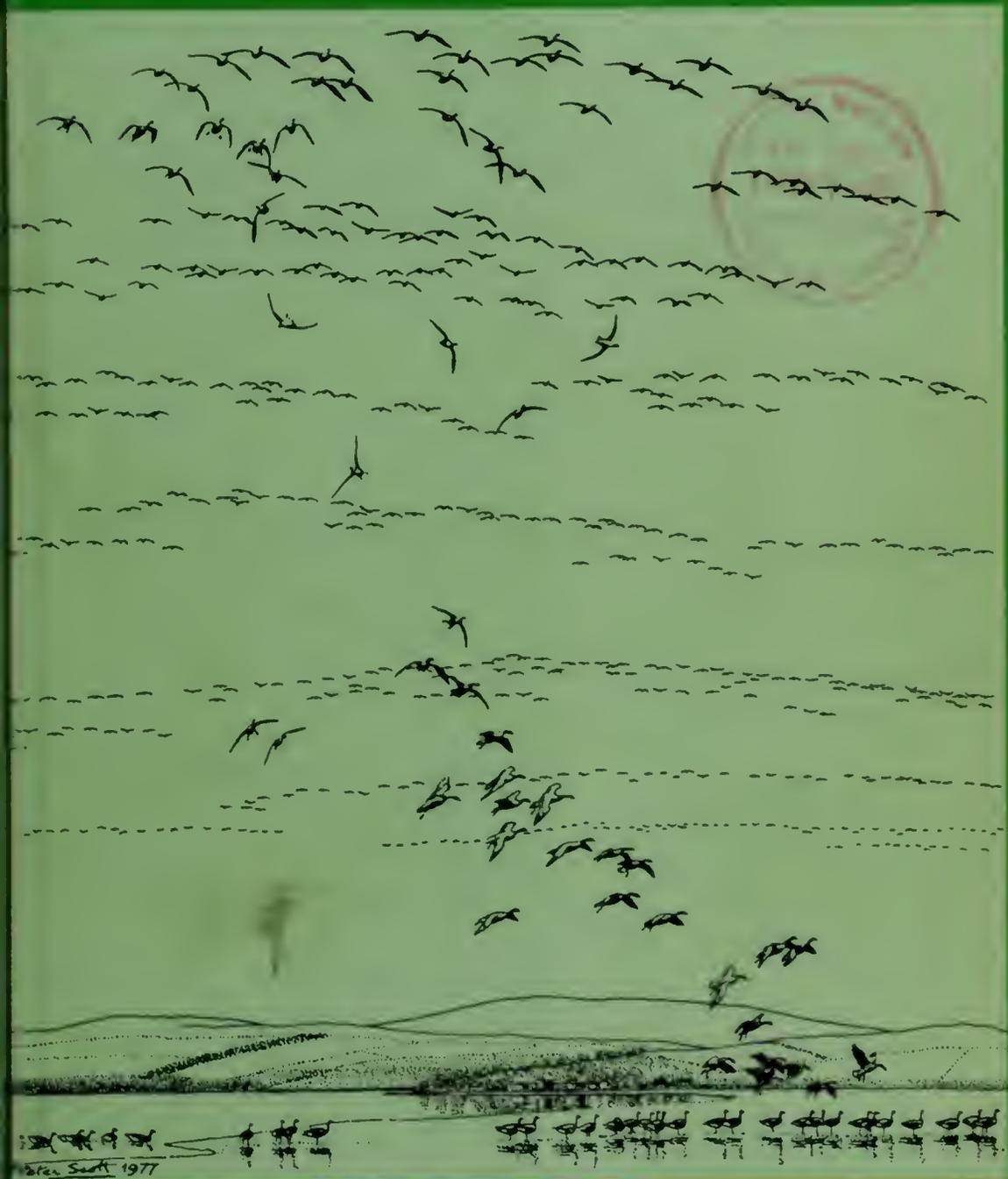
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Front cover: immature Long-tailed (left) and Arctic Skuas
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British Birds

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Rare birds in Great Britain in 1976

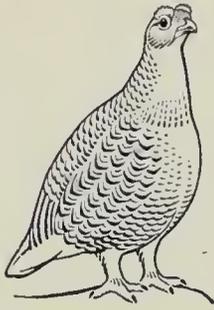
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News and comment

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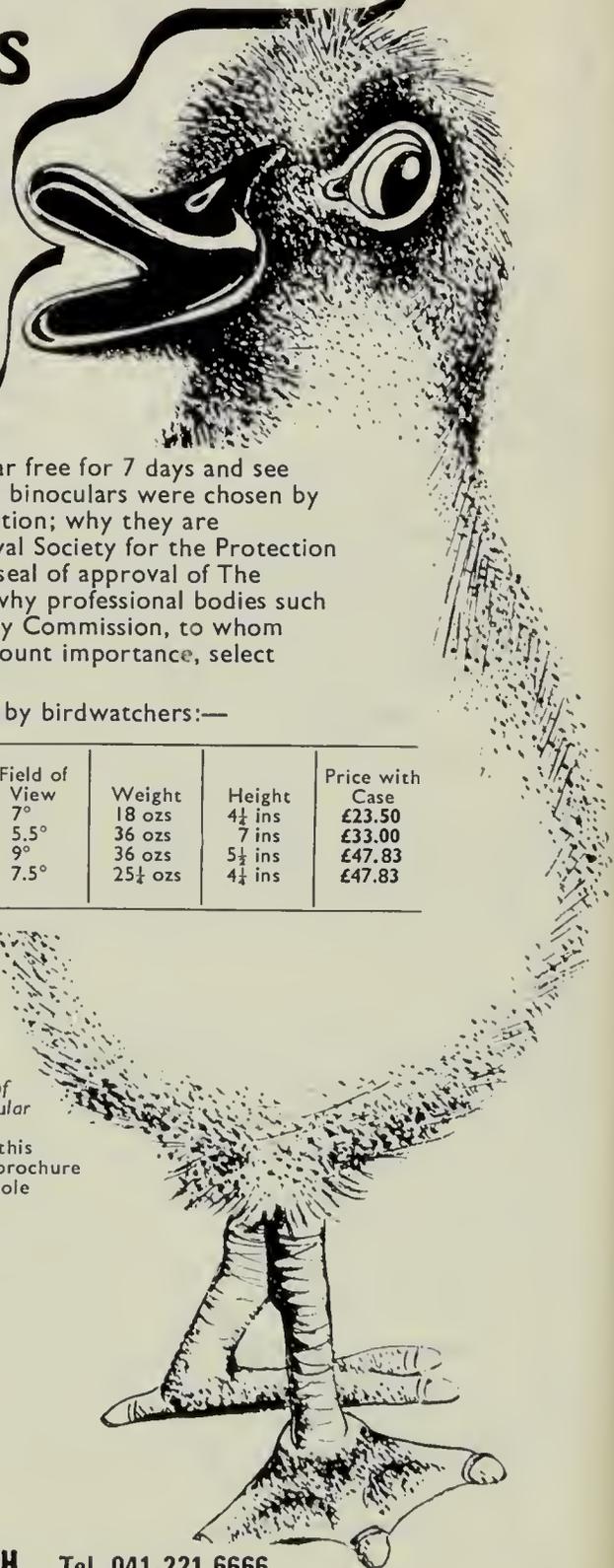
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British Birds

VOLUME 70 NUMBER 10 OCTOBER 1977



Report on rare birds in Great Britain in 1976

John O'Sullivan and the Rarities Committee

This is the nineteenth annual report of the Rarities Committee. Details of the composition of the committee and other matters relating to its work during the year have already been published (*Brit. Birds* 70: 306-308).

After the phenomenal procession of rarities in 1975, many observers anticipated that 1976 would be something of an anticlimax. In fact, this proved far from the case: even excluding the totals of 109 Long-tailed Skuas *Stercorarius longicaudus* and 22 Richard's Pipits *Anthus novaeseelandiae* (both newly added to the list of species considered by the committee in 1976), the number of records was again at a high level, with about 850 of 118 species.

D. I. M. Wallace has again written both the year summary and the species comments in the systematic list: we are grateful that his recent departure from the committee has not meant the loss of his writing style, which has enhanced the report in recent years. The comments include the accepted Irish records, which are adjudicated by the Irish Records Panel. All Irish records are published annually in the *Irish Bird Report* and we are grateful for permission to repeat them here. The world breeding range is given in brackets at the beginning of each species comment.

A new feature of the report this year is the inclusion of totals for all records in Britain and Ireland: three figures are given after each species name, referring respectively to (1) the total to the end of 1957, (2) the total for the period since the formation of the Rarities Committee in 1958, but excluding (3) the total for the current year. We are indebted to D. J. Britton, both for the initial suggestion of including these data and for undertaking the task of compiling them. A detailed breakdown of the figures for previous years is held by the honorary secretary.

An important facet of the committee's work is to focus attention on difficult identification problems and to encourage the publication in this

journal of papers to clarify them. Some particularly thorny topics have received attention in the past year, notably the separation of Great Snipe *Gallinago media* from Snipe *G. gallinago* (69: 377-383 and 70: 283-289), Little Bunting *Emberiza pusilla* from Reed Bunting *E. schoeniclus* (69: 465-472), and Blue-winged Teal *Anas discors* from Cinnamon Teal *A. cyanoptera* (70: 290-293), and the identification of eastern races of Stonechats, especially *Saxicola torquata maura* and *S. t. stejnegeri* (70: 237-245). The committee greatly welcomed the publication in 1976 of *Rare Birds in Britain and Ireland* by Dr J. T. R. and Mrs E. M. Sharrock. While it may reasonably be argued that a single rarity record has limited scientific value, this book provides ample evidence of the value of analysing the pattern of rarity records accumulated over many years, both as a tool for the study of migration and as an indicator of changing numbers and distribution in breeding and wintering areas. The use of this book is recommended for providing a background to the records in this report.

During 1976, there were several records of species occurring for the first time in Britain and Ireland: our publication of these records is subject to their acceptance by the Records Committee of the British Ornithologists' Union; in instances where decisions are still awaited, they are mentioned in the year summary, but not in the systematic list.

Photographs of a few 1976 rarities are reproduced with this report. We would like to include even more in future. Observers are again urged to submit photographs for possible inclusion, and are reminded that, if of sufficient interest and quality, 35 mm colour transparencies are welcomed for conversion to black-and-white, as recently announced (69: 458).

J. N. Dymond was the committee's honorary secretary until the end of March 1977, and most of the circulations of records included in this report were initiated by him before his resignation; the present secretary (JO'S) wishes to express his appreciation of the efficient order in which the records had been kept. The committee also thanks M. D. England, for his advice concerning escapes and introductions; M. A. Ogilvie, for comments on wildfowl escape and identification problems; and Derek Goodwin of the British Museum (Natural History), who has helped with research on museum skins. As always, the accuracy and completeness of this report has also been due to many other people and organisations too numerous to acknowledge individually.

All records should be addressed to the honorary secretary, John O'Sullivan, RSPB, The Lodge, Sandy, Bedfordshire SG19 2DL. A copy of the list of species considered by the committee (67: 347-348) and copies of the 'Unusual record' form are obtainable free of charge from the same address: observers are encouraged to use the latter when submitting their records.

Summary of the year

The following chronological account of the year's rarities includes some records, of species potentially new to Britain and Ireland, which are omitted from the systematic list because they are still under consideration by the British Ornithologists' Union Records Committee.

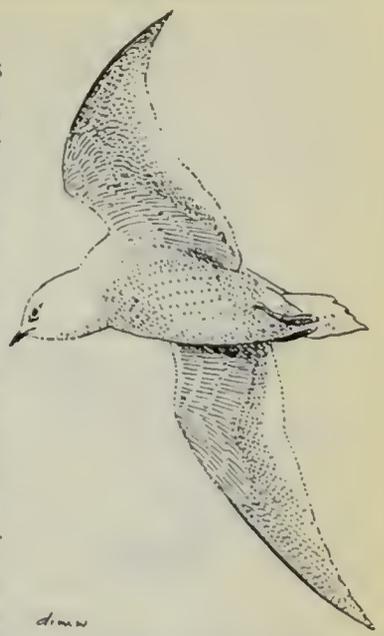
The scientific names are omitted for those species included in the systematic list.

The year began quietly, with rare sea-ducks going almost unnoticed or absent; in January, only a Killdeer, a Ross's Gull and, more surprisingly, single Pine and Little Buntings and a Glossy Ibis appeared to disturb the winter rest of rarity-seekers. February, too, was a month of few rarities, but a Cory's Shearwater (in the south Irish Sea), two Ring-billed Gulls and another Little Bunting (presumably wintering) were all noteworthy. Undoubtedly the most enjoyed bird of February was the obligingly tame Black-throated Thrush which held court in central Norfolk for six weeks from the 21st, to the great relief of many observers who had come too late to see it (or another very like it) in the same county

four months earlier. March produced few surprises, although the first of three spring White-billed Divers appeared; there were also two Ring-necked Ducks, two more Killdeers, and further Ring-billed and Ross's Gulls. The only unusual passerines were a Desert Wheatear and three Arctic Redpolls, all the latter, no doubt, late products of the 1975 influx.

In April, there was the usual mixture of observations telling both of late winter presences and of warmer, spring arrivals. A Steller's Eider was found in Orkney and both the rare gulls already mentioned appeared again. Five Cranes drifted west from the Continent and the first four of over a dozen spring White Storks came too. Overshooting from the south also produced a Scops Owl and the forerunners of a spring flush of 12 Savi's Warblers, two Bonelli's Warblers and 13 Serins, the last apparently determined to behave properly for once. A Red-throated Pipit on the 20th was distinctly early. In May, as usual, the dam broke and rarities quickly became widespread and more numerous. Two more Ross's Gulls brought the first half-year's score to an astonishing four or five, while at least one albatross and the first of eight spring and summer Cory's Shearwaters appeared off southwest coasts and isles. These, however, did not compare with the arrival of

the year's first potential addition to the British and Irish list, an American Kestrel *Falco sparverius* at Fair Isle on the 25th, to be followed by another in June, on Bodmin Moor. As in several recent Mays, a Great Snipe and a Broad-billed Sandpiper told of western vagrancy by Fenno-Scandian waders. From the south and south-east came three Black Kites, three Whiskered Terns, four Red-rumped Swallows and more Savi's Warblers, together with the first of six Great Reed Warblers (like the Serin, making amends for several poor showings), the first of five Subalpine Warblers and, best of all, single Collared Fly-



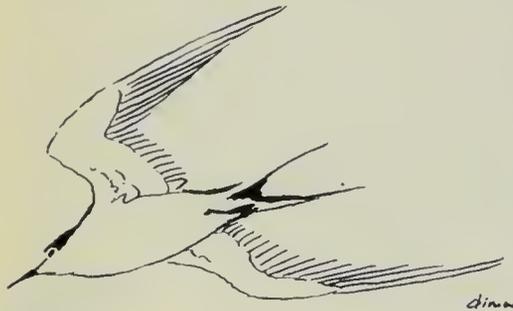
catcher (again on Out Skerries) and Alpine Accentor (at Dungeness). White Storks and Little Egrets were widespread and, perhaps from Morocco, came two more Red-throated Pipits. Early June continued the events of the previous month and one Lesser Golden Plover and two Buff-breasted Sandpipers rivalled a Marsh Sandpiper as the most unusual non-passerines. At the smaller end of the list, the chief prize was Britain's



third ever Bimaculated Lark (on Fair Isle), while another Red-rumped Swallow and two more Savi's Warblers appeared. Also in June, the first of eight Rollers (no doubt a product of the now hot and astonishingly calm weather) arrived; the Hermaness Black-browed Albatross settled down and appeared to incubate; and a Black Stork, several White Storks and Caspian Terns wandered about. As in May and July, a Surf Scoter appeared; clearly not all fly back west.

July was, as ever, a quiet month. There was nothing quite to match 1975's White-tailed Plover *Vanellus leucurus*, but a series of pratincole records and more Caspian Terns showed that summer vagrancy was occurring. The discovery of a Citrine Wagtail feeding young wagtails (in Essex) was quite astonishing. Once again, a few Nearctic waders appeared to raise the probability of permanent displacement (and the frustration of no mate) rather than early transatlantic passage. Three sub-adult Long-tailed Skuas were found in a northern skua colony.

And, then, suddenly, it was August, full of dry, angry sunsets and the beginnings of autumn. With memories of the riches of that season in 1975 still fresh, it seemed unwise to expect another like it. Although the drought



had exposed more wader habitats than for decades, little stirred and observers waited with a proper sense of likely anticlimax. A Sharp-tailed Sandpiper (in Surrey) and a Sooty Tern (in Suffolk) went almost unnoticed, but soon it was clear that 1976 was to be its own year after all. The weather changed; the North Sea coasts gathered

clouds and northerly winds and, on the 21st, watchers (at Flamborough Head) were first bemused and then delighted to find both Cory's Shearwaters and a Little Shearwater passing offshore. Within a few days, talk was all of uncommon seabirds in large numbers. Yet another Ross's Gull showed and all coasts but the southern of England produced records indicating a huge presence or passage of tubenoses, particularly Sooty Shearwaters *Puffinus griseus*, and the two rarer skuas. Eventually, the autumn score for Cory's Shearwater was to reach 46 and that for Long-tailed Skua was almost 100. Otherwise, the August bag included several very early or hopelessly vagrant passerines: the most surprising were a

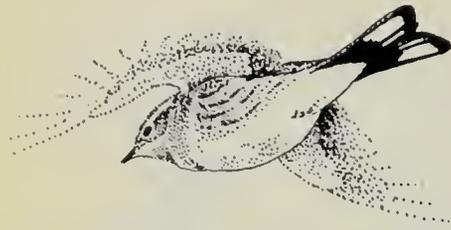
Booted Warbler from the east, two days later than a Sardinian Warbler from the south. In view of the summer and the species' recent northward spread in France, a Fan-tailed Warbler (at Cley and later at Holme, both in Norfolk) was only to be expected: another first for Britain had been duly logged. As in 1968 and 1972, there was a striking influx of Greenish Warblers, with no less than nine appearing from the 14th and, along with the first of six Yellow-breasted Buntings, Bonelli's Warblers also pushed their claim to be seen as regular autumn vagrants. August was thus a month of considerable ornithological schizophrenia: choosing between watching the sea or searching the nearest bushes was not easy.

Early September saw the continuing appearances of Cory's Shearwaters and Long-tailed Skuas, both adults and immatures, and the last of five autumn Purple Herons, with one at the end of the month. Three Great Snipe, a Stilt Sandpiper and an Upland Sandpiper were all noteworthy, but Buff-breasted Sandpipers and even Pectoral Sandpipers *Calidris melanotos* were scarce. It became clear that 1976 would be a poor year for Nearctic waders and that most of the beckoning mud would go empty. In its provision of rare passerines, September began slowly, but the tone improved, with more Bonelli's Warblers. In some localities, both Ortolan Buntings *Emberiza hortulana* and Red-breasted Flycatchers *Ficedula parva* came to make pulses race for something better and then, suddenly, between the 25th and 27th, Fair Isle and the east coast received, out of the best traditional weather (light rain and south east wind), a complex fall of Siberian and Asiatic rarities. Headed by what seems likely to be accepted as Britain's first Pallas's Reed Bunting *Emberiza pallasi* (at Fair Isle, by now enjoying another great year), the supporting cast consisted of two Lanceolated Warblers, a Pallas's Grasshopper Warbler (after an absence of 20 years), two Dusky Warblers, one Radde's Warbler, one Pallas's Warbler and a sprinkling of Richard's Pipits. By the birds, it was 'full October', and clearly one must look farther than the North Sea for an explanation of their appearance three or so weeks ahead of schedule. Would a flood of such birds develop, as in 1975?



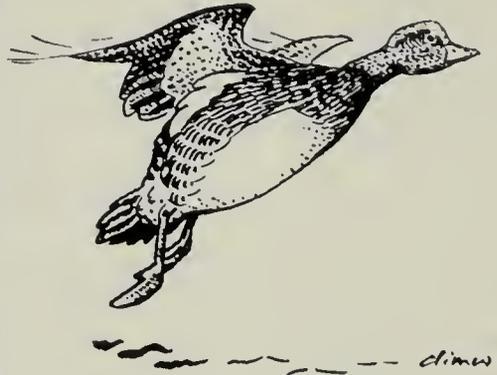
There was no sign of it in early October. It soon, however, became obvious that, although there were several good falls of 'drift migrants', the species-mix was abnormal: more Redstarts *Phoenicurus phoenicurus*, many orange Robins *Erithacus rubecula*, but very few winter thrushes and, compared with 1975, hardly a Yellow-browed Warbler *Phylloscopus inornatus* in sight. Northern finches and buntings were scarce too. Had they all gone fast to the south in the last of the calm weather? Observers pondering such questions on the mainland then faced an increasingly familiar distraction: the news of another procession of Nearctic landbirds reaching Ireland and the far southwest of England. There was a late September Bobolink, and then, as in 1975, a rich package of birds that had aimed for

the Caribbean islands, but found land some 5,000 km to the east instead. Its members were an American Robin, several Grey-checked Thrushes,



12 Myrtle and Blackpoll Warblers and a couple of Rose-breasted Grosbeaks. In Holy Vale on St Mary's, Isles of Scilly, joyful people could see up to three American 'lifers' in as many minutes. Later, two Nighthawks made landfalls on

Scilly too, but only to die. Elsewhere, October was now producing its customary variety. Two American Wigeon, a Black Kite, a claimed Saker *Falco cherrug* (in Shetland), two Sociable Plovers, a last Great Snipe, and a Least Sandpiper (the only true 'peep' of the year) headed the non-passerines. In competition with the American passerines, a Red-flanked Bluetail, another Sub-alpine Warbler and more Dusky and Radde's Warblers came in.



Even so, it was not quite 1975 over again, or was it? An October that ended with two Black Ducks together and three exquisite Olive-backed Pipits, well seen by scores of drooling watchers, cannot be regarded as poor!

November quickly produced strong and wet westerlies. There was no Indian summer, and the drought was reversed in record time. The autumn tally took little time to be completed. A last American landbird, a Yellow-billed Cuckoo, reached Hampshire, while yet another Black Kite, a Little Crake and late Little and Rustic Buntings straggled in (or out from where they had been hiding). It had not seemed as exciting an autumn as the previous one, but in the end, observers had notched up about the same number of Siberian and Asiatic passerines as in 1975. The flood was similar after all.

The short days of December make for few observer-hours, but the year held up well. A record of a Falcated Teal *Anas falcata* is still under review; a seventh Surf Scoter and a wintering party of five Cranes were of real interest, and, among their late-coming but now present commoner cousins, Britain's second Siberian Thrush and a White's Thrush were discovered. What would we find if we really searched passerine flocks through the whole of one winter?

Although it has been impossible to resist the comparisons with 1975 made above, they add to a somewhat idle exercise. No year will ever match another; such repetition is not naturally sanctioned. So, 1976 raised its own questions, some old and some new, about how and why rarities, particularly certain groups of them, reach Britain. More and more, it is obvious that we should look beyond a few hundred kilometres of sea and near-continent for the answers. Hopcfully, a separate study now in the hands of Dr W. R. P. Bourne and D. I. M. Wallace will shed light on



the seabird movements in 1976. It seems clear that those of the tubenoses and the rarer skuas had separate origins, however simultaneous some of the records. The relative lack of Nearctic waders (only 40% of the 1975 total) is not difficult to understand: the winds did not blow. Even the marvellous fall of American passerines will in history be seen as just one of a series of hurricane fall-outs. Surely the most exacting puzzle is once again in the occurrence-profile of the Fenno-Scandian, Siberian and Asiatic species. It is likely that we shall have to wait several more years before the data gather shape of solution, but there is a growing paradox between, on the one hand, the steady or increasing annual vagrancy of birds that breed no closer than 6,000 km away and, on the other, the erratic appearances of species that do so within 1,500 km or less. The latter are particularly confusing. In 1976, records of Aquatic Warblers soared to almost 80 (no doubt due in part to yet more mist-nets), but Thrush Nightingales numbered only two and no Terek Sandpiper *Xenus cinereus* was seen. Clearly, several factors influence the autumn crop of rarities and their compound effect must vary. What begins to stand out, however, is the possibility that the syndrome of 'reversed migration' may override all others as far as the truly extra-limital rarities are concerned. Nowadays they come, whatever else happens, and, in this year, they began to appear unusually early (from 20th August). Finally, it may be noted that we are a long way short of forecasting what overshooting in spring and summer will bring. In 1976, a few species (notably the Serin) were well represented, but others, notably the late migrant southern shrikes and Black-headed Bunting, remained unmoved by the hottest summer for 250 years.

So, another great year for the hunting birdwatcher, another rarity report, but plenty of mysteries left!

Systematic list of accepted records

The principles and procedure followed in considering records were explained in the 1958 report (*Brit. Birds* 53: 155-158), and the systematic list is set out in the same way as in the 1975 report (*Brit. Birds* 69: 321-368). The following points, some of which were outlined more fully in the 1958

report, should be borne in mind, as they show the basis on which this information has been put together. The committee will discuss any items which societies or observatories suggest are in need of further consideration.

(i) The details included for each record are (1) county; (2) locality; (3) number of birds if more than one, and age and sex if known (in the case of spring and summer records, however, the age is normally given only where the bird concerned was not in adult plumage); (4) if trapped or found dead, and where specimen is stored, if known; (5) date(s); and (6) observer(s) up to three in number, in alphabetical order. In accordance with our declared policy (see *Brit. Birds* 68: 1-4), the new county names have been used, and observers are asked to bear this in mind when submitting records. The old county names are given in parentheses for the additional records for earlier years.

(ii) In general, this report is confined to records which are regarded as certain, and 'probables' are not included. In the case

of the very similar Long-billed *Limnodromus scolopaceus* and Short-billed Dowitchers *L. griseus*, however, we are continuing to publish indeterminable records, and this also applies to observations of the two pratincocks *Glareola* and of such difficult groups as albatrosses *Diomedea* and frigate-birds *Fregata*.

(iii) The sequence of species, vernacular names and scientific nomenclature follow the British Trust for Ornithology's guide *A Species List of British and Irish Birds* (1971). Any sight records of subspecies (including those of birds trapped and released) are normally referred to as 'showing the characters' of the race concerned.

(iv) The three numbers in brackets after the scientific name of each species are explained in the fourth paragraph of the introduction to this report.

White-billed Diver *Gavia adamsii* (18, 27, 3)

Highland Loch Ainort, Skye, 14th April (K. M. Morgan, R. O'Reilly *et al.*).

Lincolnshire Friskney, adult, found dead, 26th March (K. Atkin, M. R. Plant, R. B. Wilkinson).

Orkney Rousay Sound, 20th April (P. Hope Jones, D. Lea).

(Arctic Russia, Siberia and Alaska) The geographical scatter of these spring records makes one wonder how many others occurred at points in-between. Observations of this magnificent bird are now mounting and, as D. M. Burn and J. R. Mather (*Brit. Birds* 67: 257-296) concluded, it should be seen as a scarce winter visitor rather than a mere vagrant.

Black-browed Albatross *Diomedea melanophris* (2, 16, 2)

Shetland an adult again present at Hermaness, Unst, 28th April to 18th August (P. Ewins, I. Sandison, R. J. Tulloch *et al.*). This bird was also seen at sca south of Lerwick, 27th July (G. van Oordt). During the summer, a nest was constructed for the first time.

(Southern oceans) Also two adults together passing west off the Old Head of Kinsale, Co. Cork, on 10th September. Dr W. R. P. Bourne has recently argued that a species of albatross might return to breed in the Northern Hemisphere (*Brit. Birds* 70: 301-303). This is the likely candidate.

Albatross *Diomedea* (3, 30, 3)

Gwynedd Bardsey, 1st May (R. D. Moore).

(Southern oceans)

Cory's Shearwater *Calonectris diomedea* (a few, 1,584, 47)

Cornwall near Wolf Rock, 31st May (P. A. Maker). Porthgwarra, 9th July (H. P. K. Robinson); another, 10th July (P. A. Maker, B. K. Mellow, H. P. K. Robinson).

Dorset Portland Bill, 11th June (Dr M. Bennett, R. J. and R. S. Johns); another, 12th June (Mrs S. Robertson).

Dyfed South Bishop Lighthouse, 22nd February (N. V. McCanch). St Ann's Head, 12th June (M. H. Davies).

Fife Isle of May, 11th September (M. F. Carrier, R. T. Smith).

Grampian Kinnaird Head, Fraserburgh, 1st September (D. I. M. Wallace).

Highland Tarbat Ness, Ross and Cromarty, 29th August (A. S. Dowsett); also, a different bird (C. J. Mackenzie-Grieve). Brora, Sutherland, 26th September (A. R. Mainwood). Duncansby Head, Caithness, 10th October (A. F. C. M. and Mrs P. M. Collett).

Humberside Flamborough Head, three, 21st August (P. A. Lassey, Miss I. Smith, D. I. M. Wallace); another, 28th August; four, 29th August (A. Grieve, P. A. Lassey, D. I. M. Wallace *et al.*); another, 30th August (P. A. Lassey, Miss I. Smith); singles on 3rd September and 19th September (D. I. M. Wallace). Spurn, six, 2nd September (B. Banson, G. E. Dobbs, M. A. Hollingworth). Bridlington, 25th September (D. I. M. Wallace).

Northumberland Seaton Sluice, three, 28th August (M. Bell, K. Walton, N. Watmough). Farne Islands, 9th September (D. Bishop).

North Yorkshire Scarborough, two, 28th August and another 30th August (R. H. Appleby). Long Nab, near Scarborough, 30th August (M. Francis).

Silly St Agnes, 3rd May (G. R. and Mrs J. V. Harrison). Near Bishop Rock, 4th May (D. B. Hunt).

(East Atlantic and Mediterranean) Surprisingly, Irish records were limited to five off the coast of Co. Waterford on 22nd August and one at Brandon Point, Co. Kerry, on 4th October. The British records of 41 birds (spread over seven months and from every major coastline) make up not the largest but the most widespread influx of this powerful shearwater. For about 30 to have penetrated to the North Sea is without precedent and their occurrence will be one of the subjects of a review paper being prepared by Dr W. R. P. Bourne and D. I. M. Wallace. For the moment, the virtual absence of late summer and autumn records from the southwest and English Channel may be noted. How did all those birds get into the North Sea? They were often accompanied by Great Shearwaters *Puffinus gravis* and hordes of lesser tubenoses, particularly Sooty Shearwaters *P. griseus*.

Little Shearwater *Puffinus assimilis* (5, 39, 1)

Humberside Flamborough Head, 21st August (P. A. Lassey, Miss I. Smith, D. I. M. Wallace).

(Atlantic south from Madeira and Caribbean, and southern oceans) Surprisingly, there were no certain records off Ireland. Recorded farther north in the North Sea than any previous individual, but, in the context of 1976, it is its simultaneous appearance with the last species that holds the mind. They share breeding grounds within 2,000 km of Britain and must occasionally wander together. The British and Irish records of Little Shearwaters present an odd pattern: only seven in total up to 1960, none from 1961 to 1963, 24 from 1964 to 1968 (with Ireland receiving up to eight annually), then again none from 1969 to 1972 and now 12 from 1973 to 1976. Perhaps, in addition to the normal factors of seabird vagrancy, there is an underlying population cycle that periodically causes wider displacements of younger birds.

Purple Heron *Ardea purpurea* (90, 189, 16)

Berkshire Twyford, immature, 12th September (P. Gipson, N. M. Hall *et al.*).

Devon Slapton Ley, 25th April to 8th May (V. R. Tucker *et al.*).

Dorset Radipole Lake/Lodmoor, 12th to 29th April (S. J. M. Gantlett *et al.*). Hengistbury Head, 2nd June (M. J. Arnold).

Essex Bradwell, 29th August (G. Smith).

Hampshire Hampton Ridge, New Forest, 1st May (Prof. A. D. G. Smart).

Kent Sevenoaks, 2nd May (P. J. Grant, Dr J. G. Harrison, J. Swift). Stodmarsh, 30th May (M. H. Davis, A. T. M. Ruck); an immature, 6th June (A. J. Livett, B. J. Nightingale, M. R. Seaman *et al.*). Sandwich Bay, 19th to 22nd June (D. M. Batchelor, M. Daly, M. Kirkaldie *et al.*).

Lincolnshire Chapel St Leonards, 30th May (T. A. Guyatt, G. Sellors, A. Shaw *et al.*).

Norfolk Cantley, immature, 22nd May (P. R. Allard *et al.*).

Suffolk Walberswick, immature, 4th September (J. G. Martin, J. G. Rolfe, W. Urwin *et al.*). Minsmere, presumably the same bird, on the same date (J. Sorensen *et al.*) and another, adult, 13th September (D. G. Haddy *et al.*).

West Glamorgan Oxwich, adult, 21st May to 9th July (H. E. Grenfell, P. G. Lansdown, Dr D. K. Thomas).

West Yorkshire Winterset Reservoir, immature, 26th September (P. Smith, G. J. Speight, J. Wint *et al.*).

(South-central Eurasia, north to Netherlands, and Africa) Once again, a marked spring influx, mainly of adults, and a scattering of autumn birds, mainly immatures. The total of 16 in one year is above average for the whole period since 1958, but is not exceptional for the years since 1968.

Little Egret *Egretta garzetta* (23, 190, 12)

Cambridgeshire Cambridge, 18th May (J. C. Harding).

Cornwall Hele Bridge, 25th May (F. H. C. and I. Kendall, J. Pett).

Devon Thurlestone, 17th May (B. and E. Jeary). Slapton Ley, 19th May (J. H. Horobin).

Dorset Stanpit Marsh, 4th July (C. I. Husband).

East Sussex Cuckmere Valley, 5th July (Miss L. Roberts).

Hampshire Farlington Marsh/Langstone Harbour, 4th June to 31st October (M. S. Arnott *et al.*). The same bird spent some time in West Sussex (see below).

Kent Stodmarsh, 6th May (A. C. B. Henderson, J. Watson).

Scilly St Mary's, 19th May; the same bird, St Agnes, 20th May to 30th October (R. M. Belringer, I. Turner, J. C. Nicholls *et al.*); also seen on Treseo and Annet during its stay.

Suffolk Aldeburgh, 2nd May (Miss E. M. Rose).

West Sussex Pagham Harbour, 15th May (per K. Roberts); subsequently there and on Thorney Island until 19th June (M. S. Arnott, J. T. Smith *et al.*). See also under Hampshire above.

(South Eurasia, Africa and Australia) Also singles at Bantry, Co. Cork, in the second half of April and at Lough Beg, Co. Derry, on 5th June. Yet another spring influx (with presumably two staying on into summer) and the only real surprise was the behaviour of the St Agnes bird: roosting on a small isle and feeding at low tide in a vast bowl of rocks and seaweeds, its behaviour resembled a Western Reef Heron *E. gularis*!

Cattle Egret *Bubulcus ibis* (2, 15, 2)

(Almost cosmopolitan in tropics, nearest breeding colonies in south Spain and Portugal) None in Britain, but two in Ireland: at Kilkerran Lake, Co. Cork, on 7th March, and near Broad Lough, Co. Wicklow, from 27th March to 10th April.

Night Heron *Nycticorax nycticorax* (165, 74, 7)

Berkshire Burghfield, Reading, immature, 16th January to 4th March (N. Arlott, A. Pym).

Cornwall Tamar Lake, immature, 29th July (T. J. Dingle).

Cumbria Thurstonfield Lough, Carlisle, immature, 4th April (M. J. Carrier).

Derbyshire Langley Mill Flashes, immature, 9th to 10th September (P. Bagguley, P. Beresford, A. Warren *et al.*). What was presumably the same bird was seen at Shipley Country Park, 28th November (F. Bacon, J. Fuller *per* R. Taylor).

Devon Lundy, 28th May to 1st June (I. G. and Mrs L. V. Black, M. Rogers *et al.*).

Oxfordshire Cassington gravel pits, immature, 6th and 29th July (J. W. Brucker, M. H. Rowntree).

(South Eurasia, Africa and the Americas) Also sub-adult at Ballygannon Pond, Co. Wicklow, from 9th to 17th May. For five out of seven to be immatures is unusual. This species continues to occur less frequently than might be expected. There were up to 13 annually (in a total of 43) between 1967 and 1972, but in each of the three years 1973-75 no more than three were found.

Little Bittern *Ixobrychus minutus* (150, 93, 11)

Cornwall Swanpool, Falmouth, two, immature ♂ and ♀, 25th to at least 28th April (B. K. Mellow *et al.*).

Devon Lundy, ♀, 2nd April (M. and Mrs W. Rogers).

Durham Witton-le-Wear, ♂, 23rd to 24th May (K. Baldrige, M. Weeks *et al.*).

Kent Stodmarsh, ♂, 15th May (P. M. North). Cliffe, immature, 25th August (D. Tutt). Sevenoaks, ♂, 17th October (Dr J. G. Harrison).

South Yorkshire Wath Lugs, ♂, 17th July (N. Addy, J. Hewitt, J. M. Turton).

Warwickshire Brandon marsh, ♂, 29th to 30th May (Miss R. Hamilton, D. A. Stone, J. Walton *et al.*).

West Glamorgan Oxwich, ♂, 24th June and 6th August (D. M. Hanford, Dr D. K. Thomas).

West Yorkshire Horbury, Wakefield, ♂, early September to 3rd October, trapped on 30th September (J. S. Armitage *et al.*).

(West Eurasia, Africa and Australia) A clear return to form, as with the Little Egret; three in autumn are noteworthy.

White Stork *Ciconia ciconia* (70, 90, 25)

Devon Axmouth, 29th July (A. J. Bundy).

Dorset Steeple/Kimmeridge, 22nd to 27th April (R. A. East, D. J. Wallace). Moreton, 20th September to at least March 1977 (I. S. Robertson *et al.*).

East Sussex Beachy Head, 3rd June (R. H. and Mrs M. E. Charlwood). Pett Level, 11th July (P. W. Rouse).

Essex Ilford/Hornchurch, 25th to 30th September (A. M. S. Leaderman, P. Parker).

Hampshire Titchfield Haven, 18th September (B. S. and Mrs I. S. Duffin, Miss S. White).

Humberside Blacktoft Sands, 26th May (C. Cooper, A. Grieve).

Kent Stodmarsh, 30th April (R. W. Allen); another, 6th June (N. D. Hewitt). Near Reculver, 1st May (R. Tapp). Dungeness, 11th May (D. T. Hennessy, R. Howard, N. Riddiford *et al.*); two, 21st August (D. J. Smith). Lydd, 4th June (M. Coath, A. R. and Mrs J. Pickup). Old Romney, 30th July to 16th August (P. J. Grant, N. Riddiford, M. Tickner *et al.*).

Lancashire Leighton Moss, 10th April (D. Robinson, J. Woodward).

Merseyside Red Rocks/Meols/Seaforth, 15th May (E. J. Abraham, M. Garner, J. Rogan *et al.*).

Northumberland Wideopen, 6th June (T. Tinlin).

Scilly St Mary's and Tresco, 10th to 11th April (B. Blackwell, D. B. Hunt).

South Glamorgan Wick, 6th to 7th September (J. T. Griffiths, K. V. Latham).

Suffolk The bird present in the Waveney Valley in June 1975 (*Brit. Birds* 69: 330) stayed until 20th March (B. J. Brown, D. R. Moore). As this was probably the individual that spent the winter of 1974/75 in the Rendham/Yoxford area (*Brit. Birds* 68: 311), a remarkably long stay is indicated. Gedding, 7th May (J. C. Wakerley).

West Sussex Horsham, 11th June (P. J. A. and Mrs E. Weller, C. J. Weller).

(Central and south Europe, southwest Asia and northwest Africa) Also singles at Ballymote, Co. Sligo, on 3rd June, and at Delgany, Co. Wicklow, on 15th June. The large total, spread over six months, is half as many again as that in 1975 and is confirmation of the increased vagrancy by this species in the last decade. Will a quiet village attract a nesting pair?

Black Stork *Ciconia nigra* (26, 8, 1)

North Yorkshire Easby-in-Cleveland, 11th to 21st June (R. Lambert, E. Wood *et al.*).

(Iberia, and right across Eurasia from Germany and the Baltic Sea to Ussuriland and China, also southern Africa) There is now more than a hint that the rarer of the two storks is following in the other's wing beats. There have been seven since 1969.

Glossy Ibis *Plegadis falcinellus* (many, 13, 3)

Dyfed Gann estuary, 20th August (R. Warr).

Kent Stodmarsh, 21st January (per P. J. Mountford). This bird was present for the spring and summer at Stodmarsh, occasionally visiting sites in the North Kent marshes; during the latter part of the year it moved to Grove/Preston, where it stayed until at least May 1977.

Lincolnshire Gibraltar Point, 16th May (G. H. Evans, Dr K. F. Woodbridge).

Lincolnshire/Norfolk Wisbech swage-farm, 16th to 18th May (K. Noble, T. Talbot *et al.*), almost certainly the Gibraltar Point bird.

(Cosmopolitan, but very local; nearest breeding colonies in Balkans) Also, one at Roundstone, Co. Galway, on 11th and 12th May. For occurrences to have been annual in recent years is surprising; for them to reach at least four, over four areas of southern Britain and Ireland, in one year is astonishing. It suggests that a small group of birds has become permanently displaced to western Europe. After a six-year absence, records since 1972 now total ten. Before 1976, none came in spring.

Black Duck *Anas rubripes* (1, 4, 2)

Scilly Tresco, two, 27th October to 1st November, one to 16th May 1977 (A. G. Clarke, R. P. Martins, P. Vines *et al.*).

(North America) The first since 1969 came to a locality and on a date strongly indicative of true vagrancy. First recorded in 1954, this close cousin of the Mallard *A. platyrhynchos* has remained a great rarity. All have occurred on the southern coasts of Ireland and England.

Teal *Anas crecca* (13, 81, 8)

Drakes showing the characters of the North American race *A. c. carolinensis*, colloquially known as the Green-winged Teal, were recorded as follows:

Cornwall Drift Reservoir, first-year, 3rd January (H. P. K. Robinson).

Cornwall/Devon Upper Tamar Reservoir, 14th March (R. M. Belringer).

Derbyshire Ogston Reservoir, 14th to 22nd November (R. A. Frost, M. F. Stoye *et al.*).

Orkney Loch of Bosquoy, 13th to 14th February (D. Lea, A. D. K. Ramsay).

Shetland Unifirth, the bird first seen on 15th November 1975 (*Brit. Birds* 69: 330) remained until 28th February (P. K. Kinncar).

(North America) Also four in Ireland: Akeragh Lough, Co. Kerry, 1st February; the Gearagh, Co. Cork, 10th March; Tarbert Bay, Co. Kerry, 18th March; and Ballymacoda, Co. Cork, 24th to 31st December. A good, but not exceptional, showing.

Blue-winged Teal *Anas discors* (19, 35, 2)

Cornwall Stithians Reservoir, ♀, 31st August to 16th September (P. A. Maker, B. K. Mellow *et al.*). The possibility of Cinnamon Teal *A. cyanoptera* was not eliminated.

(North America) Also a female Blue-winged Teal shot on the South Slob, Co. Wexford, on 12th September. Hopefully, the problems of separating Blue-winged and Cinnamon Teals will be reduced by the recent publication of a paper by D. I. M. Wallace and M. A. Ogilvie (*Brit. Birds* 70: 290-294), containing particularly instructive photographs.

American Wigeon *Anas americana* (22, 60, 8)

Humberside Whitton Sands, River Humber, ♀ or immature ♂, 23rd September (D. I. M. Wallace).

North Yorkshire Fairburn Ings, immature ♂, 24th July to 12th August (S. M. Lister, S. C. Madge, C. Winn *et al.*).

Scilly St Mary's, immature ♂, 8th October (D. I. M. Wallace).

Somerset Cheddar Reservoir, ♂, 13th October to 2nd April 1977 (B. Rabbits *et al.*).

(North America) Also four in Ireland: a first-winter male on the North Slob, Co. Wexford, from 11th to 18th October, two males at Tacumshin, Co. Wexford, on 13th October, and another at Ballyallia Lake, Co. Clare, on 27th December. This is the second-commonest Nearctic duck (after Green-winged Teal *A. crecca carolinensis*) in Britain and Ireland and, although some must escape, the pattern of the August to October occurrences in this year looks natural.

Ring-necked Duck *Aythya collaris* (1, 19, 6)

Avon Chew Valley Lake, immature ♂, 19th December (Dr B. Brownell, P. J. Chadwick); two adult ♂♂, 29th December (K. E. Vinicombe *et al.*); all remained into 1977. A presumed hybrid with Tufted Duck *Aythya fuligula*, 19th December into 1977 (J. B. O. Rossetti, K. E. Vinicombe *et al.*).

Cambridgeshire Milton/Landbeach gravel pits, ♂, 28th March to 30th April (G. M. S. Easy, C. A. E. Kirtland, B. Martin *et al.*).

Dyfed Bosheston Ponds, ♂, 28th March to 2nd April (N. V. McCanch).

Humberside Hornsea Mere, ♂, 28th April to 15th May (A. Grieve, R. G. Hawley *et al.*).

(North America) None in Ireland, but apparently a fresh influx to southern Britain during the 1976/77 winter. There were no records in 1975, after an almost unbroken run since 1959.

Surf Scoter *Melanitta perspicillata* (75, 40, 8)

Devon Kingsbridge estuary, 27th December into 1977 (V. R. Tucker *et al.*).

Grampian Lossiemouth, ♂, 14th March (N. Elkins). Sands of Forvie, ♂, 23rd June to 3rd July (P. Griggs *et al.*).

Hampshire Hurst Point, ♂, 15th May (E. J. Wiseman, D. B. Wooldridge *et al.*).

Lothian Gullane, ♂, 10th to 11th July (D. L. Clugston *et al.*).

Scilly St Mary's, immature, 19th October (P. A. Maker, B. K. Mellow *et al.*).

West Glamorgan Mumbles, immature ♀, 14th March to 4th April (H. E. Grenfell, P. G. Lansdown, Dr D. K. Thomas *et al.*).

(North America) Also an adult male off Clogher Head, Co. Louth, from 11th to 25th April. As in 1975, this robust duck was very obvious. For four to appear in England and Wales is unusual.

Steller's Eider *Polysticta stelleri* (5, 7, 1)

Orkney North Ronaldsay, ♀, 16th to 17th April (R. J. D. Broadhurst, A. R. Swanney).

Western Isles South Uist, the ♂ first seen in summer 1972 (*Brit. Birds* 66: 338) was present again in summer 1976.

(Arctic Russia to extreme northwest Canada) Annual occurrences now run from 1970.

King Eider *Somateria spectabilis* (62, 62, 3)

Dumfries and Galloway Loch Ryan, ♂, 22nd March (R. H. Hogg); perhaps the same bird, 26th December into 1977 (C. Linfoot, J. Sigley, G. G. Williams *et al.*).

Highland Nigg Point, Ross and Cromarty, ♂, 3rd February (A. S. Dowsett). Covesea Skerries, Lossiemouth, Moray, ♂, 14th to 15th February (D. L. Clugston, N. Elkins).

Shetland Hascosay Sound, the ♂ reported on 18th December 1975 (*Brit. Birds* 69: 331) was seen on 9th and 11th January (R. J. Tulloch).

(Circumpolar Arctic) Also an adult male off Rossbeg, Co. Donegal, in April and May. A surprisingly poor showing (although we believe some records are still to be submitted), since the last three years had produced 43. Even so, this fine duck did not begin to appear annually until 1966 and it is too early to re-examine the trend of recent occurrences.

Ruddy Shelduck *Tadorna ferruginea* (many, 15, 0)

(Northwest Africa, southeast Europe and across Asia) The current status of this species is being assessed following the request for unpublished records since 1958 in last year's report (*Brit. Birds* 69: 332).

Lesser White-fronted Goose *Anser erythropus* (47, 47, 5)

Derbyshire Swarkestone gravel pits, adult, 8th June (Mr and Mrs P. H. Johnson, M. Roome).

Gloucestershire Slimbridge, two, adult and immature, first seen on 28th December 1975, remained until 4th March; adult, 25th December to 28th February 1977 (K. Lanc, Sir Peter Scott *et al.*).

Lancashire Downholland Moss, adult, for a few days around 27th November (J. E. Dale, W. D. Forshaw, P. H. Smith *et al.*).

North Yorkshire Fairburn Ings, adult, 15th to 18th May (T. Boyer, P. R. Jepson, S. C. Madge *et al.*).

Wiltshire Wylyc, adult, 17th to 27th March (D. Paradisc, G. L. and M. G. Webber).

(Northeast Europe and Siberia) There is a strong presumption that the ones seen away from Slimbridge, and certainly those in May and June, were of captive origin. It is not inconceivable that only one individual was involved.

Red-breasted Goose *Branta ruficollis* (15, 9, 0)

Hampshire Hayling Island, the bird first seen on 8th November 1975 (*Brit. Birds* 69: 332) remained until 29th February (per J. H. Taverner).

(West Siberia)

Black Kite *Milvus migrans* (5, 15, 5)

East Sussex near Herstmonceux, 13th November (M. J. and Mrs M. E. Charlwood).

Kent Luddesdown, 8th May (L. F. and S. L. Woollard).

Man Calf of Man, 3rd June (R. J. Haycock, M. P. Sutherland).

Norfolk Horsey, 2nd May (B. P. and M. D. Otley, R. and P. Walton).

Powys Llangorse Lake, 19th October (M. V. Preece).

(Most of Eurasia, Africa and Australia) This decade has seen more observations here of this scavenging raptor than at any time since recording began. After four in 1975, come another five. The two autumn records are especially noteworthy.

Gyr Falcon *Falco rusticolus* (many, 42, 4)

Highland Loch Eye, Ross and Cromarty, 4th October (C. G. Headlam).

Lothian Hule Moss, 21st October (J. L. and Mrs J. M. Burton, Mr and Mrs R. H. Hogg).

Shetland Fair Isle, 1st April (R. A. Broad, A. M. Taylor); 16th September (R. A. Broad, J. R. East, A. M. Taylor *et al.*).

(Circumpolar Arctic) A typical showing of this falcon; the September record is the second earliest since 1958.

Red-footed Falcon *Falco vesperlinus* (100, 157, 13)

Dorset Lodmoor, first-year ♂, 8th May (C. E. Richards); ♀, 8th to 11th May (G. Clark, D. C. Gilbert, C. E. Richards); adult ♂, 24th May (D. C. Gilbert).

Essex Old Hall Marshes, immature ♂, 2nd to 5th June (M. Coath, Dr S. Cox, C. J. Mackenzie-Grieve).

Hertfordshire Amwell, Ware, ♀, 9th September (B. Reed).

Kent Dungeness, ♂, 30th May (P. J. Grant).

Lincolnshire Tetney, ♂, 10th May (P. N. Collin).

Norfolk Holme, ♀, 15th May (Mrs M. R. Clarke). Salthouse Heath, ♂, 17th May (D. H. Sadler).

Shetland Haroldswick, Unst, ♀, 1st to 4th June (P. G. Lansdown, M. C. Powell, R. J. Tulloch *et al.*).

Suffolk Foxhole Heath, Eriswell, immature ♀, 16th to 21st May (M. J. Grigson, J. H. Marchant *et al.*). Kessingland, ♂, 5th to 6th August (R. Straton).

(East Europe and south from Siberia) Also a female in Phoenix Park, Dublin, on 18th June. The spring influx was above average.

Crane *Grus grus* (many, 612, 26)

Cornwall Porthgwarra, five, 21st to 29th December, four remaining to 3rd January 1977 (H. P. K. Robinson, J. Thomas *et al.*). What were presumably the same five were seen at Mount's Bay, on 27th December (P. D. Round).



110. Cranes *Grus grus*, Cornwall, December 1976 (J. B. and S. Bottomley)

East Sussex near Crowborough, 16th April (J. W. Houghton).

Gloucestershire Aylburton, 2nd April (J. M. Fleming, J. D. Sanders).

Highland Insh Marshes, Badenoch and Strathspey, 15th April (A. Clunas, J. G. Robertson). Thurso/Loch Calder, Caithness, four, 24th to 30th October (G. G. Bates, Mrs P. M. Collett *et al.*).

Humberside Spurn, three, 29th October (G. E. Dobbs, P. Piringer *et al.*).

Lothian Tynningame, 18th April (E. S. and S. R. D. da Prato). Near North Berwick, five, 1st to 14th November (A. Brown, S. R. D. da Prato *et al.*).

Norfolk Holkham, two, 29th October (Mr and Mrs G. Douglas).

South Yorkshire Bentley, Doncaster, 14th to 16th April (P. Greaves, D. Page, K. Pearson).

(North and central Eurasia, locally south to Turkey) Also singles at Kilcolman Wildfowl Refuge, Co. Cork, from 31st August to 2nd September and at Ballymacoda, Co. Cork, on 9th September (and an additional record of one at Lough Owel, Co. Westmeath, on 18th February 1975). An unusually complex series of records, indicating at least four in spring, at least ten in autumn (in three or four parties) and perhaps one wintering group moving south. The influx of 1975 is promptly eclipsed.

Little Crane *Porzana parva* (68, 22, 1)

Nottinghamshire Attenborough, 6th to at least 27th November (A. Dobbs, N. Hayes, T. C. W. Larkin *et al.*).

(Central and east Europe and west Asia) The regular observers at Attenborough deserve congratulations upon their second consecutive discovery of a lingering migrant or wintering Little Crane. November records now total six out of 23 since 1958.

Sociable Plover *Vanellus gregarius* (5, 9, 2)

Cambridgeshire Fen Ditton, immature, 17th October to 2nd November (P. Brown, C. A. E. Kirtland *et al.*).

Essex Hanningfield Reservoir, adult, 24th to 27th October (D. L. Acfield, J. Miller *et al.*).

(Southeast Russia and west-central Asia) This beautiful plover has been occurring more frequently since 1968. In winter, some migrate southwest to the Nile Valley and it may be that it is this community that yields our vagrants.

Killdeer *Charadrius vociferus* (9, 12, 3)

Avon Chew Valley Lake, 17th January (K. E. Vinicombe *et al.*).

Scilly Samson, 30th March to 7th April (D. B. Hunt, P. Z. Mackenzie).

Tyne and Wear East Boldon, 31st March to 9th April (T. I. Mills *et al.*).

(North America, West Indies, Peru to Chile) The seasonal scatter is less unusual than the high total of three apparently separate birds in one year. Winter and early spring records are typical.

Lesser Golden Plover *Pluvialis dominica* (6, 33, 3)

Cornwall Stithians Reservoir, 14th to 15th September (T. Bond, J. Hawkey).

Norfolk Breydon Water, 8th to 17th June (P. R. Allard *et al.*).

Scilly St Mary's, 29th July to 17th August (P. Allsopp, D. B. Hunt, P. Parker).

(Arctic North America and northeast Asia) With one in mid summer and one in early autumn, it seems possible that vagrants from previous seasons are now migrating north-south in western Europe.

Long-billed Dowitcher *Limnodromus scolopaceus* (9, 23, 3)

Cornwall Trcweege Barton, Stithians, 22nd to 30th September (G. Jackson, P. A. Maker, B. K. Mellow *et al.*).

North Yorkshire Stavelcy Lagoon, Knaresborough, 23rd May (R. Evison). John O'Gaunt's Reservoir, 30th August to 11th September (M. F. Brown, J. R. Mather *et al.*); probably the same bird, Farnham gravel pits, Knaresborough, 4th October to 7th November (R. Evison, A. F. G. Walker *et al.*).

(North America and northeast Siberia) Once again, none in Ireland.

Since 1973, the spread of autumn records has noticeably widened to 24th July to 16th November.

Dowitcher *Limnodromus scolopaceus* or *L. griseus* (31, 96, 4)

Gwent Collister Pill, Undy, 29th August (G. D. and M. G. Kelsey *et al.*).
(North America and northeast Siberia).

Stilt Sandpiper *Micropalama himantopus* (1, 10, 1)

Shetland Garth's Loch, Scatness, 11th to 18th September (R. A. Butler, D. Coutts, D. R. Waugh *et al.*).

(North America) Farther north than any previous records of this species.

Great Snipe *Gallinago media* (180, 36, 7)

Cleveland Cowpen Marsh, 21st August (E. C. Gatenby). Hartlepool, 23rd September (M. A. Blick, W. E. Fletcher, G. Iceton).

Norfolk Hardley Flood, 25th to 28th May (J. C. Eaton, D. J. Holman *et al.*). Blakeney Point, 28th August (C. D. R. Heard, S. J. M. Gantlett, T. Lawrence *et al.*). Salthouse, immature, shot, 18th September (*per* D. J. Holman). Holkham, 26th September (G. J. Jobson, S. C. Joyner, N. Williams).

Northumberland Shitlington Common, immature, shot, 2nd October (C. G. Barnett *per* B. Little).

(Northeast Europe and northwest Asia) Seven in one year (a fifth of the total in the previous 17 years) sets a new level of occurrence for this species. Two papers by D. I. M. Wallace discussing its separation from Snipe *Gallinago gallinago* have been published recently (*Brit. Birds* 69: 377-383 and 70: 283-289). The second is an essential reference, containing useful flight photographs and notes on the migration of Great Snipe in northwest Europe.

Upland Sandpiper *Bartramia longicauda* (15, 15, 1)

Dorset Portland Bill, 15th September (J. H. Blackburn, A. Keatley, I. S. Robertson *et al.*).

(North America) The date is typical, but the species normally reaches no farther east than Scilly or Cornwall.

Spotted Sandpiper *Tringa macularia* (6, 23, 4)

Dorset Christchurch Harbour, 7th to 14th May (C. I. Husband, P. N. Prior, D. N. Smith *et al.*).

Lothian North Berwick, 30th May (J. Fenton).

Scilly St Mary's, two, 9th to 26th October, at least one remaining until 2nd November (G. P. Green, T. A. Guyatt, R. A. Hume *et al.*).

(North America) Two spring records raised expectations, but the Highland breeding pair (of 1975) did not return.

Lesser Yellowlegs *Tringa flavipes* (35, 86, 6)

Devon Exe estuary, 20th to 24th April (R. F. Moore *et al.*).

Dorset Stanpit Marsh, 16th to 31st October (M. L. Opie, P. N. Prior, D. N. Smith *et al.*).

Hampshire Keyhaven, 9th October (M. C. and P. Combridge, M. A. Stewart *et al.*).

Lincolnshire Huttoft Pit, 25th July to 5th August (K. Atkin *et al.*).

Shetland Loch of Tingwall, Mainland, 6th to 13th August (K. Derrett, P. Ewins, R. W. Furness).



III. Lesser Yellowlegs *Tringa flavipes*,
Dorset, October 1976 (*M. King and M. Read*)



III. Lesser Yellowlegs *Tringa flavipes*,
Lincolnshire, July/August 1976 (*Keith Atkin*)

Tyne and Wear Barmston Ponds, Washington, 17th to 25th August (J. E. Perfit, G. Tuthill *et al.*).

(North America) A typical showing, but, in this year, against the general trend of Nearctic wader occurrences. Three of the records may have involved individuals that had crossed the Atlantic in previous years.

Marsh Sandpiper *Tringa stagnatilis* (12, 9, 1)

Hampshire Farlington Marsh, 27th to 28th June (M. W. Ball, D. F. Billett).

(Southeast Europe and west and east Asia) Only the second in June. For a wader that regularly moves southwest across eastern Europe, this remains an oddly rare visitor to Britain.

Least Sandpiper *Calidris minutilla* (6, 14, 1)

Kent Sandwich Bay, 24th October (D. C. Gilbert).

(North America) Just the latest ever. The temporal association with the next two species should be noted.

Baird's Sandpiper *Calidris bairdii* (5, 53, 3)**Dyfed** Towyn Point, 17th October (E. J. Smith).**Lancashire** Hesketh Bank, Ribble estuary, 20th October (M. Jones).

(North America and extreme northeast Siberia) Also one at Bannow Bay, Co. Wexford, on 19th August.

White-rumped Sandpiper *Calidris fuscicollis* (24, 108, 5)**Gloucestershire** Frampton-on-Severn, 14th November (J. B. O. and Mrs K. M. Rossetti, N. A. and Mrs L. A. Tucker).**Humberside** Killingholme, 26th to 27th July (G. P. Catley, D. A. Robinson *et al.*).**Somerset** Cheddar Reservoir, 9th to 16th August (B. Rabbitts *et al.*).(North America) Also singles at Lissagriffin, Co. Cork, on 1st and 2nd October, and at Akeragh Lough, Co. Kerry, on 16th and 17th October. The two early autumn records are noteworthy. Was the Humberside bird the same as that which passed through that county in mid July 1975 (*Brit. Birds* 69: 337)?**Sharp-tailed Sandpiper** *Calidris acuminata* (5, 8, 1)**Surrey** Staines Reservoir, adult, 6th August (R. J. and Mrs S. M. Johns. E. T. Welland).

(Northeast Siberia) This once very rare wader appeared for the fourth consecutive year. The last adult was in 1963.

Buff-breasted Sandpiper *Tryngites subruficollis* (33, 204, 13)**Avon** Chew Valley Lake, 29th September to 6th October (P. J. Chadwick, N. A. and Mrs L. A. Tucker *et al.*).**Cheshire** Frodsham, 12th September (D. Allen, M. Arrowsmith, G. Woods *et al.*).**Dyfed** Gann, Dale, 18th September (T. A. W. Davis, K. J. S. Devonald, J. W. Donovan *et al.*).**Gwynedd** Bardsey, 26th to 28th September (R. Auger, C. Johnson, P. J. Roberts).**Hampshire** Farlington Marsh, 11th June (A. N. Williamson). Fawley, one trapped, 8th October (S. H. Sporne); another, unringed, 9th and 10th October (P. F. Fawkes, J. M. Jones, N. H. Pratt).**Orkney** Row Head, 25th to 26th June (C. J. Booth, P. Hope Jones).**Scilly** St Mary's, 4th to 5th September (D. G. H. Mills, N. R. Stocks *et al.*).**Somerset** Cheddar Reservoir, 20th to 31st August (H. R. H. Lance, B. Rabbitts *et al.*).

(North America) Also three in Ireland: two at North Bull, Co. Dublin, from 30th September to 3rd October and on 6th and 7th October, and one on the North Slob, Co. Wexford, on 7th October. With two late records in this report, the total of British and Irish occurrences in 1975 goes to 67. The 13 here look thin by comparison, yet they still constitute the sixth biggest influx on record. There have been 107 in the last four years.

Broad-billed Sandpiper *Limicola falcinellus* (23, 27, 1)**Gloucestershire** New Grounds, Slimbridge, 6th to 9th May and 2nd June (L. P. Alder, M. Nugent, M. Smart).

(North Eurasia) Another spring record extends the run of regular occurrences at that season to five years.

Wilson's Phalarope *Phalaropus tricolor* (1, 73, 2)**Gloucestershire** Frampton Pools, 2nd September (R. D. Beale).

(North America) Also one at Lough Beg, Co. Cork, on 4th and 5th September. These last two Nearctic waders bring the total (excluding

Pectoral Sandpipers *Calidris melanotos* and Lesser Golden Plovers *Pluvialis dominica* in the year under review to 43 compared with 109 in 1975.

Collared Pratincole *Glareola pratincola* (31, 17, 3)

Cornwall Stithians Reservoir, 4th July (S. C. Hutchings, B. King).

Kent Worth, 19th September to 3rd October (R. Garnier, P. D. Howe, J. van der Dol *et al.*).

North Yorkshire Fairburn Ings, 28th June (S. C. Madge, C. Winn).

(South Europe, southwest Asia and Africa) It would have been surprising if the fine summer had not produced this species.

Black-winged Pratincole *Glareola nordmanni* (5, 9, 1)

Berkshire Manor Farm sewage-farm, Reading, 5th to 9th August (P. A. Dukes, C. L. Goodfellow *et al.*).

(South Russia and west Asia) The ninth in August. This species has now occurred in three consecutive years. It may be noted that it is partly sympatric with the Glossy Ibis *Plegadis falcinellus*.

Long-tailed Skua *Stercorarius longicaudus* (not known, not known, 109)

Avon Chew Valley Lake, 19th June (R. M. Curber *et al.*).

Cleveland Hartlepool, adult, 28th August; three, adults, 2nd September (T. Francis, P. J. Stead *et al.*); adult, 4th September (M. A. Blick *et al.*). Seaton Common, immature, found sick, 18th September, died on 21st (M. A. Blick). Redcar, immature, found sick, 22nd September, released on 28th (M. A. Blick).

Devon Dawlish Warren, 11th September (C. Bennett, F. D. Holmes *et al.*).

Grampian Kinnaird Head, Fraserburgh, four, 1st September; four, 2nd September (D. I. M. Wallace). Fraserburgh, seven, 2nd September; one, 8th September (M. J. H. Cook).

Gwynedd Cymyran beach, Valley, found dead, 16th May (J. Lunn, R. Palethorpe, M. Trubridge *et al.*).

Humberside Spurn, adult, 7th August (J. M. Turton); two adults, 27th August (B. Banson, M.A. and Mrs J. M. Hollingworth); immature (C. R. Linfoot) and adult, 28th August (G. G. Williams *et al.*); immature, 26th September (G. P. Catley *et al.*). Flamborough Head, two, 3rd September (D. I. M. Wallace); three, 4th September (P. A. Lassey, Miss I. Smith, D. I. M. Wallace); four, two adults and two immatures, 11th September (P. A. Lassey, D. I. M. Wallace); two, 15th September (D. I. M. Wallace). Bridlington-Flamborough, at least 14, 25th September (P. A. Lassey, Miss I. Smith, D. I. M. Wallace). Bridlington, 26th September (D. I. M. Wallace); adult, 1st October (P. A. Lassey, Miss I. Smith); immature, 18th October (D. I. M. Wallace). Hornsea, two adults, 12th and 25th September (S. M. Lister).

Kent Dungeness, 2nd May (D. L. Davenport *et al.*); 10th May (R. Harding, D. M. Norman, K. Thomas *et al.*); 15th May (T. Loseby, N. Riddiford, C. J. Stratford *et al.*). Sandwich Bay, immature, found dead, 24th September (T. A. Wyatt).

Lincolnshire Huttoft, adult, 4th August (K. Atkin, M. Mellor). Saltfleetby, adult, 2nd September (M. Mellor); adult, 5th September (G. P. Catley *et al.*); three adults, 9th September (R. H. Higgins, C. L. Ottoway); four adults, 12th September (G. P. Catley, D. A. Robinson, D. Wilson); immature, 17th September (K. Atkin). Donna Nook, two, immature and adult, 10th September (R. Lorand).

Lothian Musselburgh, 25th September (Dr L. L. J. Vick). Barns Ness, adult, 26th September (F. D. and Mrs K. C. Hamilton, I. R. Hamilton).

Norfolk Blakeney Point, adult, 30th August (S. J. M. Gantlett, C. D. R. Heard *et al.*); adult, 12th September (A. J. Last); adult, 13th September (P. N. Collin). Salthouse, adult, 2nd September (R. J. Fairbank, A. V. Moon, N. J. Redman).

Northumberland Seaton Sluice, adult, 27th July (P. Mawson, K. Robson, K. Walton); two adults, 31st July, two immatures, 25th September (J. R. Park, K. Walton, H. Wilson).

North Yorkshire Scarborough, immature, 28th August (R. H. Appleby). Filey Brigg,

four adults, 31st August (Miss A. Foster, J. Whitehead); adult, 9th October (P. Doherty, V. A. Lister, J. Whitehead).

Orkney Sands Water, Floy, 20th June (D. Lea). Fibla Fiold, Mainland, adult, 21st July (D. B. Thexton).

Scilly Trésco, two immatures, 7th October (D. I. M. Wallace).

Shetland Fair Isle, immature, 9th July (R. A. Broad, J. Pettersson, A. M. Taylor *et al.*); a different immature, 14th July (A. M. Taylor); a third immature, 15th to 18th July (R. A. Broad, J. Pettersson, A. M. Taylor).

Tyne and Wear Whitburn, Sunderland, 31st July (T. I. Mills).

South Yorkshire Wath Ings, adult, 2nd September (R. Hirst, D. Pearce, J. M. Turton *et al.*).

Western Isles Minch, east of Harris, three, 22nd May (D. L. Davenport, P. J. Oliver).

(North Europe and west Siberia) Also one off Clogher Head, Co. Louth, on 4th May. There was an average of only 17 per year during the period 1958-67 (*Brit. Birds* 63: 17-23). So, thinking this species to be rare and knowing its identification to be tricky, the committee chose 1976 as the year to respond to a general call to assess and list its records. The result is an *embarras de richesse*: 109 (with several records still to come) in widespread spring and summer observations and an autumn passage unprecedented this century. The records will be fully analysed by Dr W. R. P. Bourne and D. I. M. Wallace in a forthcoming paper, but the sudden appearance of 39 in late August and early September is a striking feature.

Ring-billed Gull *Larus delawarensis* (0, 5, 4)

Dorset Radipole Lake, adult, 4th February (S. J. M. Gantlett); second-summer, 29th April (D. N. Arnold, D. J. Fisher, D. C. Gilbert *et al.*).

Grampian River Ythan, Newburgh, second-winter, 14th February (R. H. Hogg).

West Glamorgan Blackpill, the adult recorded from 17th November 1975 (*Brit. Birds* 69: 340) was last seen on 16th April; second-year, 27th to 30th March (P. G. Lansdown); another second-year, 12th to 14th April (P. G. and Mrs C. M. Lansdown).

(North America) The south Wales monopoly of this gull was broken at last and the dispersion of the other records (the first for England and Scotland) points to the strong possibility of more discoveries to come.

Ross's Gull *Rhodostethia rosea* (2, 13, 5)

Cleveland Hartlepool, adult, 7th May (T. Francis, G. Icton).

Highland Thurso, Caithness, adult, 26th January (S. Laybourne *et al.*).

North Yorkshire Scarborough, adult, 27th to 30th March and 22nd to 28th April (R. H. Appleby, J. Seeviour *et al.*), probably the same bird as that in Tyne and Wear.

Strathclyde Frenchman's Rocks, Islay, immature, 15th August (K. Verrall).

Tyne and Wear South Shields, adult, 9th to 11th April (F. G. Grey, J. Strowger), probably the same bird as that in North Yorkshire.

Western Isles Monach Islands, adult, 14th May (N. Brown).

(Northeast Siberia) Formerly to most birdwatchers an almost mythical phantom, this beautiful small gull now seems bent on becoming an annual and increasingly widespread vagrant. It is no longer confined mainly to winter like the Ivory Gull *Pagophila eburnea*, and may appear in any month.

White-winged Black Tern *Chlidonias leucopterus* (50, 257, 29)

Cleveland Coatham marsh, Redcar, adult, 26th to 30th May (D. J. Britton *et al.*).

Cornwall Hayle estuary, adult, 18th July (P. A. Maker, B. K. Mellow, L. P. Williams).

Derbyshire Ogston Reservoir, adult, 30th August (T. Sexey, K. Smith, M. E. Taylor).

Dorset Radipole Lake, adult, 23rd May (D. C. Gilbert, D. T. Ireland *et al.*). Christchurch Harbour, immature, 9th to 26th October (P. N. Prior, D. N. Smith *et al.*).

Dyfed Llysyfran Reservoir, adult, 16th to at least 26th October (J. W. Donovan, T. C. E. Hughes *et al.*).

Essex Hanningfield Reservoir, immature, 22nd to 25th August (P. M. Griggs, J. Miller, J. T. Smith *et al.*).

Humberside Flamborough Head, immature, 25th September (P. A. Lassey, Miss I. Smith).

Kent Dungeness, adult, 1st July (A. R. Pickup); immature, 30th to 31st August (N. Riddiford, M. J. Sinden *et al.*). Bough Beech Reservoir, immature, 26th to 30th October (G. J. A. Burton, D. R. Hodge).

Leicestershire Rutland Water, immature, 2nd to 5th September (T. P. Appleton *et al.*). Eye Brook Reservoir, immature, 25th September (K. Allsopp, R. E. Cox *et al.*).

Leicestershire/Northamptonshire Stanford Reservoir, adult, 24th May (R. Ratcliffe).

Mid Glamorgan Kenfig Pool, immature, 22nd and 24th August (P. G. Lansdown, M. C. Powell *et al.*).

Norfolk Cley, adult, 14th June (J. B. Kemp).

North Yorkshire Fairburn Ings, immature, 17th September (P. Hurt, C. Winn).

Somerset Kingsmoor, adult, 9th to 11th October (A. J. Bundy *et al.*).

Staffordshire Cannock Reservoir, immature, 27th September to 4th October (D. A. Diskin, R. A. Hume *et al.*).

Suffolk Minsmere, adult, 13th June (R. Berry, J. Sorensen *et al.*); immature, 14th to 20th August (G. J. Jobson, A. Lakinski, J. Sorensen); a different immature, 28th August (P. G. Lansdown).

(Southeast Europe, west and east Asia) Also seven in Ireland: one, Ballycotton, Co. Cork, 23rd May; three together, Tacumshin, Co. Wexford, 18th August; one, Bann Estuary, Co. Derry, 24th August; one, Skerries, Co. Dublin, 19th September; and one, Ballycotton, Co. Cork, 30th October. The autumn influx, no doubt influenced by the fine European summer, rivals those of 1968 and 1970.

Whiskered Tern *Chlidonias hybrida* (20, 37, 5)

Clwyd Shotton, adult, 5th July (E. J. Abraham).

Humberside Tophill Low Reservoir, adult, 26th to 27th May (I. Corbett, B. G. Pepper, P. W. Izzard).

Kent Dungeness, adult, 28th May to 7th June (D. L. Davenport, P. J. Grant, N. Riddiford *et al.*).

Somerset Cheddar Reservoir, adult, 23rd September to 4th October (B. Rabbits, J. B. O. Rossetti *et al.*).

Warwickshire Draycote Reservoir, adult, 24th May (P. Finden, D. I. Porter). Bodymoor Heath gravel pits, adult, probably the same bird, 25th May (B. L. Kington).

(South Eurasia, northwest, east and south Africa, and Australia) The largest influx since 1970.

Gull-billed Tern *Gelochelidon nilotica* (53, 124, 6)

Dorset Lodmoor, 27th April (D. C. Gilbert). Portland Bill, 12th May (N. R. Rogers).

Humberside Spurn, 11th July (J. Cudworth, C. Massingham, B. S. Pashby *et al.*). Flamborough Head, immature, 25th September (D. I. M. Wallace).

Merseyside Red Rocks, Hoylelake, adult, 2nd to 4th August (E. J. Abraham, J. Jones, D. Woodward).

Suffolk North Warren, 28th May (D. Mower).

(Denmark, south Europe, south Asia, northwest Africa, Australia and America) A return to expected form. The migratory context of the Flamborough bird was of particular interest: it occurred among a remarkably diverse movement of seabirds, notably containing four tubenoses, all four skuas, 49 Little Gulls *Larus minutus*, a Sabine's Gull *L. sabini*, three *Sterna* terns, 13 Black Terns *Chlidonias niger* and one White-winged

Black Tern *C. leucopterus*, all streaming out to sea from the confines of Bridlington Bay.

Caspian Tern *Hydroprogne caspia* (30, 81, 9)

Bedfordshire Harrold gravel pits, adult, 18th July (D. Woodhead).

Derbyshire Drakelow Reserve, adult, 10th October (T. Cockburn).

Gloucestershire Frampton Pools, adult, 9th July (P. Stoddard).

Kent Dover, adult, 6th May (P. W. J. Findley). Dungeness, adult, 18th May (T. Loseby, N. Riddiford, Miss E. Round *et al.*).

Leicestershire Eye Brook Reservoir, adult, 30th July (Miss J. Ironside, D. R. Willett).

North Yorkshire Eccup Reservoir, adult, 3rd July (I. H. Dillingham, S. P. Singleton, E. C. Sterne).

Nottinghamshire Besthorpe gravel pits, adult, 2nd July (M. J. Warren).

Warwickshire Draycote Reservoir, adult, 23rd June (T. W. and O. L. Lancaster).

(Cosmopolitan except for South America, but everywhere local) A total of nine in one year has been exceeded only twice before. There has been only one previous October record.

Sooty Tern *Sterna fuscata* (16, 6, 1)

Suffolk Minsmere, adult, 3rd August (R. Berry, J. Sorensen, G. Welch *et al.*).

(Tropical and subtropical islands in all oceans, also Red Sea) The first since 1971 of this truly oceanic species. The date is typical. (It may be noted here that the total of 50 rare terns reaching Britain and Ireland in 1976 was large, exceeding even that of 1970.)

Yellow-billed Cuckoo *Coccyzus americanus* (22, 10, 1)

Hampshire Pennington Marsh, 6th November (D. R. Bishop, Mr and Mrs P. S. Keane).

(North America) The last American landbird of the year, and typically late.

Scops Owl *Otus scops* (64, 9, 1)

Scilly St Mary's, 5th to 14th April (D. B. Hunt, D. P. Milstead, S. Rogers *et al.*).

(Southern Europe, across Asia to Japan, northwest Africa) Two points of departure for this bird suggest themselves: Morocco or northwest Spain. We also learn of an Irish record: one calling at Lisnarrick, Co. Fermanagh, on 18th June 1974.

Snowy Owl *Nyctea scandiaca* (many, 145, 9)

Gwent Abergavenny, 28th January (J. D. P. Graham): a date in the same week (Mr and Mrs Bishop).

Shetland Fetlar, ♀, 12th February; maximum five ♀♀, 19th April; one to three ♀♀ all May; two ♀♀ in July and up to 16th August; three ♀♀ 17th August to 8th November (R. J. Tulloch *et al.*); no breeding occurred (no ♂ present). Mainland. Lunning, 23rd to 27th April (per R. J. Tulloch); Pettawater, late June (per P. K. Kinnear). Unst, 14th July (per P. F. Bonham).

(Circumpolar Arctic) A disappointing halt to the run of successful breeding in Shetland.

Nighthawk *Chordeiles minor* (3, 2, 2)

Scilly St Mary's, ♀, found dead, 14th October (D. B. Hunt, R. Symons); another ♀, found dead, 25th October (M. P. Edgecombe, A. Roberts *et al.*).

(North America) Two sad occurrences, but perhaps inevitable for a species with such specialised feeding habits.

Alpine Swift *Apus melba* (150, 113, 8)**Cambridgeshire** Huntingdon, 22nd June (A. H. Pulsford).**Devon** Exeter, 28th May (P. J. Dolton). Lundy, 23rd August (M. Darlaston, M. Rogers *et al.*).**Essex** The Naze, 9th October (J. M. Hurley, D. Sampson *et al.*).**Gwynedd** near Aberdaron, 23rd September (R. A. Hughes).**North Yorkshire** Scarborough, 14th June (Mrs J. Webb); 18th to 20th September (M. Francis, F. A. Whitford *et al.*).

(South Eurasia, northwest and east Africa) Also one at Old Head of Kinsale, Co. Cork, 26th September. An above-average showing.

Bee-eater *Merops apiaster* (154, 91, 2)**Buckinghamshire** Buckingham, 8th May (C. Emary).**Dorset** Portland Bill, 11th May (N. R. Rogers *et al.*).

(South Europe, southwest Asia, northwest and South Africa) There was none in 1975, but these are typical spring records of this beautiful bird.

Roller *Coracias garrulus* (135, 46, 8)**Avon** Kenn Moor, Clevedon, 16th August (A. Biddulph).**Cornwall** Lanlivery, Bodmin, 1st to 2nd July (J. H. Fanshawe, Mr Wakeham *et al.*).**Essex** Beaumont, Clacton-on-Sea, 16th to 22nd June (D. G. Day *et al.*).**East Sussex** Friston Forest, 12th July (A. J. Cooke).**Norfolk** Hilborough, 20th July (T. Andrewartha). Upton, Acle, 4th October (A. J. Dunn).

113. Roller *Coracias garrulus*, Norfolk, July 1976 (T. Andrewartha)

Strathclyde Largs, 13th to 16th June when it died (D. and Mrs N. Munro, A. Menarry).

(South and east Europe, west Asia and northwest Africa) Also one at Castlederg, Co. Tyrone, from 11th to 24th July. Eight is a good showing, perhaps the most in any year ever (and exceeding the previous known peak of six in 1970). For four to be in July is unusual, and points again to the effect of the fine summer on avian vagrancy.

Bimaculated Lark *Melanocorypha bimaculata* (0, 2, 1)**Shetland** Fair Isle, 8th June (R. A. Broad, W. E. Fletcher, S. M. Whitehouse *et al.*).

(Caucasus and southwest Asia) The second in spring.

Short-toed Lark *Calandrella cinerea* (40, 130, 8)

Gwynedd Llanfairfechan, 24th October to 3rd November (F. A. Clements, C. R. Linfoot, K. E. Vinicombe).

Northumberland Holy Island, 10th to 17th October (J. A. Ginnever, E. R. Meek, R. Smith *et al.*).

Scilly St Mary's, 15th to 21st October (A. D. J. Cook, A. R. Dean, H. Mitchell *et al.*): 20th to 28th October (P. A. Maker, B. K. Mellow *et al.*).

Shetland Out Skerries, 15th to 22nd May, two on 20th to 21st (A. R. Lowe, W. E. Oddie). Fair Isle, 25th to 28th May (R. A. Broad, W. E. Fletcher, A. M. Taylor *et al.*): 21st to 23rd September (R. A. Broad, C. D. R. Heard, H. Nash *et al.*).

(South Eurasia, north and east Africa) A return to average numbers (although one wonders just how many more were in the Shetland archipelago in May).

Red-rumped Swallow *Hirundo daurica* (7, 34, 5)

Kent Dungeness, 9th May (D. H. Payne *et al.*).

North Yorkshire Scarborough, 10th May (M. Francis).

Scilly St Mary's, 30th May to 1st June (D. B. Hunt, P. A. Maker).

Shetland Fair Isle, 9th to 11th May (R. A. Broad, W. E. Fletcher, A. M. Taylor *et al.*): 3rd June (M. J. Ainscough, R. A. Broad, M. Jones *et al.*).

(South and east Eurasia, and Africa) There is only one previous record for Scotland.

Nutcracker *Nucifraga caryocatactes* (45, 347, 1)

Lincolnshire Donna Nook, 12th September (S. Lorand).

(Mountains of southeast and central Europe, southern Fenno-Scandia, across Asia to Kamchatka and China) This record and a late one for 1975 followed two blank years.

Siberian Thrush *Turdus sibiricus* (1, 0, 1)

Hampshire Alice Holt Forest, ♂, 28th December (P. W. Kent).

(Central and eastern Siberia, through northern Manchuria to Japan) So, there are now three fortunate people who have seen this beautiful species in Britain. The first one, on the Isle of May in October 1954, was also an adult male. How many females or immatures have been missed?

Black-throated Thrush *Turdus ruficollis* (2, 3, 1)

Norfolk Coltishall, 21st February to 3rd April (Dr R. M. Leancy *et al.*).

(Central Asia) Coltishall is only 45 km southeast of Holkham, where an immature was present from 21st to 24th October 1975. This is the fourth winter record.



114. Black-throated Thrush *Turdus ruficollis*, Norfolk, February 1976 (Keith Atkin)

American Robin *Turdus migratorius* (11, 10, 1)**Scilly** St Agnes, 17th to 30th October (P. J. Grant, R. A. Humc, N. J. Redman *et al.*).

(North America) The date is atypically early: most have been seen from November to February. This is the first of 22 Nearctic passerines to grace this report.

White's Thrush *Zoothera dauma* (29, 7, 1)**North Yorkshire** Felixkirk, Thirsk, 18th to 19th December (B. Lavery).

(Central, east and southeast Asia and Australia) This thrush, of which there have been four records here since 1971, has the nasty habit of usually being found by only one fortunate observer at a time!

Olive-backed Thrush *Hylocichla ustulata* (1, 2, 1)**Kent** Sandwich Bay, trapped, 27th October (J. Brown, S. Tessier, J. van der Dol *et al.*).

(North America) The third in October and the farthest east in Britain so far. For a species that passes abundantly along the Atlantic coast of North America, its great rarity here compared with the next species is rather surprising.

Grey-cheeked Thrush *Hylocichla minima* (1, 7, 5)**Cornwall** Porthgwarra, 16th to 20th October (W. R. Hirst *et al.*).

115. Grey-cheeked Thrush *Hylocichla minima*, Cornwall, October 1976 (J. B. and S. Bottomley)

Scilly St Mary's, 14th to 23rd October; with a second, 15th to 19th October (A. R. Dean, S. M. Whitehouse *et al.*); a third elsewhere, 15th to 17th October (E. Griffiths *et al.*). Fresco, 21st October (T. A. Walsh *et al.*).

(North America) The first multiple arrival of an American thrush in Europe, indicating a sizeable eastward displacement of a migrant population. This is the most regular of the *Hylocichla* thrushes, having first appeared in 1953 and always in late autumn.

Desert Wheatear *Oenanthe deserti* (11, 8, 1)

Scilly St Agnes, ♂, 23rd to 30th March (D. B. Hunt, Mrs R. P. Poynton *et al.*).

(Deserts of north Africa, northwest Arabia, and east to Mongolia) This is the first for western Britain. No previous record has been in March.

Stonechat *Saxicola torquata* (2, 14, 1)

Shetland Fair Isle, a bird showing the characters of one or the other of the eastern races *S. t. maura* or *stejnegeri*, colloquially known as Siberian Stonechats, 27th September to 7th October (R. A. Broad, C. D. R. Heard, A. R. Lowe *et al.*).

(Eastwards from northeast Russia) A paper by Iain S. Robertson, discussing the identification of these distinctive races and reviewing past records, has been published recently (*Brit. Birds* 70: 237-245). This one coincided with a widespread fall of Asiatic passerines.

Red-flanked Bluetail *Tarsiger cyanurus* (3, 3, 1)

Fife Fife Ness, 28th October (R. W. Byrne, J. B. Reid).

(Northeast Europe, across Asia to Japan) The latest, and the first time the species has appeared two years running.

Redstart *Phoenicurus phoenicurus* (0, 1, 1)

Fife Fife Ness, ♂, showing the characters of the race *P.p. samamisiicus*, colloquially known as Ehrenberg's Redstart, 23rd September (R. W. Byrne).

(South Russia, through Asia Minor to Iran) After the first in 1975, suddenly the second, leading the September procession of Asiatic passerines.

Thrush Nightingale *Luscinia luscinia* (2, 26, 2)

Gwynedd Bardsey, immature, found dead, 20th September (K. Baker).

Shetland Out Skerries, 19th May (A. R. Lowe, W. E. Oddie).

(Scandinavia, east Europe and west Asia) The spring one continues the run of 18 spring occurrences since 1970. The September individual was the first for Wales and the most westerly ever.

Cetti's Warbler *Cettia cetti* (0, 254, 125)

Cornwall Skewjack, Porthgwarra, ♂, 4th April to 20th June (P. A. Maker, B. K. Mellow *et al.*). Porthgwarra, 13th November (W. R. Hirst, H. P. K. Robinson).

Devon Slapton Ley, present throughout the year, up to five singing in April, two to three pairs may have bred; pair with five well-fledged juveniles, 13th June; four trapped in July and two trapped in August; at least eight heard in December (*per* P. W. Ellicott). Exe reed-beds, ♂, 27th November to at least 30th January 1977 (F. R. Smith).

Dorset Worth Matravers, two, trapped, 30th September (D. Chandler, M. Smith, L. Weller *et al.*); another, trapped, 10th October (A. Landler, Col. E. D. V. Prendergast, T. Squire). Radipole Lake, 13th September (B. E. Slade); ♂, 4th October to 22nd November (D. T. Ireland *et al.*). West Bexington, ♂, 30th October to 18th November, a second ♂, 13th to 18th November (C. Cook). Christchurch Harbour, ♂, 31st October to end of the year; another, 15th November (Dr R. G. Mayall, P. N. Prior *et al.*).

East Sussex Litlington, ♂, 19th June to 10th July, ♀, 8th to 16th October, trapped on 8th (P. J. Wilson). Another locality, ♂, 19th June (C. M. and P. James). Beachy Head.

immature, trapped, 19th October (J. F. Cooper, D. A. Parmenter, J. B. Whitby).

Essex Southern locality, two ♂♂, 15th April to 8th June (observer's name withheld). Another locality in the south of the county, trapped, 10th October; retrapped on 21st November and 26th December (observers' names withheld).

Gwynedd Locality withheld, ♂, 11th to 18th December (K. E. Vinicombe).

Hampshire Twyford, 13th to 19th June, trapped on 19th (M. F. Gibbons, H. Insley).

Hertfordshire River Colne, the ♀ trapped on 14th December 1975 (*Brit. Birds* 69: 347) remained until at least 9th January (N. R. Jones *et al.*). Stanborough, ♂, 1st May, two 8th to 27th May, one remaining until 10th August (K. Derrett, T. W. Gladwin *et al.*).

Kent Stodmarsh, recorded almost daily throughout the year; at least ten singing ♂♂ in the breeding season, one pair and nest with eggs on 16th May; two pairs carrying food (P. J. Mountford). Hothfield Lake, one or two singing ♂♂, 29th February (P. J. Grant). Langley, 26th February to 16th April (R. G. Bland, D. W. Taylor). A locality in the Stour Valley, seven trapped between 28th March and 3rd July (observers' names withheld); three pairs with newly fledged young in early July (D. M. Bachelor). Witham, ♂, 5th May to end of year (A. Henderson). Another locality in the Stour Valley, 20 trapped between 23rd May and 21st November (observers' names withheld). A locality west of Sandwich, trapped, 31st October (observers' names withheld). Dungeness, ♀, trapped, 1st October (A. J. Greenland, N. Riddiford). Mote Park, Maidstone, December 31st (R. G. Bland, D. W. Taylor). Not all of the breeding records mentioned here were included in the paper by W. G. Harvey (*Brit. Birds* 70: 89-96).

Norfolk Strumpshaw Fen, six singing in the breeding season, one pair bred and five others may have done so, ten singing in November. Rockland Broad, two singing most of the year, including in the breeding season. Wheatfen, three singing in breeding season, five singing in November. Surlingham, five singing in the breeding season (per G. E. Dunmore). Hardley Flood, ♂, 10th to end of October (J. C. Eaton). Burgh Castle Marshes, two, one singing, 31st May (A. G. Hall).

Norfolk/Suffolk near Beccles, ♂, 30th April to 9th June (B. J. Brown, D. R. Moore *et al.*).

Somerset Dunster Beach, trapped, 27th November (W. J. Webber).

Suffolk near Lowestoft, ♂, 26th April to 6th May (R. S. Briggs, B. J. Brown, D. R. Moore *et al.*). Minsmere, ♂, 9th November to 13th December (F. K. Cobb, G. J. Jobson, J. Sorensen *et al.*).

West Sussex near Chichester, ♂, 12th to 25th December (Miss J. V. Stacey *et al.*).

(South and west Europe, southwest Asia and northwest Africa) The invasion continues apace. With breeding numbers increasing and 'pioneers' still pushing out in autumn, this robust warbler now leaves our list of subject species (*Brit. Birds* 70: 307). We do urge, however, that all records are still sent to the relevant local recorders and, through them, to the Rare Breeding Birds Panel.

Lanceolated Warbler *Locustella lanceolata* (9, 10, 2)

Shetland Fair Isle, immature, trapped, 14th September (R. A. Broad, A. Heath, A. M. Taylor *et al.*); immature, trapped, 17th September (R. A. Broad, C. D. R. Heard *et al.*).

(East Eurasia from central Russia to north Japan) Two more records from the grass tufts of Fair Isle. There were only nine in all time up to 1957, three in 1960 and 1961, and none between 1962 and 1971. Since 1972, this species has, however, occurred in four out of five years, during which time there have been nine.

Savi's Warbler *Locustella luscinioides* (many, 160, 13)

Hampshire Locality withheld, ♂, 27th May to 5th June (observers' names withheld).

Kent Stodmarsh, singing ♂, 9th April, subsequently at least two singing, one pair believed to have bred successfully, one ♂ believed to have remained unmated (P. J. Mountford *et al.*). Fordwich, ♂, 12th June (S. Perry); probably the same bird, 6th July (D. B. Rosair).

Lincolnshire Saltfleetby, 5th to 7th September (G. P. Catley, D. A. Robinson *et al.*).
Norfolk Hickling Broad, ♂, 9th May (A. D. Boote). The Broads (exact locality withheld), ♂, 24th May (Dr C. J. Cadbury, J. C. U. Day). Hardley Flood, ♂, 29th to 31st May and 3rd June (G. E. Dunmore, J. C. Eaton, J. Goldsmith *et al.*). Holkham, 13th October (G. P. Catley).

Suffolk Locality withheld, ♂, 25th to 26th May, another 27th May, both remaining to 7th June (observer's name withheld).

Warwickshire Locality withheld, ♂, 14th to 19th July (A. R. M. Blake, G. R. and Mrs J. V. Harrison *et al.*).

(Europe, west and central Asia and northwest Africa) Suddenly, after two lean years, the 'brown reeler' reappeared in six counties.

Pallas's Grasshopper Warbler *Locustella certhiola* (3, 0, 1)

Shetland Fair Isle, immature, 20th to 24th September, trapped on 20th (R. A. Broad, J. Hall *et al.*).

(Western Siberia and central Asia to Japan) After a gap of 20 years, the rarest British *Locustella* reappeared at last.

Great Reed Warbler *Acrocephalus arundinaceus* (23, 70, 7)

Devon Exe estuary, ♂, 26th May (F. R. Smith, D. C. Tucker *et al.*).

Gwynedd Bardsey, 28th to 29th May, trapped on 28th (C. F. Carter, L. J. Davenport, P. J. Roberts).

Lincolnshire Chapel St Leonards, ♂, 23rd May to end of June, nearby on 11th July and 26th to 28th July (K. Atkin, P. Espin, T. A. Guyatt *et al.*).

North Yorkshire near Scarborough, 16th May (R. H. Appleby).

Nottinghamshire Bulcote, 19th August (A. and Mrs H. Dobbs).

Shetland Out Skerries, found dead, 21st May (A. R. Lowe, W. E. Oddie).

Suffolk North Warren, ♂, 13th June (D. Green, D. Mower).

(Europe, southwest and east Asia, north Africa) Another pronounced return by a southern warbler. Only in 1969 were there more.

Aquatic Warbler *Acrocephalus paludicola* (47, 333, 78)

Avon Chew Valley Lake, 16th August (P. R. Baber).

Cornwall Long Rock, Marazion, seven immatures and one adult trapped: one on 11th August, one on 13th, three on 15th, one on 16th, two on 24th (B. Pattenden). Marazion Marsh, at least three, 12th to 31st August; one, 13th September; two, 22nd September; one, 26th September (E. Griffiths, W. R. Hirst, V. R. Tucker *et al.*); 25th October (Mrs L. A. Tucker); probably some duplication. Hayle estuary, 16th August (W. R. Hirst, L. P. Williams). Stithians Reservoir, 18th August (B. K. Mellow, P. A. Maker *et al.*); 20th August (A. Frudd, P. Harrison *et al.*); three immatures trapped, 21st August (A. Frudd, P. Harrison *et al.*); 22nd August (R. Butts *et al.*); two immatures, trapped, 23rd August (A. Frudd, P. Harrison *et al.*); two, 24th August (A. P. Goddard); two immatures and one adult trapped, 26th August (A. Frudd, P. Harrison *et al.*); two, 27th August (A. P. Goddard); three, all unringed, 28th to 29th August (E. Griffiths, V. R. Tucker *et al.*); three, 1st September (R. Butts *et al.*). Porthgwarra, immature, 13th September (H. P. K. Robinson).

Derbyshire Clay Mills, immature, 20th to 26th August, trapped on 21st (R. S. and R. Beale, D. Budworth *et al.*).

Devon Slapton Ley, three immatures trapped, 14th, 15th, 18th August (D. and M. L. Elphick, A. K. Searle *et al.*). Countess Wear, immature, trapped, 19th August (F. R. Smith). Instow, 26th August (Mr and Mrs R. Turner). Torcross, 30th September (A. K. Searle). Dawlish Warren, 2nd October (Mr and Mrs J. Woodland).

Dorset Lodmoor, 26th August (M. Cade). Portland Bill, immature, 28th to 29th August, trapped on 28th (N. A. Lakin, P. J. Powell, I. S. Robertson *et al.*).

Essex Bradwell, 29th August, trapped on 30th (D. Carr, M. Harris, G. Smith *et al.*).

Gwynedd Bardsey, 13th to 15th August (M. A. Allen, A. Driver, D. J. Gower).

Hertfordshire Wilstone Reservoir, 18th September (Mrs M. C. Tout).

Humberside Spurn, 22nd to 24th September, trapped on 22nd (G. Neal, B. R. Spence *et al.*).

Kent Cliffe, 9th August (L. F. and S. L. Woollard).

Merseyside Red Rocks, Hoylake, 28th August to 4th September (E. J. Abraham, A. Adams, D. Woodward *et al.*).

Mid Glamorgan Kenfig Pool, 13th August (P. G. Lansdown).

Norfolk Blakeney Point, 14th August (J. Kemp *et al.*); 22nd August (Mrs E. M. P. Stanford *et al.*); 30th August (S. Harrap, G. K. Richards); 26th September (M. S. Chapman *et al.*). Cley, 15th to 23rd August (D. Foster, D. J. Holman, R. A. Richardson *et al.*).

Powys Llangorse Lake, immature trapped, 12th August (M. V. Preece, M. Pugh *et al.*); immature trapped, 24th August (M. V. Preece, G. R. Redden); immature trapped, 26th September (M. V. Preece, P. D. Rose *et al.*).

Scilly Tresco, 30th September to 2nd October, two on 1st October (T. E. Bond, I. K. Dawson, D. G. H. Mills *et al.*).

Shetland Fair Isle, immature trapped, 19th August (R. A. Broad, J. Pettersson, A. M. Taylor *et al.*); immature trapped, 20th August (R. A. Broad, J. Pettersson *et al.*).

Somerset Bridgwater Bay, adult trapped, 10th August, one adult, one immature trapped, 11th August; eight immatures trapped: one on 13th, one on 14th, two on 17th, one on 18th, one on 24th, two on 25th August (A. W. Evans). Steart, two, 30th August (A. Bundy, D. E. Paull). Berrow, 5th September (B. E. Slade).

South Glamorgan East Aberthaw, 7th August (D. C. Palmer).

Suffolk Minsmere, 13th August (S. Gale, B. Reed *et al.*). Thorpeness, 28th August (F. K. Cobb). Benacre, 28th August (J. R. Read).

(East Europe and Urals) Also singles on Cape Clear Island, Co. Cork, on 29th to 30th September and 11th to 12th October. An avalanche of 78 birds; the passage of 1972 (59 birds) is eclipsed. At least ten records came from localities north and west of its normal beat along the south coast of England: these suggest an unusually vigorous movement.

Booted Warbler *Hippolais caligata* (1, 4, 1)

Shetland Fair Isle, immature, 25th August to 2nd September, trapped on 25th August (R. A. Broad, P. Kennerley, R. O'Reilly *et al.*).



116. Immature Booted Warbler *Hippolais caligata*, Shetland, October 1976 (R. A. Broad)

(Northwest and central Russia, east across southwest Siberia and south to Iran and Afghanistan) The rarest of its genus to be recorded in Britain, with only five previous records and none since 1968. Past northern records have all been in late August and early September.

Sardinian Warbler *Sylvia melanocephala* (1, 4, 1)

East Sussex Beachy Head, ♂, 23rd August to at least 30th October (D. M. F. Cooper *et al.*).

(South Europe, Middle East and north Africa) The second in autumn.

Subalpine Warbler *Sylvia cantillans* (12, 47, 7)**Dyfed** Skokholm, ♂, trapped, 7th June (M. de L. Brooke *et al.*).**Kent** Darrick Wood, Orpington, ♂, 9th May (Dr R. J. Chandler, D. J. Montier *et al.*).
Dungeness, adult ♀, trapped, 31st October (J. R. H. Clements, N. Riddiford).**Lincolnshire** Tetney, ♂, trapped, 14th May (P. N. Collin, A. Grieve).**North Yorkshire** Scarborough, 23rd September (M. Francis, F. A. Whitford).**Northumberland** Low Hauxley, ♂, trapped, 1st to 6th May (J. A. Ginnever, M. Natrass *et al.*).**Shetland** Fair Isle, ♂, trapped, 1st June (R. A. Broad, R. A. Richardson *et al.*).

(South Europe, west Turkey and northwest Africa) Another good showing of a species that has been noticeably more regular since 1966.

Fan-tailed Warbler *Cisticola juncidis* (0, 1, 1)**Norfolk** Cley, 24th August (J. N. Dymond). Holme, 29th August to 3th September (J. Campton, O. Marks, I. Moore *et al.*). These two records probably relate to the same individual.

(Mediterranean area, west and north France, also Africa and south Asia to Australia) Those who work hard for this committee sometimes get rewarded. Nick Dymond's delight at finding the first British *Cisticola* was properly unbounded. The likelihood of its becoming a regular visitor and even a breeding species has been discussed recently by I. J. Ferguson-Lees and Dr J. T. R. Sharrock (*Brit. Birds* 70: 152-159). One reached Ireland in April 1962 (*Brit. Birds* 65: 501-510).

Greenish Warbler *Phylloscopus trochiloides* (13, 90, 10)**Dyfed** Skokholm, immature, trapped, 31st August (M. de L. Brooke, R. P. Burgess *et al.*).**Fife** Fife Ness, 18th September (R. W. Byrne, M. Foley).**Lincolnshire** Anderby Creek, immature, trapped, 14th August (M. Frettingham, G. P. Shaw). Saltfleetby, 22nd August (G. P. Catley, D. A. Robinson). Donna Nook, 23rd August (S. Lorand).**Norfolk** Blakeney Point, 14th August (P. A. Dukes *et al.*). Wells, 21st to 22nd August (T. Boltwood, G. J. Hinchon, E. Thompson *et al.*). Holme, 29th August to 3rd September, trapped on 29th August (P. R. Clarke *et al.*).**North Yorkshire** Filey Brigg, 29th August (I. Corbett, Miss A. Foster, J. Whitehead *et al.*).**Tyne and Wear** Tynemouth, 29th to 30th August (B. Galloway, R. G. Lewis, M. Natrass).

(Eurasia east from northeast Germany) Ten, all in autumn, is quite exceptional, recalling the widespread occurrences in 1968. Late August is the peak period for arrivals of this species.

Bonelli's Warbler *Phylloscopus bonelli* (3, 41, 8)**Devon** Lundy, trapped, 9th April (I. G. Black, M. and Mrs W. Rogers).**Dorset** Portland Bill, immature, 13th August to 3rd September, trapped 14th August (N. Marshall, I. S. and Mrs S. Robertson *et al.*).**Humber-side** Spurn, ♂, 30th May (G. E. Dobbs, M. A. Hollingworth *et al.*).**Kent** Dungeness, 4th September (R. J. Burness, J. R. H. Clements, N. Riddiford *et al.*).**Norfolk** Holkham, 5th September (Z. Karpowicz, C. Mason, K. V. Pritchard).**Scilly** St Mary's, 4th September (L. J. Degnan, M. G. Ibbotson, N. R. Stocks *et al.*); 2nd to 25th October (P. J. Grant, M. J. Rogers *et al.*).**Wight** Binstead, 21st August (S. L. Woollard).

(Central, west and south Europe, Levant and northwest Africa) 1976 becomes the best year ever for this sometimes tricky species (see *Brit. Birds* 70: 296-297 for useful notes by P. J. Grant).

Arctic Warbler *Phylloscopus borealis* (19, 64, 4)**Lincolnshire** Gibraltar Point, 19th to 27th September (Mrs F. Evans, J. P. Shaughnessy).**Norfolk** Holme, 14th to 19th October (P. R. Clarke *et al.*).**Shetland** Out Skerries, 27th September (B. S. Barnacal, D. L. Clugston).

(North Fenno-Scandia east to Alaska) Also one on Cape Clear Island, Co. Cork, on 27th September. This was only the fourth for Ireland. An above-average showing of this robust *Phylloscopus*. A trend to later autumn occurrences is now obvious.

Pallas's Warbler *Phylloscopus proregulus* (3, 87, 16)**Fife** Isle of May, 15th October (G. W. and R. Follows, M. Oakley *et al.*); 27th October (B. Zonfrillo).**Highland** Wick, Caithness, 18th to 19th October (K. Banks).**Humberside** Spurn, 23rd to 24th October, trapped on 23rd (B. Banson, B. R. Spence, I. D. Walker *et al.*); 25th October, trapped (B. Banson, J. E. Herbert, B. R. Spence *et al.*). Kilnsea, 7th to 8th November (A. Butler, J. Cudworth, B. R. Spence *et al.*).**Kent** Shellness, 30th October (Miss N. J. Bentley, R. V. White).**Lincolnshire** Saltfleet, 26th October (K. Atkin, S. Lorand); a different bird, 29th to 31st October, trapped on 30th (K. Atkin, R. and S. Lorand *et al.*). Donna Nook, 2nd November (S. Lorand).**Norfolk** Wells, 29th to 31st October (S. C. Joyner *et al.*). Cley, 31st October (G. Dixon, S. A. Webb *et al.*). Sheringham, 31st October to 1st November, trapped on 31st October (D. H. Sadler, Dr M. P. Taylor).**Northumberland** Bamburgh, trapped, 16th October (J. A. and R. McCutcheon).**Shetland** Grutness, 27th September (M. R. Alibone, P. Ewins, P. K. Kinnear *et al.*). Lerwick, 24th to 25th October, when it died (D. Coutts, L. Dalzeil, J. Tulloch).

(Central, east and southeast Asia) Up to 1958, there had been only three; since then, over 100 have appeared. It is now the commonest of the rare *Phylloscopus* warblers here. For 16 to come in a year of few Yellow-browed Warblers *P. inornatus* is a great puzzle. Has it expanded its range westwards?

Dusky Warbler *Phylloscopus fuscatus* (1, 18, 4)**Borders** St Abb's, 26th September (A. Brown, R. H. Hogg, R. W. J. Smith *et al.*).**Humberside** Flamborough Head, 26th September to 4th October, trapped on 26th September (P. A. Lassey, Miss I. Smith, D. I. M. Wallacc *et al.*).**Kent** Grain Moat, 30th October (L. F. and S. L. Woollard).**Scilly** St Agnes, 11th to 16th October (J. A. Hazell, R. A. Hume, E. G. Phillips *et al.*).

(Central and northeast to southeast Asia) This species has appeared in all but three years since 1964; before then, there were only two records.

Radde's Warbler *Phylloscopus schwarzi* (1, 16, 4)**Dorset** St Alban's Head, trapped, 10th October (R. Burt, Col. E. D. V. Prendergast, T. Squire *et al.*).**Norfolk** Waxham, 26th September (J. Whitelegg).**Northumberland** Holy Island, 3rd October (A. Blackett, T. R. Palmer, R. Walton *et al.*).**Tyne and Wear** Marsden, 19th October (C. Freeman, F. G. Grey, L. Rimmer).

(Central and east Asia) A best-ever showing, including the earliest ever, which arrived simultaneously with two Dusky Warblers *P. fuscatus*.

Collared Flycatcher *Ficedula albicollis* (2, 5, 1)**Shetland** Out Skerries, ♀, 25th May (A. R. Lowe).

(Central and southeast Europe, west Russia and south to Iran) Another,

on the same isle, and seen by the same observer, 377 days after the last. Snap!

Alpine Accentor *Prunella collaris* (29, 2, 1)

Kent Dungeness, 8th May (C. D. Abrams, P. J. Grant, N. Riddiford *et al.*).

(Mountains of central and southern Europe and Morocco, east to Japan) After a late record for 1975 (only the second since 1958), came another. This species used to be much more regular, but modern rarity hunting has not shown it to be anything but an exceptional vagrant.

Richard's Pipit *Anthus novaeseelandiae* (135, about 700, 22)

Cambridgeshire Waterbeach gravel pits, 22nd November (C. A. E. Kirtland).

Dorset Portland Bill, 19th April (N. Cleeve).

Gwynedd Bardsey, 30th September (M. Ellis).

Kent Sandwich Bay, 3rd October (P. W. J. Findley, M. R. Lawn, R. J. Martin *et al.*).

Lincolnshire Saltfleetby, 9th October (H. Bunn, M. Tartelin, D. Wilson); 16th to 17th October (K. Atkin, H. Bunn, M. Mellor).

Norfolk Weybourne, 29th September (D. A. Burkett); 2nd October (R. and S. C. Ludford).

Northumberland Holy Island, 26th September (R. Crabb, W. Hills, L. G. Macfarlane).

Silly St Agnes, 1st October (E. Griffiths). St Mary's, 1st to 12th October (B. D. Harding *et al.*); 17th November (R. W. Allen). Bryher, 2nd October (R. E. Emmett, D. I. M. Wallace). Tresco, 29th October to 3rd November (R. H. Charlwood, J. Dagleish, P. A. Dukes).

Shetland Fair Isle, probably at least five individuals, 23rd September, 25th September to 11th October and 15th October (R. A. Broad, C. D. R. Heard, P. Kemmerley *et al.*). Out Skerries, 25th September, another 29th September to 3rd October (D. L. Clugston *et al.*).

Somerset Berrow, 17th October (B. E. Slade).

(West Siberia east to Manchuria and southeast to New Zealand, also Africa) This is the first year since 1970 for which records of this bulky pipit have been assessed and listed nationally by the committee. The total of 22, all but one in autumn, shows that it is still occurring frequently, but not at the average level of about 110 recorded in the four years 1967-70. Then, it outnumbered the Tawny Pipit *A. campestris* by four to one.

Tawny Pipit *Anthus campestris* (120, 316, 26)

Dorset Hengistbury Head, 23rd August, another, 26th August (P. N. Prior, D. N. Smith). Portland Bill, two, 24th August (D. J. Brotheridge, K. M. Godfrey, P. James *et al.*).

East Sussex Beachy Head, 2nd September, another, 20th September (R. H. and Mrs M. E. Charlwood).

Fife Isle of May, 1st July (J. Parrott).

Hampshire Andover, 16th October (G. H. Johnson).

Kent Sandwich Bay, 16th May (M. A. Allen). Dungeness, 16th September (N. Riddiford). Bough Beech Reservoir, 4th to 6th November (J. R. East, G. J. A. Burton, D. R. Hodge).

Merseyside Red Rocks, Hoylake, 17th October (E. J. Abraham, D. Woodward).

Norfolk Blakeney Point, 25th August (F. K. Cobb, D. J. Pearson *et al.*); 30th October (P. Feekes, S. C. Joyner, N. Williams). Winterton, 27th September (M. J. Inskip). West Runton, 26th to 31st October (M. P. Lee *et al.*).

Silly St Mary's, up to three, 24th September to 15th October, one remaining until 29th October (per D. B. Hunt, H. P. K. Robinson). St Agnes, 27th September (E. Griffiths).

Shetland Fair Isle, 5th to 6th May (R. A. Broad, C. J. Hall, S. W. Holmes *et al.*); 17th and 23rd May (R. A. Broad, Mrs V. Macfarland, A. M. Taylor *et al.*).

Tyne and Wear Whitburn, 17th September (R. Akam, I. Boundy, W. L. Rimmer *et al.*).

(Europe, south Asia and northwest Africa) Also three in Ireland: Old Head of Kinsale, Co. Cork, 24th September, and one, then two, on Cape Clear Island, Co. Cork, from 25th and 26th to 30th. A good showing, no doubt partly provoked by the fine summer. Between 1958 and 1967, the annual average was nine (seven to 16); since then it has been 25 (15 to 36).

Olive-backed Pipit *Anthus hodgsoni* (0, 6, 3)

Norfolk Holkham, 31st October to 4th November (T. P. Inskipp *et al.*).

Scilly Tresco, 20th to 21st October (W. E. Fletcher, C. A. Harbard, R. A. Hume *et al.*).

Shetland Fair Isle, 13th to 22nd October, trapped on 13th (R. A. Broad, S. D. G. Cook, A. R. Lowe *et al.*).



117. Olive - backed Pipit *Anthus hodgsoni*, Shetland, October 1976 (R. A. Broad)

(Northeast Russia to central and east Asia) After one in each of the three previous years, three came in 18 days. It may be noted that the localities concerned are three of the most persistently searched in autumn.

Pechora Pipit *Anthus gustavi* (13, 8, 1)

Shetland Fair Isle, immature, 17th to 25th September, trapped on 19th (R. A. Broad, C. D. R. Heard, G. Walbridge *et al.*).

(Northeast Russia, across Siberia to Bering Strait) The earliest ever.



118. Immature Pechora Pipit *Anthus gustavi*, Shetland, September 1976 (J. R. East)

Red-throated Pipit *Anthus cervinus* (30, 72, 10)

Cleveland Coatham Marsh, Redcar, 16th to 17th May (D. J. Britton *et al.*); another, 18th May (D. J. Britton).

Devon Lundy, 20th April (I. G. Black, M. Rogers *et al.*).

Scilly St Mary's, 2nd October (A. J. L. Smith *et al.*). Tresco, 27th October (P. A. and Mrs S. C. Gregory, G. P. Green).

Shetland Fair Isle, trapped, 7th June (R. A. Broad, W. E. Fletcher, A. M. Taylor *et al.*); another, 10th to 14th June (R. A. Broad, W. E. Fletcher, S. Whitehouse *et al.*); 17th to 23rd September (R. A. Broad, G. Walbridge *et al.*). Out Skerries, 25th to 26th September, another 1st to 3rd October (D. L. Clugston *et al.*).

(Arctic Eurasia) Another good showing at both seasons.

Citrine Wagtail *Motacilla citreola* (2, 20, 2)

Essex Locality withheld, ♂ feeding four young wagtails, 4th to 24th July (Dr S. Cox, Mr and Mrs H. Huggins, T. P. Inskipp *et al.*).

Shetland Fair Isle, immature, 22nd to 26th September (R. A. Broad, A. M. Taylor, S. M. Whitehouse *et al.*).

(Northeast and east Russia, west Siberia and west and central Asia)

Full details of the events in Essex will be published as soon as possible.

Yellow Wagtail *Motacilla flava* (3, 7, 1)

Gwynedd Bardsey, adult ♂, showing the characters of the distinctive subspecies *M. f. feldegg*, colloquially known as Black-headed Wagtail, 8th May (P. J. Roberts, D. G. Thomas *et al.*).

(Balkans, south Russia and Asia Minor to Afghanistan) Only the 11th ever.

Lesser Grey Shrike *Lanius minor* (32, 64, 4)

Humberside Hornsea Mere, 23rd May (R. G. Hawley, I. G. Howard).

Kent Wye, adult, 20th September (C. R. Ireland).

Norfolk Cley, adult, 5th to 6th September (J. H. W. Ridley *et al.*).

Scilly St Mary's, 28th May (R. P. Bowman).

(South and east Europe and southwest Asia) An above-average appearance, but more could have been expected in spring.

Woodchat Shrike *Lanius senator* (101, 228, 14)

Buckinghamshire Little Marlow, 16th May (N. Boreham).

Dyfed Skokholm, ♀, trapped, 3rd June (M. de L. Brooke, J. R. Lawman, J. Shand *et al.*). This bird was seen and trapped at Walberswick on 20th and 21st June (see below).

East Sussex Beachy Head, immature, 22nd August (J. F. Cooper, D. A. Parmenter); immature, 16th October (J. F. Cooper, F. R. Lambert, C. F. Winyard *et al.*).

Fife Isle of May, immature, trapped, 21st September (N. G. Campbell, D. Hope, A. J. Stevenson *et al.*).

Gwynedd Tonfanau/Tywyn, 25th June (E. R. Pugh). Bardsey, immature, 26th August (R. C. Auger, D. P. Chalmers, D. J. Gower *et al.*).

Kent Dungeness, 28th May (N. Riddiford *et al.*); immature, 8th September (F. W. Lockwood, K. Thomas).

Scilly St Agnes, ♀, 30th May to 6th June (P. A. Maker). St Mary's, immature, 27th September to 10th October (D. G. H. Mills *et al.*).

Suffolk Walberswick, 20th to 21st June (B. D. Harding, C. Waller, J. M. Woolnough *et al.*). When trapped, this bird proved to be the individual ringed on Skokholm, Dyfed, on 3rd June (see above).

West Sussex Runcton, Chichester, immature, 11th to 25th September (C. R. Janman *et al.*). Pagham Harbour, immature, 24th October to 2nd November (C. R. Janman, V. R. Leclercq, A. Robson *et al.*).

(West, central and south Europe, southwest Asia and north Africa) Also an immature at Hook Head, Co. Wexford, from 23rd to 25th August. A below-average appearance and, like the last species, more in autumn than in spring. The Dyfed and Suffolk occurrences provide a fascinating demonstration of successful reorientation.

Red-backed Shrike *Lanius collurio* (1, 6, 1)

(South Asia, across to China) One, showing the characteristics of one of the *isabellinus* group of red-tailed shrikes, on Cape Clear Island, Co. Cork, on 20th August. Two records in Britain are currently being examined by the committee.

Rose-coloured Starling *Sturnus roseus* (160, 83, 2)

Highland Halkirk, Thurso, Caithness, adult, 27th June (Mrs P. M. Collett, S. Paul *et al.*).

Kent Northward Hill, adult, 22nd May (M. Christmas, F. J. Marlborough).

(Southeast Europe and southwest Asia) A poor showing, especially in comparison with the record 13 in 1975.

Myrtle Warbler *Dendroica coronata* (1, 3, 2)

Man Calf of Man, 26th October (R. J. Haycock, M. Sutherland).

(North America) Also one on Cape Clear Island, Co. Cork, from 7th to 9th October, when found killed. The Irish bird is the earliest ever. This delightfully aerobatic bird usually comes late. Two in one year is unprecedented, but they manage to look scarce compared with the procession of the next species!

Blackpoll Warbler *Dendroica striata* (0, 4, 10)

Devon Prawle Point, 18th to 29th September, trapped on 20th (R. Andrew, J. H. Horobin, D. M. Norman *et al.*).

Gwynedd Bardsey, 7th to 9th October, trapped on 9th (P. J. Roberts, J. van der Dol, K. Walkling *et al.*).

Scilly St Mary's, two, 4th to 13th October, one remaining until 23rd (D. J. Holman, A. J. L. Smith, D. I. M. Wallace *et al.*); a different individual, 14th October (R. J. Fairbank, A. V. Moon). St. Agnes, two or three, 7th to 20th October (E. Griffiths, G. J. Jobson *et al.*). St Martin's, 9th October (T. Sibley, J. Williamson). Tresco, 20th October (C. L. Goodfellow), possibly the same bird, 2nd to 3rd November (S. G. D. Cook, N. J. Redman *et al.*).

(North America) Also one on Cape Clear Island, Co. Cork, from 6th to 10th October. An astonishing influx that more than trebles the sum of British and Irish occurrences and which was noticed over 300 km of latitude and 400 km of longitude throughout five autumn weeks. The one in September was the first in that month.

Bobolink *Dolichonyx oryzivorus* (0, 5, 1)

Scilly Tresco, 28th to 29th September (R. P. Bowman *et al.*).

(North America) A prompt return. There were two in 1975, but before that only three scattered singles, the first in 1962.

Arctic Redpoll *Acanthis hornemanni* (30, over 45, 4)

Essex Brentwood, sight record, 4th April (M. Wilson).

Humberside Brumby Common, Scunthorpe, ♂, trapped, 28th March (G. Thomas).

Norfolk Sheringham, two, 20th to 21st March, trapped on 21st (J. C. Marsham, K. B. Shepherd, Dr M. P. Taylor).

(Circumpolar Arctic) These may be seen as the aftermath of the autumn influx in 1975. That two should come from inland localities is noteworthy.

Serin *Serinus serinus* (76, 195, 18)

Dorset Portland Bill, ♀, 3rd April (G. Walbridge); ♀, 27th May (I. S. Robertson).

East Sussex Beachy Head, a pair, 24th May to 14th June, two, 19th October (R. H. and Mrs M. E. Charlwood).

Essex Lindford, ♂, 6th May (A. R. Adamcik).

Greater Manchester Chorlton-cum-Hardy, immature ♂, trapped, 26th August (J. S. Shakeshaft).

Humber-side Spurn, ♂, 4th to 5th May (B. R. Spence); a pair, 23rd May (J. Colmans).
Brumby Common, Scunthorpe, ♂, trapped, 12th August (G. Thomas *et al.*).

Kent Dungeness, 8th May (A. J. Greenland); ♀, 10th May (B. D. Harding, D. M. Norman, V. R. Tucker).

Merseyside Red Rocks, Hoylake, ♀, 26th April (E. J. Abraham, M. J. Parr, D. Woodward).

Norfolk Holme, ♂, 9th April, ♀, 24th May (P. R. Clarke).

Scilly St Mary's, one or two, 9th to 15th October (R. Butts, R. Grimmett, P. A. Maker *et al.*).

(West, central and southern Europe, Asia Minor and northwest Africa)
A good showing, with April and May records obvious. Let us hope that this delightful little finch will soon do what we want: settle down, breed and fill some of the southern English air with its many calls.

Scarlet Rosefinch *Carpodacus erythrinus* (over 200, 324, 25)

Cornwall Porthgwarra, ♀ or immature, 18th to 19th September (W. R. Hirst, H. P. K. Robinson *et al.*).

Devon Lundy, ♀ or immature, 1st and 11th June (Mrs L. V. Black).

Dorset Worth Matravers, ♀ or immature, trapped, 19th September (L. Weller *et al.*).

East Sussex Beachy Head, ♀ or immature, trapped, 21st October (J. F. Cooper, S. T. Greenwood, M. E. Nolan).

Northumberland Farne Islands, ♂, 29th to 30th May (D. Bishop, C. Watts); ♀ or immature, 17th September (J. Chester, C. Watts).
Low Hauxley, ♀ or immature, trapped, 12th September (E. R. Meek, A. Heavisides).

Scilly St Agnes, ♀ or immature, 5th to 9th October (R. J. Burness, P. A. Dukes, G. J. Jobson *et al.*).
St Mary's, ♀ or immature, 7th October (B. D. Harding); ♀ or immature, 23rd to 25th October (A. R. Dean, P. J. Grant, J. H. W. Ridley *et al.*).

Shetland Fair Isle, two, ♀ or immatures, 19th to 21st May, one remaining until 22nd; adult ♂, 7th June; ♀ or immature, trapped, 18th June; another ♀ or immature, trapped, 4th July; autumn records, all of ♀ or immatures, were: one or two daily, 15th to 21st August (at least three individuals involved); one, trapped, 14th to 16th September; two, 17th September, one remaining to 19th; a different bird, 20th September; one, 25th to 26th September (R. A. Broad *et al.*).
Fetlar, ♀ or immature, 22nd to 23rd September (C. I. Griffiths, T. D. Rogers).
Out Skerries, ♀ or immature, 26th to 28th September (D. L. Clugston *et al.*).

(East Europe and across Asia, and east Turkey to Himalayas) On Fair Isle, more in spring, but fewer in autumn than usual.

Pine Bunting *Emberiza leucocephala* (2, 2, 1)

Highland Golspie, Sutherland, 6th to 8th January (B. and R. D. Goater, N. Tucker *et al.*).

(Urals, across Asia to Sakhalin) Another isolated occurrence; the first in winter.

Black-headed Bunting *Emberiza melanocephala* (9, 33, 1)

Nottinghamshire Mansfield, ♂, from about 18th May to 14th June (Mrs E. Clark *et al.*). This bird was very tame, and there is the strong possibility of an escape from captivity.

(Southeast Europe and southwest Asia) This large bunting has missed only one year since 1962.

Yellow-breasted Bunting *Emberiza aureola* (10, 48, 6)

Fife Isle of May, immature, trapped, 30th August (G. L. Sandeman, Dr L. L. J. Vick); ♀ or immature, 18th September (N. G. Campbell, D. Hope).

Northumberland Farne Islands, ♀ or immature, 23rd August (D. Bishop, C. Watts); ♀ or immature, 16th September (J. Chester, C. Walker).

Shetland Fair Isle, ♀ or immature, 12th to 13th September (D. Bishop, J. and Mrs E. Watt *et al.*); ♀ or immature, 17th to 19th September (R. A. Broad, A. Heath *et al.*).



119. Female or immature Yellow-breasted Bunting *Emberiza aureola*, Shetland, September 1976 (J. Watt)

(Northeast Europe across north Asia) Six is more than usual for this increasingly obvious bunting, which was rare before 1963.

Rustic Bunting *Emberiza rustica* (34, 69, 7)

Cleveland Hartlepool, 17th to 18th September (T. Francis).

Dorset Portland Bill, 29th October (D. Buffery, G. Walbridge *et al.*).

Orkney North Ronaldsay, immature ♂, 1st to 7th October, trapped on 1st (J. M. B. King, D. Lea).

Scilly Tresco, 1st November (R. W. Allen).

Shetland Bressay, ♂, 18th May (Dr R. Mitchell, M. G. Richardson). Fair Isle, ♀, 24th to 26th May, trapped on 24th (D. Bell, R. A. Broad, W. E. Fletcher *et al.*). Sellafirth, Yell, ♂, 31st May to 1st June (I. Forsyth, J. Whitehead *et al.*).

(Northeast Europe across north Asia) Once again, a marked spring influx to Shetland and a wide scatter of autumn vagrants.

Little Bunting *Emberiza pusilla* (94, 104, 18)

Avon Chew Valley Lake, trapped, 4th January (A. R. Ashman, D. Buffery, R. Webber *et al.*).



120. Little Bunting *Emberiza pusilla*, Avon, January 1976 (Wendy Dickson)

- Cheshire** Sandbach, 11th April to 1st May (D. A. Grundy, J. P. Guest, S. Hind *et al.*).
Dorset Wick Hams, trapped, 1st May (C. I. Husband, J. H. Morgan, P. N. Prior *et al.*).
Durham Branksome, Darlington, 13th November (A. J. Wheeldon).
Highland Stirkoke, Caithness, 10th October (Mrs P. M. Collett, J. M. Gunn).
Humber-side Spurn, immature, 1st to 5th October, trapped on 1st (P. Flint, A. Goodwin, B. R. Spence *et al.*).
Man Calf of Man, immature, trapped, 28th October (R. J. Haycock, M. Sutherland).
Norfolk Cley, 27th September (M. J. Greenwood, S. J. Riley *et al.*).
Shetland Fair Isle, probably five different individuals, 17th to 27th September (M. Alibone, R. A. Broad, C. D. R. Heard *et al.*); another 1st to 14th October, two on 3rd to 8th (R. A. Broad, R. J. Johns, W. E. Oddie *et al.*). Out Skerries, 26th to 29th September, trapped on 27th, another 3rd October, two on 4th October (D. L. Clugston *et al.*).
Somerset Nether Stowey, Bridgwater, trapped, 19th February (A. W. Evans).
Suffolk Walberswick, 31st October (S. Abbott).

(Northeast Europe and north Asia) As in 1975, the occurrences of this small bunting were widespread. Perhaps even more significant were the three inland discoveries in late autumn and winter. These, with several old records in March and April, indicate that this species may occasionally winter in Britain.

Rufous-sided Towhee *Pipilo erythrophthalmus* (0, 2, 0)

Humber-side Spurn, the individual first noted on 5th September 1975 was last seen on 10th January (J. E. Dale, B. R. Spence *et al.*).

(North America)

Rose-breasted Grosbeak *Pheucticus ludovicianus* (1, 4, 2)

Essex Leigh on Sea, the immature ♂ first noted on 20th December 1975 (*Brit. Birds* 69: 359) was last seen on 4th January (Mr and Mrs A. M. Feather).

Scilly St Mary's, ♀, 16th to 31st October (A. R. Dean, R. A. Hume, B. P. Walker *et al.*). Treco, immature ♀, 20th to 26th October (B. Bland, N. J. Redman).



121. Female Rose-breasted Grosbeak *Pheucticus ludovicianus*. St Mary's, Isles of Scilly, October 1976 (K. C. Osborne)

(North America) The fifth, sixth and seventh records of this pear-shaped American.

Category D species accepted (1974, 1975 and 1976) (see *Brit. Birds* 64: 429)

White Pelican *Pelecanus onocrotalus* (not known, 0, 3)

Essex Hanningfield Reservoir, 6th July 1975 (S. H. Hudgell).

Humber-side River Humber, 16th July 1975 (D. I. M. Wallace *et al.*).

Kent Fordwich, 11th July 1975 (P. J. Grant).

(Southeast Europe, west and southeast Asia, and Africa) All adults and perhaps the same individual.

Palm Warbler *Dendroica palmarum* (0, 0, 1)

Cumbria Walney Island, adult ♂, remains found on tideline, 18th May 1976 (per J. Sheldon).

(North America)

Chestnut Bunting *Emberiza rutila* (0, 0, 1)

Shetland Foula, ♂, 9th to 13th June 1974 (B. L. and R. W. Furness, M. J. Wareing *et al.*).

(East Asia)

Amendment to 1961 records

Stonechat *Saxicola torquata* (2, 1, 1)

Shetland The Siberian Stonechat *S. t. maura/stejnegeri* on Fair Isle was present from 13th to 21st October, not 13th to 17th October as previously noted (*Brit. Birds* 68: 333).

Amendments to 1975 records

Black-browed Albatross *Diomedea melanophris* (2, 15, 1)

Shetland The adult first seen on 16th March was still present on 23rd August (D. J. Fisher).

Buzzard *Buteo buteo* (1, 0, 2)

Kent The individual showing characters of the distinctive subspecies *B. b. vulpinus* was present at Reculver from January 12th, not February 1st (Dr K. Hutton).

Crane *Grus grus* (many, 606, 6)

Cambridgeshire The Woodwalton Fen and Wickn Fen records have been reassessed and are now rejected.

White-rumped Sandpiper *Calidris fuscicollis* (24, 104, 4)

Humberside The bird at Welton waters remained until 15th July.

Alpine Swift *Apus melba* (150, 104, 9)

Kent The bird at Kingsgate Bay, Thanet, on 19th July was also seen on 20th. In addition, this record should be deleted from the list of 1975 records not accepted, where it was mistakenly included.

Supplementary 1966 record accepted

Wilson's Phalarope *Phalaropus tricolor* (1, 18, 2)

Cornwall Hayle Estuary, 4th September (E. Griffiths, S. C. Madge, L. P. Williams).

Supplementary 1970 records accepted

White-winged Black Tern *Chlidonias leucopterus* (50, 133, 36)

Clwyd (Flintshire) Shotton steelworks, 4th to 16th October (R. Birch, S. Lynch *et al.*).

Short-toed Treecreeper *Certhia brachydactyla* (0, 1, 1)

Humberside (Yorkshire) Hornsea, trapped, 26th October (C. Carter).

(Central and south Europe, Mediterranean and Asia Minor, north Africa) This is the first of the long-questioned but now-accepted records of the close relative of the Treecreeper *C. familiaris* listed in this report. Other records are still under examination. The essential reference for the

separation of the two species is the paper by C. J. Mead and D. I. M. Wallace (*Brit. Birds* 69: 117-131).

Supplementary 1971 record accepted

White-winged Black Tern *Chlidonias leucopterus* (50, 169, 20)

Cheshire Frodsham, 27th May (E. J. and R. J. Abraham, D. Woodward *et al.*).

Supplementary 1972 record accepted

Aquatic Warbler *Acrocephalus paludicola* (47, 160, 59)

West Sussex (Sussex) Chichester gravel pits, 3rd September (Dr A. B. Watson *et al.*).

Supplementary 1973 records accepted

White-winged Black Tern *Chlidonias leucopterus* (50, 201, 21)

Cheshire Weaver Bend, 23rd to 25th June (E. J. and R. J. Abraham, D. Woodward *et al.*).

Short-toed Treecreeper *Certhia brachydactyla* (0, 2, 1)

Kent Worth, trapped, 26th September (J. N. Hollyer).

Cetti's Warbler *Cettia cetti* (0, 26, 31)

Kent A site in the Stour valley, trapped, 31st March; three, trapped, 28th April (observers' names withheld).

Dusky Warbler *Phylloscopus fuscatus* (1, 13, 1)

Norfolk Wells, 7th October (S. J. M. Gantlett).

Serin *Serinus serinus* (76, 139, 18)

Humberside (Yorkshire) Thorngumbald, Hull, ♂, 19th May (the late G. E. McIntyre).

Supplementary 1974 records accepted

Gadfly petrel *Pterodroma* (1, 0, 1)

One, not specifically identified with certainty, but probably a Soft-plumaged Petrel *P. mollis*, off Cape Clear Island, Co. Cork, on 5th September, has been accepted by the Irish Records Panel (*Irish Bird Rep.* 23: 6). The only previous record of this genus in Britain and Ireland was a Capped Petrel *P. hasitata* caught on a heath near Swaffham, Norfolk, in March or April 1850.

Ring-necked Duck *Aythya collaris* (1, 15, 4)

Suffolk Homersfield gravel pit, a pair, 10th to 14th January (D. J. L. Max). The ♀ antedates an Irish record previously considered the first of that sex in Britain and Ireland.

Black-winged Stilt *Himantopus himantopus* (98, 55, 3)

Essex Cripplegate, Southminster, 14th September (R. D. Digby).

Gull-billed Tern *Gelochelidon nilotica* (53, 107, 14)

Dyfed Kidwelly Marsh, 16th September (E. J. Smith).

Short-toed Treecreeper *Certhia brachydactyla* (0, 3, 1)

Kent Sandwich Bay, trapped, 4th April (P. W. J. Findley, M. Sutherland).

Cetti's Warbler *Cettia cetti* (0, 57, 46)

Kent A site in the Stour valley, two, trapped, 29th September; another, trapped, 10th October; a fourth, trapped, 15th October (observers' names withheld).

Savi's Warbler *Locustella luscinioides* (many, 128, 18)

Kent A site in the north of the county, 23rd June (C. P. Carpenter *et al.*).

Great Reed Warbler *Acrocephalus arundinaceus* (23, 65, 2)

Shetland Noss, 14th June (P. K. Kinnear).

Subalpine Warbler *Sylvia cantillans* (12, 37, 4)

Man Langness, ♂, 17th May (J. and Mrs M. Kneen *et al.*).

Serin *Serinus serinus* (76, 157, 18)

Lincolnshire Donna Nook, 20th October (P. J. Wycherley).

Supplementary 1975 records accepted

The White-tailed Plover *Vanellus leucurus* (*Brit. Birds* 69: 334-335), Yellow-bellied Sapsucker *Sphyrapicus varius* (69: 343) and Tennessee Warbler *Vermivora peregrina* (69: 354) have now been accepted by the BOU Records Committee as full additions to the British and Irish list in category A.

White-billed Diver *Gavia adamsii* (18, 26, 1)

Lothian Gullane, 6th December (D. C. Jardine, W. Thom *et al.*).

Pied-billed Grebe *Podilymbus podiceps* (0, 3, 1)

Dumfries and Galloway Carlingwark Loch, Castle Douglas, 1st to 8th October (L. A. Urquhart, A. D. Watson *et al.*).

(North America) The first since 1968.

Cory's Shearwater *Calonectris diomedea* (a few, 1,551, 33)

Irish Sea Midway between Cork and Swansea, eight, 31st August (Mrs E. H. Green, E. G. Phillips).

Purple Heron *Ardea purpurea* (90, 165, 24)

Cleveland Cowpen Marsh, Teesmouth, 10th June (T. Francis).

Lancashire Leighton Moss, adult, 4th to 10th May (M. Jones *et al.*); immature, 8th and 14th June (J. Wilson *et al.*).

Norfolk Salthouse, 3rd November (J. B. Kemp); probably the same bird, Wells, 8th November (S. C. Joyner, N. Williams).

(South-central Eurasia, north to Netherlands, and Africa) These four bring the total for 1975 to 24, a number exceeded only in 1970.

Little Egret *Egretta garzella* (23, 183, 7)

Lancashire Leighton Moss, 15th to 18th June (M. Jones *et al.*).

White Stork *Ciconia ciconia* (70, 80, 10)

Hampshire Martyr Worthy, Winchester, 12th to 13th April (M. P. Dann, D. W. H. Fennell).

Black Stork *Ciconia nigra* (26, 7, 1)

Hampshire Farlington Marsh, 22nd August (K. Kearns *et al.*).

Glossy Ibis *Plegadis falcinellus* (many, 10, 3)

Cornwall Marazion Marsh and Hayle Estuary, 26th October to 3rd November (W. R. Hirst, R. D. Penhallurick, N. R. Phillips *et al.*).

American Wigeon *Anas americana* (22, 53, 7)

Mid Glamorgan Kenfig Pool, immature ♂, 19th October to 2nd November (R. Fairbank, K. L. Fox, P. G. Lansdown *et al.*).

Black Kite *Milvus migrans* (5, 11, 4)

Shetland Unst, 11th June (R. Kersley, F. J. Walker *et al.*).

Lesser Golden Plover *Pluvialis dominica* (6, 26, 7)

Dumfries and Galloway Caerlaverock, 23rd November to end of the year (A. Brown, R. H. Hogg *et al.*).

(Arctic North America and northeast Asia) The first record of one wintering.

Long-billed Dowitcher *Limnodromus scolopaceus* (9, 19, 4)

Hampshire Keyhaven Marshes, 20th to 28th September (G. H. Johnson, E. J. Wiseman *et al.*).

Great Snipe *Gallinago media* (180, 32, 4)

East Sussex Bodiam, immature ♀, shot, about 27th September (A. Kidd *per* Dr J. G. Harrison).

Lesser Yellowlegs *Tringa flavipes* (35, 78, 8)

Cornwall Calenick Creek, Truro, 1st and 19th to 22nd October (J. H. Fanshawe, B. K. Mellow *et al.*).

Western Isles Loch nam Buadh, Monach Isles, 29th September to 31st October (J. Harwood *et al.*).

Western Sandpiper *Calidris mauri* (1, 4, 1)

Cheshire Elton Hall Flash, Sandbach, 28th to 30th September (P. A. Flint, J. P. Guest *et al.*).

(North America) This remains by far the rarest of the small North American waders to reach Europe.

Buff-breasted Sandpiper *Tryngites subruficollis* (33, 137, 67)

Northumberland Cresswell Ponds, 31st August (M. S. Hodgson, Radcliffe, 13th September (S. E. Bird, B. Little, F. D. Middleton).

(North America) These two take the record total in 1975 to 67.

Laughing Gull *Larus atricilla* (2, 6, 3)

Northumberland Low Hauxley, two immatures, 30th August (B. Little, F. D. Middleton).

(North America) The first record of two together and of any on the North Sea coast.

White-winged Black Tern *Chlidonias leucopterus* (50, 235, 22)

Clwyd Shotton Steelworks, adult, 29th June (R. Birch *et al.*).

Devon Slapton Ley, adult, 4th October (A. C. Sawle, N. A. Wesley).

North Yorkshire Filey Brigg, adult, 3rd August (K. Dawson).

Gull-billed Tern *Gelochelidon nilotica* (53, 121, 3)

Kent Allhallows, 4th October (L. F. and S. L. Woollard).

Caspian Tern *Hydroprogne caspia* (30, 76, 5)

East Sussex Cuckmere Haven, 26th June (P. Brown).

Rufous Turtle Dove *Streptopelia orientalis* (2, 3, 2)**Humberside** Spurn, 8th November (A. Broome, M. A. Hollingworth, V. A. Lister *et al.*).**Lincolnshire** Donna Nook, 25th October (S. Lorand).

(Urals, east to Japan) Two apparently different birds take the total of late autumn records to five. The other two were in January and May.

Snowy Owl *Nyctea scandiaca* (many, 129, 16)**North Yorkshire** Lofthouse Moor, Pately Bridge, 15th June (P. J. Carlton).**Alpine Swift** *Apus melba* (150, 104, 9)**Greater London** Twickenham, 11th November (M. J. Wells).**Humberside** Hornsea Merc, 26th August (C. H. Wear).

(South Eurasia, northwest and east Africa) The Twickenham bird was the latest ever.

Roller *Coracias garrulus* (135, 43, 3)**Highland** Auehengill, Caithness, 5th to 7th September (G. G. Bates, A. F. C. M. Collett).**Short-toed Lark** *Calandrella cinerea* (40, 110, 20)**Devon** Higher Meteombe, trapped, 2nd October (G. H. Gush).**Nutcracker** *Nucifraga caryocatactes* (45, 346, 1)**Surrey** Seale, Farnham, about 10th to 12th October (Mr and Mrs N. V. Leathes).**Short-toed Treecreeper** *Certhia brachydactyla* (0, 4, 1)**Essex** Epping Forest, 26th May (M. K. Dennis).**Cetti's Warbler** *Cettia cetti* (0, 103, 151)**Hampshire** Locality withheld, trapped, 11th October; two others, 10th December, one at least remaining to 20th (observers' names withheld).**Kent** A site in the Stour valley, 25 trapped between 2nd February and 26th October (observers' names withheld).**Savi's Warbler** *Locustella luscinioides* (many, 146, 14)**Dorset** Arne, ♂, 20th to 22nd May (B. P. Piekess *et al.*).**Kent** Westbere, ♂, 26th April (A. V. Moon *et al.*).**Norfolk** The Broads, exact locality withheld, ♂, 31st July to 1st August (Dr C. J. and Mrs J. Cadbury, C. Haneock).**Great Reed Warbler** *Acrocephalus arundinaceus* (23, 67, 3)**Shetland** Unst, ♂, 8th June to 8th July (R. Diek, G. Gray).**Pallas's Warbler** *Phylloscopus proregulus* (3, 58, 29)**Shetland** Gott, 26th to 28th October (D. Coutts, A. Graham *et al.*).**Alpine Accentor** *Prunella collaris* (29, 1, 1)**Kent** Ramsgate, 7th May (B. Sutton). This record, previously rejected (*Brit. Birds* 69: 367), has been accepted after reconsideration of the details and circumstances.**Tawny Pipit** *Anthus campestris* (120, 301, 15)**Berkshire** Manor Farm sewage-farm, Reading, 26th September (J. E. Hunt).**Lincolnshire** Donna Nook, 8th and 17th May (R. Lorand).**Scilly** Tresco, 12th October (J. H. Marehant *et al.*).

Red-throated Pipit *Anthus cervinus* (30, 58, 14)

Humberside Hornsea Mere, 1st June (R. G. Hawley).

Citrine Wagtail *Motacilla citreola* (2, 18, 2)

Shetland Whalsay, 16th September (J. H. Simpson).

Arctic Redpoll *Acanthis hornemanni* (30, over 35, 10)

Lincolnshire Saltfleetby, two, sight record, 12th October (G. Catley, D. Robinson).

Norfolk Blakeney Point, sight record, 13th October (C. D. Ingram, R. W. Payne *et al.*).

(Circumpolar Arctic) Three more bring the 1975 total to ten. Apart from one on Fair Isle in mid November, all arrived within the six days from 9th October.

Serim *Serinus serinus* (76, 175, 20)

Norfolk Holme, ♀, 15th to 19th May (G. B. Brown, P. R. Clarke *et al.*).

Rufous-sided Towhee *Pipilo erythrophthalmus* (0, 1, 1)

Humberside Spurn, at least 5th September to 10th January 1976, caught on 5th September (B. Barson, M. A. Hollingworth, B. R. Spence *et al.*). This bird showed characters of one of the western races.

(North America) Only the second record of this striking species, the previous one being on Lundy, Devon, in June 1966 (*Brit. Birds* 63: 147-149).

Appendix 1 List of 1976 records not accepted

This list contains all the 1976 records not accepted after circulation to the committee. It does not include (a) those withdrawn by the observer(s) without circulation, after discussion with the honorary secretary; (b) those which, even if circulated, were not attributed by the observer(s) to any definite species; or (c) those mentioned in the monthly summaries in this journal, if full details were unobtainable. Birds considered to be escapes are also omitted.

In the vast majority of cases, the record was not accepted because we were not convinced, on the evidence before us, that the identification was fully established; in only a very few cases were we satisfied that a mistake had been made.

White-billed Diver	Burray, Orkney, 22nd February
	Fraserburgh, Grampian, 7th September
Albatross sp.	Skirza, Caithness, Highland, 17th October
Cory's Shearwater	Sandwich Bay, Kent, 30th April
	St Mary's, Scilly, 15th May
	Cley, Norfolk, 1st August
	Bardsey, Gwynedd, 21st August
	English Channel, off Dover, 26th August
	Saltfleetby, Lincolnshire, 28th August
Little Shearwater	West Bexington, Dorset, 15th May
White Stork	Gibraltar Point, Lincolnshire, 1st June
	Coldred, Dover, Kent, 7th to 8th June
Ring-necked Duck	Velator marsh, Barnstaple, Devon, 23rd to 24th May
Booted Eagle	Romney Marsh, Kent, 15th May

Black Kite	Walberswick, Suffolk, 25th April Little Melton, Norfolk, 15th May Lower Hardres, Kent, 23rd May Cley, Norfolk, 7th September Holkham, Norfolk, 12th October
White-tailed Eagle	Fenstanton, Cambridgeshire, 8th February
Red-footed Falcon	Holme, Norfolk, ♀, 7th May Hasley, Hampshire, ♀, 20th May Walberswick, Suffolk, ♂, 30th May Cley, Norfolk, ♂, 6th September
Crane	Langport, Somerset, two, 15th August
Little Crake	Thrapston gravel pits, Northants, ♂, 17th April Lodmoor, Dorset, 5th August
Baillon's/Little Crake	Tresco, Scilly, 9th October
Short-billed Dowitcher	Velator marsh, Barnstaple, Devon, 23rd May
Dowitcher sp.	Powderham, Exe estuary, Devon, 17th January Ham sewage farm, Windsor, Berkshire, 8th September Stanton Harcourt, Oxfordshire, 18th September
Stilt Sandpiper	Chew Valley Lake, Avon, 20th April
Great Snipe	Near Fordingbridge, Hampshire, 28th January Cholderton, Andover, Hampshire, 13th February to 13th March Tresco, Scilly, 9th to 15th October Strumpshaw, Norfolk, 1st December
Solitary Sandpiper	St Agnes, Scilly, 14th October
Lesser Yellowlegs	Llanwenarth, Gwent, 7th February Cley, Norfolk, 6th August
Broad-billed Sandpiper	Cley, Norfolk, 16th May
Wilson's Phalarope	Pagham Harbour, West Sussex, 26th August
Pratincole sp.	Sandwich Bay, Kent, two, 15th May
Long-tailed Skua	Sutterton, Boston, Lincolnshire, 17th May Theddlethorpe, Lincolnshire, 28th August Hornsea, Humberside, 29th August Kinnaird Head, Fraserburgh, Grampian, three or four, 1st September
Ivory Gull	Teign estuary, Devon, 2nd February
Slender-billed Gull	Branscombe, Devon, 11th August
Great Black-headed Gull	Margate, Kent, 1st November
Laughing Gull	Faxfleet, Humberside, 10th September
Bonaparte's Gull	Arbroath, Tayside, 2nd March
Ross's Gull	Hickling Broad, Norfolk, 30th July Flamborough Head, Humberside, 29th October
White-winged Black Tern	Slapton Ley, Devon, 10th August Thrapston gravel pits, Northamptonshire, 14th September Dungeness, Kent, 16th September Grafham Water, Cambridgeshire, 20th September King George V Reservoir, Greater London, 2nd October
Whiskered Tern	Winterton, Norfolk, 9th June
Gull-billed Tern	St Catherine's Point, Isle of Wight, 1st May Spurn, Humberside, three, 15th June Hornsea, Humberside, 23rd July Cley, Norfolk, 29th August Hunstanton, Norfolk, 2nd October
Brünnich's Guillemot	Ness of Sound, Shetland, two, 29th June
Tengmalm's Owl	Cley, Norfolk, 3rd and 5th September
Bee-eater	Cheltenham, Gloucestershire, 2nd July Earith, Cambridgeshire, 19th August
Short-toed Lark	Beachy Head, East Sussex, 17th October
Crested Lark	Dungeness, Kent, 24th January

Crested Lark	Dungeness, Kent, 8th May
Nutcracker	Oxford, two, 5th September
Black-throated Thrush	Hadleigh, Suffolk, about six, 13th August
American Robin	St Mary's, Scilly, 18th October
Rock Thrush	Holme, Norfolk, 24th May
Cetti's Warbler	Brownsea Island, Dorset, 19th April
	Church Norton, West Sussex, 8th May
	St Abb's Head, Borders, 26th September
Great Reed Warbler	Trentfields, South Muskham, Nottinghamshire, 8th May
Blyth's Reed Warbler	Aldeburgh, Suffolk, 17th August
	Huttoft Pit, Lincolnshire, 3rd November
Aquatic Warbler	St Johns, Isle of Man, 2nd August
	Penhill marsh, Barnstaple, Devon, 23rd August
Olivaceous Warbler	Out Skerries, Shetland, 17th September
Booted Warbler	Flamborough Head, Humberside, 17th September
	Beachy Head, East Sussex, 29th October and 3rd November
Greenish Warbler	Flixton, Lowestoft, Suffolk, two, 30th August
Bonelli's Warbler	Fairlight, Hastings, East Sussex, 5, 23rd May
	Nursling, Hampshire, two, 31st October to 7th November, one to 13th November
Arctic Warbler	Fair Isle, Shetland, 17th September
	Papa Westray, Orkney, 20th October
Collared Flycatcher	Milford, Hampshire, 5, 8th June
	St Leonards, East Sussex, 29th August
Richard's Pipit	Abberton Reservoir, Essex, 21st May
	Arnside Knott, Cumbria, 9th August
	Fife Ness, Fife, 23rd September
	Stithians Reservoir, Cornwall, 3rd October
	Sheringham, Norfolk, 8th October
	Cley, Norfolk, 9th October
	Northam Burrows, Devon, 16th October
	Dowrog Common, St David's, Dyfed, 22nd October
Tawny Pipit	East Looe, Cornwall, 23rd to 27th January
	At sea, east of Sunderland, Tyne and Wear, 17th September
	Beachy Head, East Sussex, 19th September
Red-throated Pipit	Sandbach, Cheshire, 1st May
	Havergate Island, Suffolk, 2nd September
	Donna Nook, Lincolnshire, 24th to 25th September
	Chew Valley Lake, Avon, 4th October
	Porthgwarra, Cornwall, 17th October
	St Mary's, Scilly, 20th October
Citrine Wagtail	Belvide Reservoir, Staffordshire, 2, 21st April
Black-headed Wagtail	Tresco, Scilly, 12th October
Woodchat Shrike	Putsborough, Devon, 19th April
Rose-coloured Starling	West Wittering, West Sussex, adult, 31st August
Serin	Dungeness, Kent, 10th April
	Wokingham, Berkshire, 24th August
	Tresco, Scilly, 11th October
	Wells, Norfolk, 18th October
Black-headed Bunting	Whitstable, Kent, 5, 23rd May
Rustic Bunting	North Ronaldsay, Orkney, 5, 21st October
Little Bunting	St Agnes, Scilly, 23rd April
	Holy Island, Northumberland, 18th September
	Holy Island, Northumberland, two, 2nd October
	Fetlar, Shetland, two, 5th October
	Kilnsea, Humberside, 23rd October
	Keyhaven, Hampshire, 24th October

Appendix 2 Supplementary 1970 records not accepted

White-rumped Sandpiper	Pennington Marsh, Hampshire, 4th September
Gull-billed Tern	Pennington Marsh, Hampshire, 16th September
Short-toed Treecreeper	Portland, Dorset, 23rd November to 21st March 1971
	Portland, Dorset, 24th November to 14th March 1971
Lesser Grey Shrike	St Mary's, Scilly, 28th September

Appendix 3 Supplementary 1971 records not accepted

Upland Sandpiper	St Mary's, Scilly, 1st October
Short-toed Treecreeper	Portland, Dorset, from 23rd November 1970 to 21st March
	Portland, Dorset, from 24th November 1970 to 14th March
	East Dorset, pair with four young, 21st to 29th May
	Hengistbury Head, Dorset, 18th September to 12th December
Isabelline Wheatear	St Mary's, Scilly, 1st November

Appendix 4 Supplementary 1972 records not accepted

Siberian Tit	Boughton, Downham Market, Norfolk, 6th and 8th February
Short-toed Treecreeper	Blackdown Hills, Somerset, 12th March
	Hornsea Mere, Humberside (Yorkshire), 3rd October
	Portland, Dorset, 29th October
Pine Bunting	Flamborough Head, Humberside (Yorkshire), 14th October

Appendix 5 Supplementary 1973 records not accepted

Cory's Shearwater	Dungeness, Kent, 30th April
Gyrfalcon	near Strathbeg, Grampian (Aberdeenshire), 11th September
Short-toed Treecreeper	Chatsworth Park, Derbyshire, 28th February

Appendix 6 Supplementary 1974 records not accepted

Roller	somewhere in Powys, 9th October
American Robin	Frensham, Surrey, 30th September
Little Bunting	Flamborough Head, Humberside, 10th November

Appendix 7 Supplementary 1975 records not accepted

White-billed Diver	St Andrews, Fife, 20th December
Cory's Shearwater	Hornsea, Humberside, 15th August
	Spurn, Humberside, two, 16th August
Purple Heron	Stodmarsh, Kent, 19th April
	Stodmarsh, Kent, 4th May
	Daventry Reservoir, Northamptonshire, 12th September
White Stork	Newmarket, Suffolk, 21st July
	near Wadebridge, Cornwall, about 23rd June
Red-footed Falcon	Walthamstow Reservoir, Essex, 21st April for about two weeks
Crane	Woodwalton Fen, Cambridgeshire, 9th and 12th May (previously accepted)
	Wicken Fen, Cambridgeshire, 11th May (previously accepted)
	Alexandra Palace, Greater London, 19th May
Dowitcher sp.	Benacre, Suffolk, 29th September
Slender-billed Curlew	Shoreham-by-Sea, East Sussex, 16th and 23rd November

Buff-breasted Sandpiper	Hickling Broad, Norfolk, 9th August
Pratincole sp.	Fairburn Ings, North Yorkshire, 18th September
White-winged Black Tern	Spurn, Humberside, 2nd August
Bee-eater	Vallay, North Uist, Western Isles, 20th August
Crested Lark	Spurn, Humberside, 10th July
Pallas's Warbler	Lade, Kent, 16th October
Tawny Pipit	Tynemouth, Tyne and Wear, 12th October
Red-throated Pipit	St Agnes, Scilly, two, 2nd October
	Guscar Rocks, Lydney, Gloucestershire, 12th May
	Loch of Hillwell, Shetland, 14th May
	St Agnes, Scilly, two, 11th October
	Low Hauxley, Northumberland, 19th October
Lesser Grey Shrike	Dwarthoull, Northmavine, Shetland, adult, 1st to 7th October
Rustic Bunting	Isle of Rhum, Strathclyde, 30th June

John O'Sullivan, RSPB, The Lodge, Sandy, Bedfordshire SG19 2DL.

Personalities

9 Jeffery Boswall

My first encounter with Jeffery Boswall was at a meeting of the Junior Bird Recorders' Club in London's Caxton Hall in early September 1948, and resulted in my taking him to the bomb-devastated Cripplegate-Moorgate area to see his first Black Redstarts. Even then, he was an impressive, commanding and articulate figure, with a maturity of manner beyond his 17 years. He thoroughly enjoyed an intellectual argument and was quick to question and analyse—in that penetrating way which is still

122. Jeffery Boswall (*British Broadcasting Corporation*)



one of his hallmarks—any careless statement made in a moment of enthusiasm. Not surprisingly, he had already made his mark on the JBRC, receiving its medal in January 1948.

But what I liked best about Jeffery, even in those early days, was his infectious sense of fun, sparkling wit and inexhaustible fund of good stories. Some of the most side-splitting laughs I have ever enjoyed have been in his company. I can recall an occasion, soon after I joined the BBC, when we both laughed so uncontrollably at a Charlie Chaplin film—and it wasn't all Charlie's doing—that we felt obliged to leave the cinema since our sides ached so much.

Following a statutory spell of National Service, during which he was commissioned in the Royal Engineers, Jeffery had a brief sojourn on Skokholm as assistant warden and then joined the staff of the Royal Society for the Protection of Birds, as assistant to the director of watchers and sanctuaries. We met frequently at ornithological gatherings, but, on resigning from the RSPB in 1954, he vanished from the ornithological scene almost without trace. Then, 'out of the blue' one day in 1958, I received a telephone call from him announcing his appointment as the radio producer with the BBC Natural History Unit responsible for those renowned series 'The Naturalist' and 'Birds in Britain', and enquiring if I had any ideas for programmes: I made a couple of suggestions, we met again, and two years later became colleagues. I discovered that the 'lost years' between 1955 and 1958 had been used very profitably in gaining administrative experience with the Bowater Paper Corporation and as an active member of the Conservative Party: even parliamentary ambitions had been nursed, but these were abandoned on joining the BBC.

After five years producing wildlife radio programmes, he moved in 1964 into the field of television, where, with even greater success, he took over the famous 'Look' series for the final six years of its long life span. Next, he concentrated on the 'Private Lives' series of films, which he devised, and on the still popular and much praised 'Wildlife Safaris', which so far have taken viewers to Ethiopia, the Argentine, Mexico and, in the latest, Thailand. Some of the most memorable of these programmes have won important international awards, while Jeffery has himself received this year the Cherry Kearton Medal and Award from the Royal Geographical Society for his contributions both to wildlife film-making and to the cataloguing, preservation and publication of wildlife sound recordings.

Himself the owner of probably the world's largest private collection of commercially-issued bird voice gramophone recordings, he achieved in 1968 one of his most cherished aims, by founding, with Patrick Sellar, the British Library of Wildlife Sounds at the British Institute of Recorded Sound. When Jeffery and his Swedish friend, Sture Palmér, compiled the monumental series of 17 twelve-inch discs of the birds and mammals of Britain and Europe, he took enormous pains to get the right pronunciation of all the scientific names. Such thoroughness characterises everything Jeffery does, whether it is a programme, a scientific paper, the planning of an expedition or merely a day out. The amount of research that goes into one of his television programmes is quite phenomenal. So is the

output of paper work: the volume of which once led a former head of the BBC Natural History Unit, when reporting the latest news of one of Jeffery's film projects, to announce that, 'The book of the film is almost ready'.

Starting when he was 16, with a note in *British Birds* (40: 255-256) on Herring Gulls nesting on buildings (highly topical nowadays!), he has made numerous contributions to scientific journals, including papers on penguin biology, urban roosting, migration and tool-using, as well as faunistic accounts from several parts of the world, such as Iceland, Eritrea, Patagonia, Baja California and Montenegro.

As a field companion, Jeffery bubbles with energy and enthusiasm, being anxious to see and learn about everything. Never too proud to learn from others, he is equally eager to share his considerable knowledge and experience. In all the years I have known him, he has rarely, if ever, been too busy or impatient to offer encouragement and help to a succession of naturalists, wildlife recordists, film-makers and others—however unknown—who have sought his advice.

At times he may seem somewhat overbearing, but beneath it all beats the heart of a kind and generous man who likes—and wants to be liked by—his fellow men. Above all, he is a great character in whose company there is rarely a dull moment or an absence of humour.

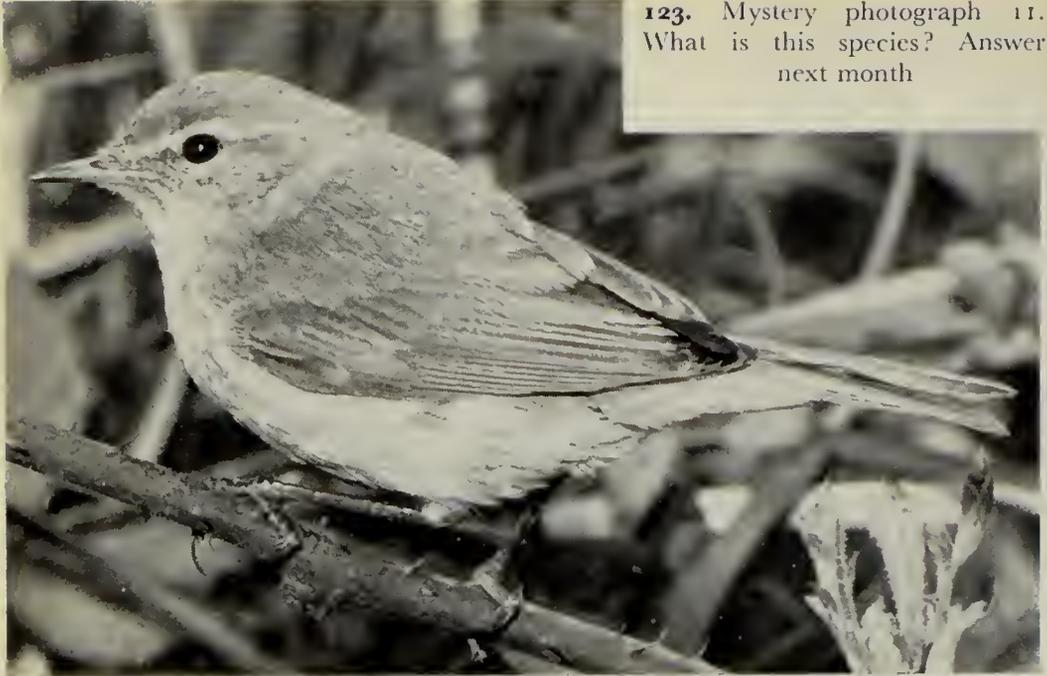
JOHN F. BURTON

Mystery photographs

10 Until the differences between Long-eared *Asio otus* and Short-eared Owls *A. flammeus* in the field were analysed by A. H. Davis and Robin Prytherch (*Brit. Birds* 69: 281-287, plate 49), flight identification of these species was seldom attempted, or a day-flying *Asio* owl was assumed to be a Short-eared. Now, however, the owl in plate 108 (page 390, and repeated here), photographed by G. StJ. Hollis in Suffolk in August 1974, should have been easily identified by everyone.



The dark carpal patch on the upperwing contrasts conspicuously with the white patch at the base of the primaries and with the rest of the wing, which is relatively pale. The innermost secondaries are dark, not pale, giving a suggestion of a dark patch. The underparts are not uniformly dark, but are strikingly demarcated into well-streaked, dark foreparts (neck and upperbreast) and paler, relatively unstreaked belly and flanks.



123. Mystery photograph 11.
What is this species? Answer
next month

Although perspective makes it difficult to judge, the wings seem to be long and pointed, rather than short and broad. The uppertail shows four or five broad, dark bars, and not six to eight narrow ones. These are the classic features of a Short-eared.

JTRS

Notes

Displays of Moorhen In his paper on the breeding behaviour and biology of the Moorhen *Gallinula chloropus* (*Brit. Birds* 67: 104-115, 137-158), N. A. Wood described displays performed on water when intruders were near a nest containing eggs and young. On 12th June 1975, at Wisbech sewage-farm, Lincolnshire/Norfolk, I photographed a somewhat different form of display in this situation, which was performed on the dried mud of one of the settling tanks. I had flushed an adult Moorhen from a well-hidden nest, containing both eggs and newly hatched young, in a large tussock on the edge of the tank. It ran only a few metres, then turned and approached me; its undertail-coverts were fanned, showing a large amount of white (plate 124). It then circled slowly around, occasionally calling in alarm (plate 125). Several times, it apparently tried to entice me away by retreating slowly while constantly flicking its tail up and down (plate 126). I soon left the area and the Moorhen flew back into cover not far from the nest.



KEITH ATKIN

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N. A. Wood has commented, 'The initial reaction to disturbance of breeding Moorhens not generally familiar with man is normally to flee



44b 125 and 126. Moorhen
Gallinula chloropus reacting to
human intruder near nest,
Lincolnshire/Norfolk, June
1975: facing intruder, under-
tail-coverts fanned, showing
black and white; circling slowly
around, occasionally calling
alarm; retreating, const-
antly flicking tail up and
down (Keith Atkin)



and take cover in vegetation at some distance from their nest or young. In a proportion of such disturbances, the bird may later reappear and display as previously described (*Brit. Birds* 67: 108-109, 144-145). From the behaviour of the Moorhen seen and photographed by Keith Atkin, I imagine that it was comparatively familiar with human intrusions on its territory, and, thus, its desire to flee was less marked. Some incubating Moorhens in public parks and waterfowl collections will tolerate human presence to within about 2 m of their nests. The possibility exists that Mr Atkin observed a form of display—normally directed towards, say, a small ground predator—which has not been previously described, but further observations would be required for confirmation.' Eds

Lapwings resting on their tarsi On 27th August 1975, at Chew Valley Lake, Avon, John Govett and I noticed a Lapwing *Vanellus vanellus* sitting on its tarsi in the manner of an Adjutant Stork *Leptoptilos dubius*. Of about 100 immature Lapwings on the mud-bank, at least six were resting in this way; one even moved forward a few steps in this attitude. I have been unable to find any reference to this behaviour in the literature.

GEOFFREY BOYLE

7 Marsh Road, Hilperton Marsh, Trowbridge, Wiltshire

Abnormal Jackdaws While visiting Athlone, Co. Westmeath, in July 1975, I observed many Jackdaws *Corvus monedula*, two of which showed unusual abnormalities. One, an adult, which had apparently been seen frequently in the area for a number of years, had the tail feathers missing. It flew less well than normal Jackdaws. The pygostyle seemed to be absent, but this could not be confirmed. The other, apparently an immature, had the body, neck and head completely bare, the only feathers present seeming to be those of the wings and tail.

PATRICK F. SCANLON

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Do Blackcaps have a Wryneck-call? R. M. Curber described a Blackcap *Sylvia atricapilla* uttering a call like that of a Lesser Spotted Woodpecker *Dendrocopos minor* (*Brit. Birds* 62: 543-544). On 27th April 1975, near Marbella, southwest Spain, A. J. Bundy, R. H. Ryall and I heard repeated 'pee-pee-pee' calls coming from a large cork oak *Quercus ruber*. The ringing quality and pitch of the notes closely resembled those of a Wryneck *Jynx torquilla*. After some minutes, we saw in the tree about six House Sparrows *Passer domesticus*, and a male Blackcap moving among the upper branches. I once noted that the warbler's bill was open during a burst of calling, and the calls ceased immediately the warbler flew from the tree. The circumstances suggest that the Blackcap had produced the calls.

DAVID E. PAULL

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Willow Warbler living transfixied by thorn On 14th August 1975, a first-year Willow Warbler *Phylloscopus trochilus* trapped at Dungeness, Kent, had a thorn jutting from the middle of its back on the left side. A callus of dead skin had grown up around the thorn, but the bird appeared to be healthy. It weighed 8.1 g (the average of 28 Willow Warblers caught that day was 8.34 g, range 7.4-9.5 g). I cut the thorn flush with the callus and removed the remainder with tweezers. The dead skin drew over the hole, leaving no sign of the injury other than a lump of white skin. The two sections of thorn totalled 23 mm in length, 11.5 mm of which had been embedded in the bird. As the sharp end was jutting out and the end inside the warbler was blunt, as if broken from a branch, it seems likely that the bird accidentally ran itself through when landing on a branch or moving through a bush. The thorn was tentatively identified as coming from sea-buckthorn *Hippophae rhamnoides*. On release, the Willow Warbler flew off strongly, showing no apparent ill effects.

NICK RIDDIFORD

Dungeness Bird Observatory, Romney Marsh, Kent

Other comparable records mentioned by Frank W. Lane (1962, *Animal Wonderland*, pages 38-39) include a male American Robin *Turdus migratorius*, which lived for at least two years and helped to rear at least two broods, despite being transfixied through back and breast by a 5-mm diameter stick; a White Stork *Ciconia ciconia* killed in Germany, which had an arrow of central African origin through its neck; and a Honey Buzzard *Pernis apivorus* shot in Finland, which had an African arrow through one wing. EDS

Letters

Field guides and the appreciation of birds It is always good to find credit given where it is due. Hence I was glad to see Bruce Campbell's suggestion (*Brit. Birds* 70: 172) that W. B. Alexander's *Birds of the Ocean* (1928) was probably the first field guide in the modern sense. While Dr Campbell did not suggest that this work was the source of Dr Peterson's inspiration for his field guides, it might have been pointed out 'to put the record straight' that this inspiration came from a still earlier work, Ernest Thompson Seton's *Two Little Savages* (1911). Dr Peterson acknowledged this in the preface to *A Field Guide to the Birds* (1937).

In his discussion of the relationship between field guides and the appreciation of birds (*Brit. Birds* 69: 493-494), which was the stimulus for Dr Campbell's note, Louis J. Halle made several points, but he did not consider the scientific value of these guides. One need not know the identity of a bird to appreciate it, but the identification of the species involved in a

scientific study is a basic datum. For improving the means of identifying birds, biologists will always be indebted to such pioneers as Seton, Alexander and Peterson.

Another point which should be made in response to Halle's article concerns the amassing of data. Much of this is done without a thought to its possible use, resulting in a sea of figures, many of which may never be analysed. Nor should they be: the scientific gathering of data should be *preceded* by posing questions and determining exactly what data are needed to answer them. This kind of data collecting is the basis of our scientific work, and should be encouraged.

ROBERT W. STORER

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Brackets convention for use in discussion of hybrids To avoid space-consuming family-tree diagrams or step-by-step narratives recounting the pedigrees of complicated hybrids, a simple method of writing down the ancestry of any hybrid is available by the orderly use of brackets. Taking the example of Carrion *Corvus corone corone* and Hooded Crows *C. c. cornix* and using the abbreviations C and H, we may write down any second-generation hybrid in forms such as $(C \times H) \times C$ and $(C^* \times H^*) \times (C \times H)$. It is convenient not to use sex symbols, but instead to adopt the conventions that, throughout, males are placed to the left of females, and asterisks are attached to both parents if the direction of a cross is not known. Thus, the first 'identity formula' above represents the offspring of a male hybrid Crow (direction of cross known) with a female Carrion Crow; the second represents the offspring of a male hybrid (direction not known) with a female hybrid (direction known).

Should *these* two birds be of different sex and interbreed successfully, their offspring may be written as

$$[(C^* \times H^*) \times (C \times H)] \times [(C \times H) \times C]$$

where we have assumed the more complicated hybrid to be the male. Confirmed hybridisation may be codified as far as one wishes by the introduction of further types of bracket. I would suggest that such abbreviations as '(Carrion \times Hooded) \times Carrion' serve perfectly as headings for descriptions or captions to photographs, are quite as readable as family trees, and, furthermore, fit not inelegantly into printed prose. More powerfully abbreviated conventions than brackets (for example, a hierarchy of suitable 'cross symbols') may be required by a worker codifying extremely complicated hybrids, but the bracketed format is the most readable; indeed, any other method of representation must necessarily have the same essential structure.

The most complicated hybrid known to me (*per* Dr J. Berry) involves six species of geese, including both morphs of the Lesser Snow Goose *Anser caerulescens caerulescens*. It requires seven symbols, therefore, and four types of bracket for its representation, and has the form

$$(A \times B) \times \left[[C \times (D \times C)] \times \left\{ [(E \times F) \times D] \times G \right\} \right].$$

That is, the male parent is a simple first-generation hybrid, while the female has a more complicated ancestry (spanning some 40 years).

Finally, it seems worth noting that in the first four seasons alone of continuing hybridisation in a two-species zone, the numbers of hybrid types which may arise are, respectively, 2, 14, 254 and 65,534. For each of these types, there corresponds a unique and convenient 'brackets formula'. Obviously, the method is not restricted to birds and may be applied to hybrids in any biological class.

L. J. DAVENPORT

4 Church Street, Betchworth, Surrey

Announcement

Binders for 'British Birds' In addition to the usual form of permanent binding by P. G. Chapman & Co. Ltd, special binders to hold a year's issues of *British Birds*, either temporarily or permanently, are now available at £2.50 each (or \$5.00 overseas, payable in any currency at the current rate of exchange). The issues are held in each 'Easibinder' by metal rods, and loading or unloading is simple. The binders are green and are embossed in gold with the title of the journal and the *British Birds* Red Grouse emblem. They may be obtained (payment with order) from: Subscription Department, Macmillan Journals Ltd, Brunel Road, Basingstoke, Hampshire RG21 2XS.

Requests

Descriptions of hybrid wildfowl Hybrid wildfowl are most commonly to be seen in or near collections. The ordinary birdwatcher often regards them as aesthetically and conservationally undesirable, besides being uninteresting. It is, however, the ordinary birdwatcher who is most competent to describe these birds, and an appeal is now made for descriptions, drawings or photographs, together with any information regarding the parentage and direction of cross, of any such hybrids encountered; these will be fully acknowledged. They should be sent to L. J. Davenport, 4 Church Street, Betchworth, Surrey.

Colour-ringed flamingos Yellow PVC leg-bands inscribed with a combination of three black letters, repeated three times around the ring, have been placed on 553 young Greater Flamingos *Phoenicopterus ruber* in the Camargue, France, in 1977. Rings of different colours may be used in future years. Ornithologists travelling to and residing in countries where flamingos occur are requested to look out for these leg-bands and to report records to the address below. All sightings will be most valuable, even if it proved impossible to read the letters on the ring. Additional information on total numbers, the number ringed and any age-ratio counts will also be welcomed by Alan Johnson, Station Biologique de la Tour du Valat, Le Sambuc, 13200 Arles, France.

Colour-ringed Stonechats As part of a study of the migration and dispersal of Stonechats *Saxicola torquata*, P. W. Greig-Smith and A. R. Martin are ringing considerable numbers in Ashdown Forest, East Sussex. As well as a metal ring, each bird bears three colour rings (red, yellow, pink, purple, black, white, dark blue, light blue, dark green or light green). Anyone seeing one of these birds in Sussex or elsewhere is asked to inform

P. W. Greig-Smith, School of Biological Sciences, University of Sussex, Falmer, Brighton BN1 9QG, giving the date, location (grid reference if possible), and ring combination. Details of ringing will be supplied by return of post.

News and comment

Peter Conder and Mike Everett

Conference on European bird protection co-operation The Deutsche Bund für Vogelschutz has invited representatives of the major European bird protection organisations to discuss this autumn at Mainz their common position towards European Economic Community legislation, the Council of Europe and the International Council for Bird Preservation. In view of the confusion that often exists in some people's minds about the role of the environmental sections of the EEC and the Council of Europe, it is perhaps not surprising that some clarification of attitude should be required. It is time, too, that the role and function of the ICBP in this web should be reviewed. There appears to have been no fundamental change in the ICBP's functions for many years, while around it, in Europe at least, the operation of the Endangered Species Act, the 'Washington' Convention, as well as the EEC Directive on the protection of birds, are requiring such specialised knowledge that it is logical for direct links to be forged from the central bodies to the specialists. The bird protection societies will also look at their relationship to the ICBP: it is clearly time for the ICBP to review its own role. At the request of some north European organisations, the meeting will discuss the mass slaughter of birds in Italy and elsewhere, and it is gratifying to hear that protectionists from Malta and Italy will be present at the meeting.

IUCN and ICBP Mats Segnestam, at one time the very efficient secretary of the Swedish National Section of the ICBP, has been appointed to co-ordinate the Marine Programme of the International Union for the Conservation of Nature and Natural Resources (*Brit. Birds* 70: 270). He is also responsible for the IUCN's liaison with the ICBP and wants to see this better formalised.

Live mink on Westray Outline consent to establish a large farm for breeding mink *Mustela vison* on Westray, Orkney, has

stirred ornithologists into action. 'Operation Seafarer' discovered during 1969-70 that this seabird colony, which had not been well known before, actually contained a quarter of a million seabirds of 19 species. Clearly, a population of escaped mink could have consequences even more catastrophic than the presence of rats. The Nature Conservancy Council and the Royal Society for the Protection of Birds have written to the Orkney County Council and that one-man vigilante posse—Dr W. R. P. Bourne—has written to the Press, all protesting against this very dangerous proposal. Although the County Council has given outline consent, the Scottish Development Department has asked the NCC to write again in greater detail and its representations will be given further consideration. The final decision will be made at ministerial level (which is not a good omen!).

Biological recording in Scotland A very useful booklet, produced by the Biological Recording in Scotland Committee, gives information about biological recording of all kinds, including the national distribution-mapping and species-recording schemes which are now active in Scotland. Although the survey concentrates on Scotland, it is a most useful source book of schemes for recording creatures from the obscure *Sciomyzidae* (a family of flies parasitic on slugs and snails) to badgers *Meles meles*. The appendices show examples of the different recording cards, including the type of information required, lists of organisers and, even more valuable, a bibliography of books and papers useful for the identification of plants and animals of the groups being surveyed. (It is sad, however, to see that *A Field Guide to Birds of Britain and Europe* by Roger Peterson, Guy Mountfort and P. A. D. Hollom is not mentioned.) This 48-page A5-sized booklet is obtainable free from the Scottish Wildlife Trust, 8 Dublin Street, Edinburgh EH1 3PP, provided that a

self-addressed envelope with 12½p stamp is supplied.

Biological recording in Wales The National Museum of Wales is setting up a data bank for all information (published and unpublished) concerning the distribution of plants and animals in Wales. Anyone with species lists for Wales, complete with habitat notes and location, should send them to Biological Data, Department of Zoology, National Museum of Wales, Cardiff CF1 3NP.

Any old meadows? Knowing that quite a few birdwatchers occasionally like to look at plants, we feel that we should report that the NCC wants to be told about old meadows in its south and south-west regions. Old meadows can be identified by the presence of ragged-robin *Lychnis flos-cuculi*, yellow rattle *Rhinanthus minor*, meadowsweet *Filipendula ulmaria* and restharrow *Ononis*, among other indicator plants. The addresses are NCC South Region, Foxhold House, Thoruiford

Road, Crookham Common, Newbury, Berkshire RG15 8EL, and NCC South West Region, Rough Moor, Bishop's Hill, Taunton, Somerset.

National Tree Week *Habitat* reports that the Tree Council is having a National Tree Week from 6th to 12th November 1977, when lots of trees will be planted in celebration. Let us hope, first, that native trees are planted, at least in natural places, and, secondly, that the organisers have foreseen the problems caused by vandals in 1973 and 1974. We wonder if the Tree Council found out how effective the 'Plant a Tree in '73' idea was, and what advice they now offer to prevent vandalism. Find out more from the Tree Council, Room 202, 17/19 Rochester Row, London SW1P 1LN. Living as we do in the prairie lands of East Anglia, where nearly all the still existing trees are old ones, let us hope that the Tree Council does persuade landowners and dreary-prairie farmers to add to the landscape—and then not burn it down!

Opinions expressed in this feature are not necessarily those of the editors of British Birds

Recent reports

K. Allsopp and S. C. Madge

These are largely unchecked reports, not authenticated records

This report covers July and the first part of August; except where otherwise stated, all dates refer to July. The first week of this period was very warm and the consequent increase in insect activity provided very necessary food for a number of our breeding birds. These conditions, however, did not last, and the remainder of July was a little cooler than average, with winds mainly from the north and west. Most birds undergo a postnuptial moult during early summer; the more obvious species, such as crows (Corvidae), when replacing their outer primaries, have to flap faster than usual to keep airborne and also find prolonged gliding difficult: the contrast with their normally versatile flight is most marked. Species with high wing-loading (low wing-area for their weight) experience great difficulty in flying when in wing moult. The timing of these moults also determines when each species is capable of migrating successfully.

Returning waders

In early July, records of waders may refer to birds still on spring migration, but the majority are probably non-breeding wanderers. This year, as well as the usual early appearances of **Common Sandpipers** *Tringa hypoleucos*, **Green Sandpipers** *T. ochropus* and **Greenshanks** *T. nebularia* away from their breeding areas, there have been reports of **Spotted Redshanks** *T. erythropus* and **Little Stints** *Calidris minuta* from the east coast. Towards the end of the month, **Wood Sandpipers** *T. glareola* and **Ruffs** *Philomachus pugnax* were arriving, and on 30th small parties of **Curlew Sandpipers** *C. ferruginea* were reported in southeast England. American waders often begin to put in an appearance at this time of the year. One or possibly two **Pectoral Sandpipers** *C. melanotos* were found in the south Yorkshire area in mid July, followed by a **Baird's Sandpiper** *C. bairdii* at Steart

Point (Somerset) during the first week of August.

Coastal movements

After last year's early autumn spectacular shearwater and skua passages, all eyes will be looking for a repeat performance. Reports so far suggest that there are quite a number of **Sooty Shearwaters** *Puffinus griseus* offshore: counts at Cape Clear Island (Co. Cork) reached 40 in seven hours in late July, a further seven were reported from Islay (Argyll) in the same period, and there were others off the Yorkshire coast from mid July. Of the rarer species, two **Little Shearwaters** *P. assimilis* were seen off Flamborough Head (North Humberside) and another off Filey Brigg (North Yorkshire), all in early August. Single **Great** *P. gravis* and **Cory's Shearwaters** *Calonectris diomedea* were reported in the same area, and regular, but small, numbers from Cape Clear. The September gales—if they occur—are awaited with interest. Five **Long-tailed Skuas** *Stercorarius longicaudus* appeared at Hartlepool (Cleveland) on 31st, feeding close inshore, and one remained until 2nd August. Other notable occurrences were at least 300 **Storm Petrels** *Hydrobates pelagicus* at Hook Head (Co. Wexford) and a tired drake **King Eider** *Somateria spectabilis*, which was picked up at Colne Point (Essex) on 18th, but was subsequently seen feeding vigorously before it departed.

'Hippo' invasions

If 'fall conditions' occur in early August on the east coast, **Icterine Warblers** *Hippolais icterina* are often involved. A high-pressure area became established in southern Scandinavia on 6th August, bringing light easterly winds across the North Sea. This air flow was bounded to the south by a warm front, with heavy cloud and rain across East Anglia and the southern North Sea. On 7th August, eight Icterines were discovered on Blakeney Point (Norfolk), with a few **Pied Flycatchers** *Ficedula hypoleuca*. The winds turned northerly until 12th August, when the easterlies returned, again with heavy cloud in southern England. Blakeney Point was again favoured, with five **Icterine** and two **Greenish Warblers** *Phylloscopus trochiloides* arriving on 13th August. Two days later, in rather misty weather, there were 50 **Pied Flycatchers** on Blakeney Point, together with 60

Wheatears *Oenanthe oenanthe* and a **Golden Oriole** *Oriolus oriolus*. On the south coast, the picture was quite different, the star species being the **Melodious Warbler** *H. polyglotta*. In August, singles were reported from Portland Bill (Dorset) on 5th, Thorney Island (West Sussex) and Beachy Head (East Sussex) on 7th, no less than five at Portland Bill on 13th and one at Saunton (Devon) on 18th.

Candidates for the British and Irish list

The unceasing search by birdwatchers for rarities continues, the ultimate prize being the finding of a new British bird. At the present rate of discovery, a good percentage will achieve their ambition. The first candidate was an **Eleonora's Falcon** *Falco eleonorae*, which was reported from Formby Point (Lancashire) on about 12th August. These beautiful birds are very familiar to many ornithologists who have visited the Balearic Islands. The second was also a Mediterranean species: a male **Rüppell's Warbler** *Sylvia rueppelli* found singing near Sumburgh (Shetland) on 13th August. With its breeding area limited to the eastern Mediterranean, this species seemed a most unlikely vagrant.



Acknowledgements

We wish to thank all those contributors who have sent in reports over the past year without requiring acknowledgements: as a result our task has been much easier to perform and our finances have been eased.

Latest news

In mid September: many American waders, in eastern as well as western areas; **Lanceolated Warbler** *Locustella lanceolata*, **Pechora Pipit** *Anthus gustavi* and three **Yellow-breasted Buntings** *Emberiza aureola* on Fair Isle; **Arctic Warbler** *Phylloscopus borealis* at Holkham (Norfolk); **Yellow-breasted Bunting** at Portland Bill; **Little Bunting** *E. pusilla* at Stiffkey (Norfolk).

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The Hen Harrier

by *Donald Watson*

Artist, ornithologist and author, Donald Watson has made an especial study of the Hen Harrier *Circus cyaneus* over many years, and his field notes and sketch books of the bird go back to the 1940s. The book is a wide ranging study of the Hen Harrier in Britain, Europe and North America (Marsh Hawk) and covers such topics as distribution past and present, identification and plumage, hunting methods and prey selection, the breeding cycle, nesting and nest sites, chicks and fledglings, breeding success and failure, moult, migration, winter distribution and communal roosting. Later chapters give a detailed account of Hen Harriers in the author's particular study areas in south west Scotland. His colour paintings, drawings and reproductions from his sketch books are an outstanding accompaniment to a most readable but scholarly text.

*308 pages plus 4 colour plates, over
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BIRDS OF PREY IN EUROPE Maarten I.J. Bijleveld

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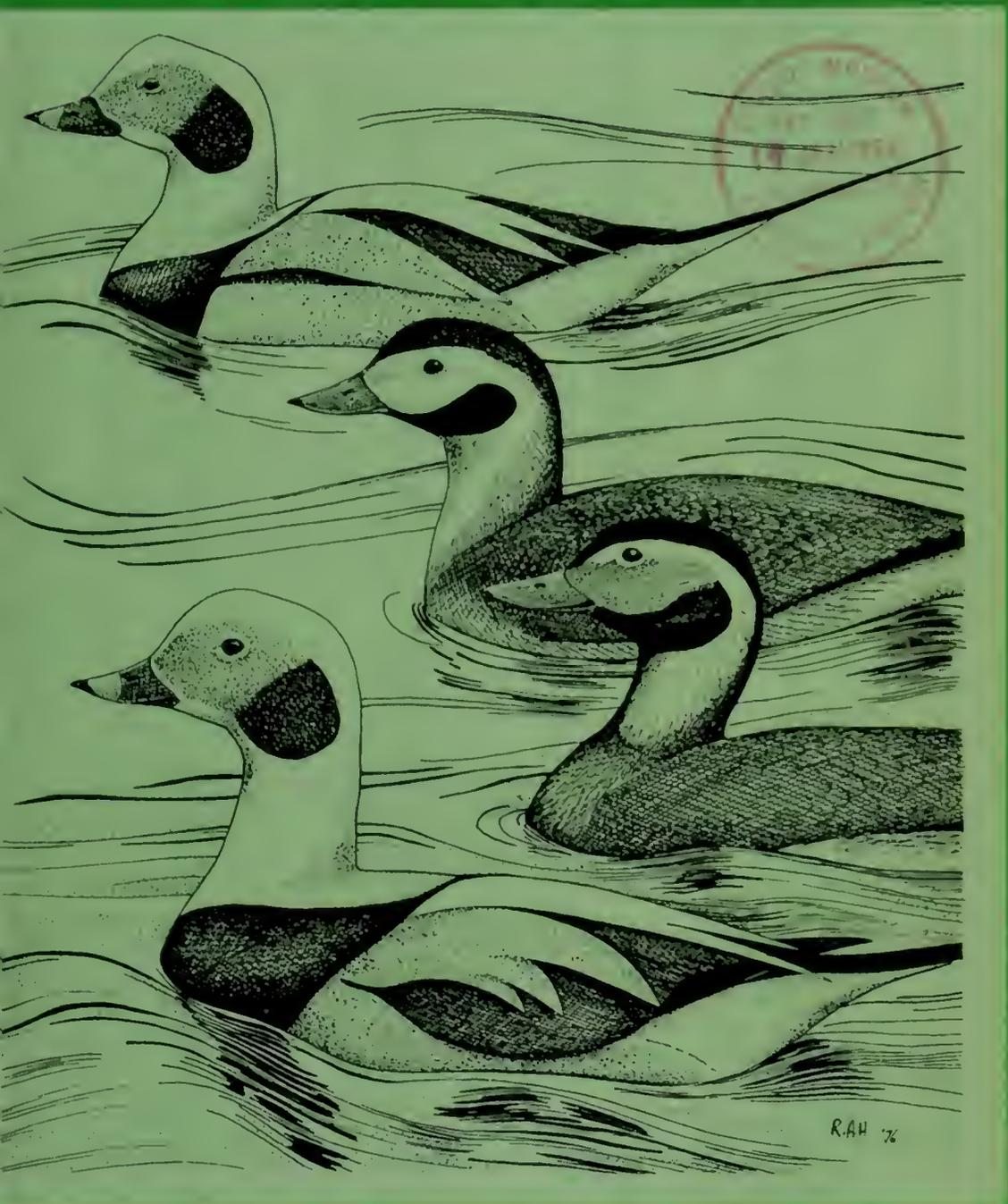
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British Birds

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European Atlas: woodpeckers
Christmas bookshop · European news
Personalities: T. P Inskipp · Mystery photograph
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British Birds



News and comment

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British Birds

VOLUME 70 NUMBER II NOVEMBER 1977



White-tailed Plover: new to Britain and Ireland

A. R. Dean,
J. E. Fortey
and E. G. Phillips



ARD

The excavation of sand and gravel at Packington, Warwickshire, has created a system of freshwater pools which regularly attracts migrating waders. At 13.30 GMT on 12th July 1975, JEF, Mrs E. Green and EGP were searching the area for migrants when a medium-sized wader of remarkable appearance flew past them and landed on an area of thinly-vegetated sand and shingle about 30 m ahead. In flight, a striking black-and-white wing pattern and a uniformly white tail were the predominant features, but when the bird landed it revealed primarily sandy body plumage, a pale greyish-white head, and long, bright yellow legs.

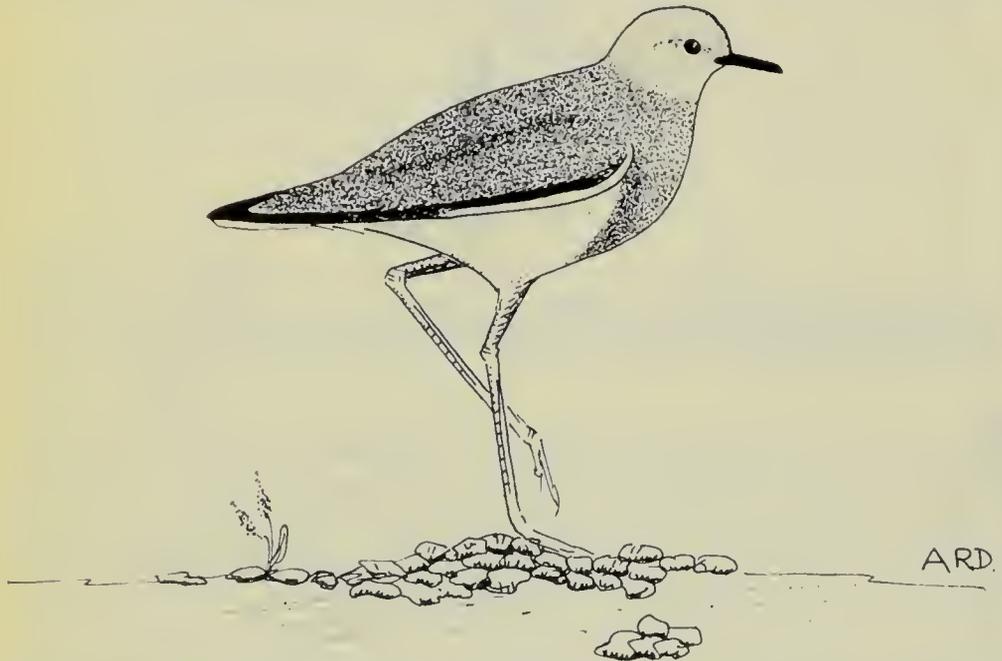
The general shape and character, particularly the broad and rounded wings, indicated a *Vanellus* plover. The body colour initially suggested a Sociable Plover *V. gregarius*, but the leg colour and the lack of discrete head- and tail-markings clearly precluded that species. The area of white in the wing was also unusually large, extending from the secondaries on to the greater coverts and showing as a white bar along the lower edge of the folded wing. The only reference book available at the time was

Peterson *et al.* (1965), but, from the brief description which it contained, the observers concluded that the bird was a White-tailed Plover *V. leucurus*, the first to be recorded in Britain and Ireland.

By chance, ARD arrived in the area at 16.00 hours and was informed of the discovery. Other observers, including A. R. M. Blake, R. A. Hume, P. D. Hyde, P. J. Milford and J. H. W. Ridley, were contacted and before dark a comprehensive series of notes, sketches and photographs had been obtained. Subsequent comparison of plumage details with Dementiev and Gladkov (1966), Etchécopar and Hüe (1967) and Heinzl *et al.* (1972) suggested that the plover was an adult male. It remained in the area until 18th July and was seen by several hundred observers from all over Britain. Independent descriptions by ARD, RAH, EGP, M. R. Seaman and others were later examined and accepted by the Rarities Committee and by the Records Committee of the British Ornithologists' Union.

Size and structure

The White-tailed Plover appeared a little smaller than Lapwings *V. vanellus* in the vicinity, although it was not possible to compare the two species directly. The general proportions were also reminiscent of Lapwing, the full-breasted character of that species being in evidence and the girth



conspicuously greater than that of a nearby Redshank *Tringa totanus*. At rest, the wings cloaked the tail, but extended little beyond it; in flight, they were revealed as broad and rounded at the tip, and this contributed further to an impression of sturdiness. Nevertheless, owing to its smoothly contoured head, relatively longer bill and, particularly, its much longer legs, the White-tailed Plover possessed a distinctly more graceful character than that of a Lapwing. The bill was about three-quarters as long as the head, compared with one-half in the Lapwing. The legs were decidedly long, being approximately one-and-a-half times the maximum

body-depth: more closely comparable with *Tringa* sandpipers than with typical plovers.

Plumage and bare parts

Head greyish-white, distinctly paler than mantle, but, at close range, fine sandy streaking visible on crown and ear-coverts. Absence of streaking immediately above eye resulted in off-white supercilium running back towards nape. Mantle, scapulars and inner wing-coverts grey-brown with pink or mauve suffusion, which varied in intensity with light conditions: basic colour similar to, but a shade warmer than, nearby Little Ringed Plovers *Charadrius dubius*. Throat off-white, and neck and breast sandy-grey, becoming progressively warmer in colour and culminating in copper-brown across lower breast. Belly, flanks and vent off-white, with orange-pink flush, latter particularly apparent when bird stooped to feed with tail towards observer. Largely black primaries and tips to outermost secondaries formed extensive black tip to spread wing and dark margin to point of folded wing. Inner secondaries, tips of

greater coverts and carpal region white, combining to form broad panel across spread wing from tips of tertials to carpal joint; at rest, this feature reduced to narrow

127. White-tailed Plover *Vanellus leucurus*, Warwickshire, July 1975
(A. R. Dean)



white bar along lower edge of wing. Sub-terminal blackish line across outer secondary coverts separated white from grey-brown areas of wing. Underwing-coverts white, contrasting with black primaries; tail and tail-coverts uniformly white. Difficult to determine exact colour of iris, but it always appeared dark and was considered by at least some observers to be deep red. Bill black. Legs bright yellow.

General field-characters and behaviour

The black-and-white wing pattern, unmarked white tail, pale, basically uniform head, and very long, bright yellow legs make the White-tailed Plover a relatively distinctive species. The remarkable, if rather complex, wing pattern recalled that of Sociable Plover or Spur-winged Plover *V. spinosus* (with which some observers were familiar), although the area of white in the wing was considerably more extensive. The combination of black primaries, predominantly white secondaries and grey-brown coverts prompted comparisons with Sabine's Gull *Larus sabini* by several observers. Compared with most other *Vanellus* plovers in full plumage, the underparts displayed relatively little contrast. The darkest zone of colour, at the boundary of breast and belly, occasionally suggested a discrete band when the bird rested in a hunched-up position, but became poorly defined during active feeding.

The very long legs were perhaps the outstanding character when the bird was at rest and, in flight, the degree to which they extended beyond the tip of the tail was impressive. When the bird squatted, thus hiding its legs, it could be surprisingly difficult to locate against a background of sand and stones.

The plover fed on dry ground and in water up to several centimetres deep; prey items were taken from the surface of the water, but not infrequently the whole head was submerged. On dry ground, the gait, although more mobile than that of a Lapwing, conformed to the usual plover pattern of three or four steps followed by a stoop-and-peck action.

Occasionally, the plover would bob its head in the manner of a Red-shank, sometimes before taking flight.

Notes on the species

Dementiev and Gladkov (1966) and Vaurie (1965) described the breeding range of the White-tailed Plover as including the USSR east of the Caspian (Kazakhstan, Transcaspia, Turkestan) and parts of Iran and Iraq, while the *Turkish Bird Report 1970-1973* described the recent discovery of a small breeding population in central Turkey. A few are apparently resident in Iran and Iraq, but the population from the USSR migrates to winter in Egypt, the Sudan, the Persian Gulf and northwest India (fig. 1). The nest is usually a shallow depression on open ground, but

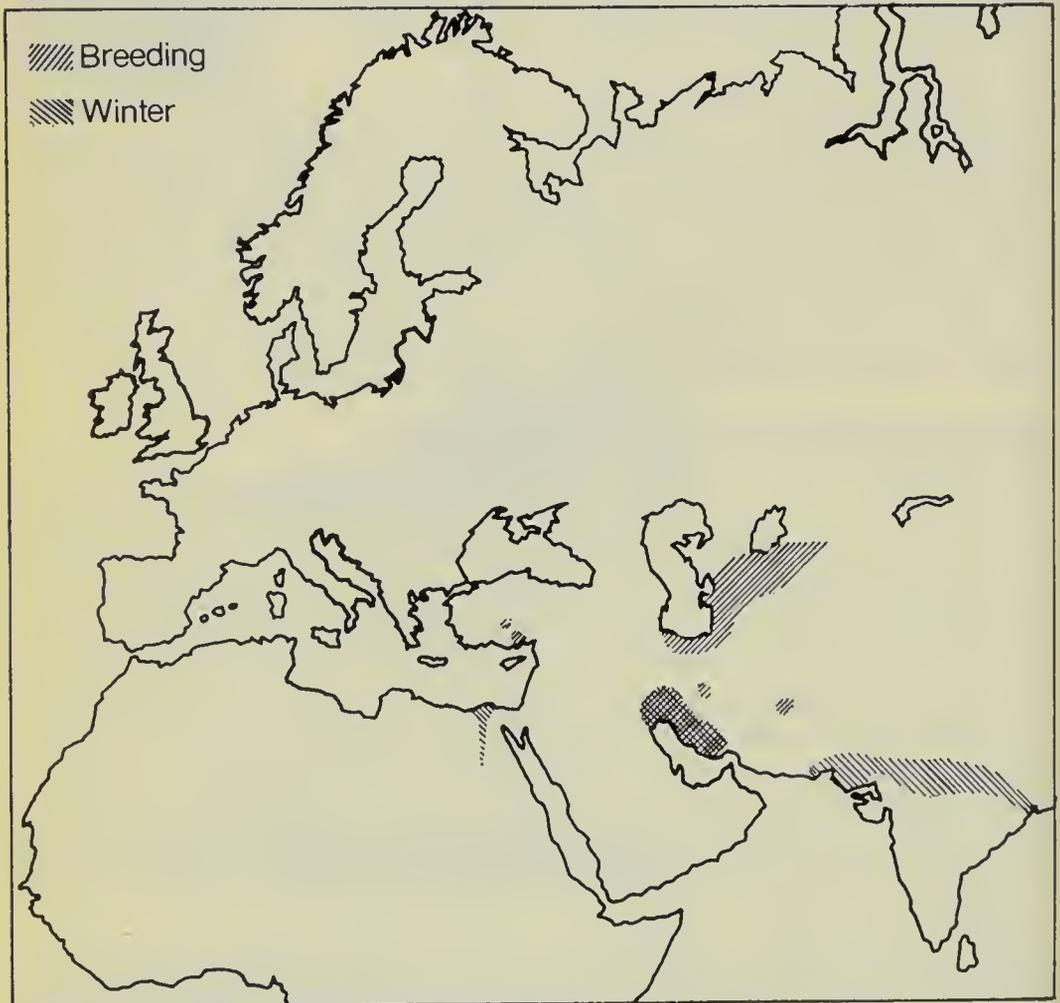


FIG. 1. Breeding and wintering ranges of White-tailed Plover *Vanellus leucurus* (modified from Dementiev and Gladkov 1966)

occasionally a sparse lining of vegetation is included, and a substructure of mud may even be incorporated, perhaps as a precaution against flooding (Gooders 1969). Typical nest sites include dried rice-paddies, overgrown islets, and well-vegetated pools and marshes. The usual clutch contains four eggs, laid in late April or May. Although the total range

of the species is small, it is a common bird in parts and concentrations of up to 100 pairs have been recorded. Aquatic larvae and grasshoppers are its principal food items, and its long legs enable it to wade in quite deep water to pursue the former.

European records in 1975

Until 1975, White-tailed Plovers were regarded as extreme vagrants except in southwest Asia and northeast Africa, the only European records outside Russia being from Austria (1968), France (1840), Greece (1958 and 1966) and Malta (1864, 1869 and 1973). Not surprisingly, therefore, the occurrence of one in central Britain was initially greeted with some incredulity. Although P. J. Stead and M. D. England (*in litt.*) established that some had been imported into Britain by dealers, inquiries by the review bodies indicated that the likelihood of escape was small; on the

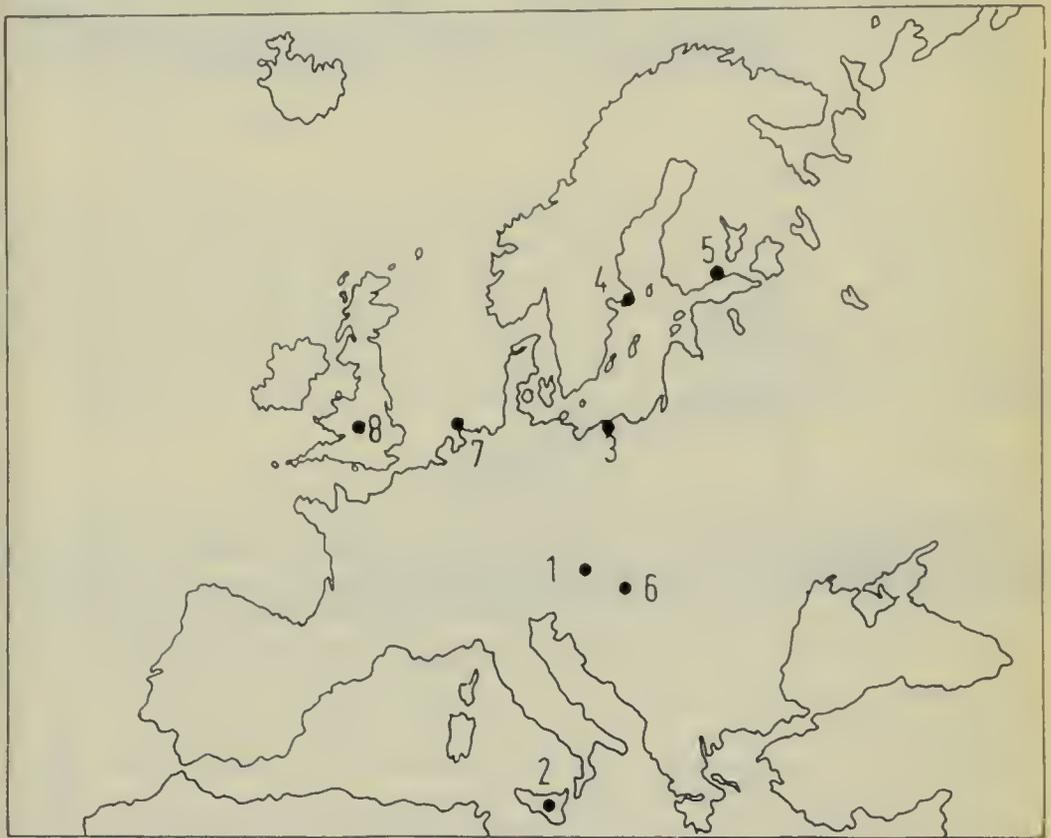


Fig. 2. European records of White-tailed Plovers *Vanellus leucurus* during 1975, numbered chronologically. 1 Illmitz, Austria, 29th March to 29th April and 5th to 17th July. 2 Sicily, Italy, 19th April. 3 Koszalin, Poland, 30th April. 4 Mörkö, Sweden, 10th May. 5 Hamina, Finland, 11th to 16th May. 6 Agárd, Hungary, 23rd May. 7 Texel, Netherlands, 9th to 12th July. 8 Packington, England, 12th to 18th July.

other hand, investigations revealed that there had been no less than eight European records during 1975 (fig. 2). The Austrian records in March-April and July, both in the Neusiedlersee area, were considered to involve the same individual, while the closeness of some of the other dates suggests that the number of birds involved in this remarkable incursion may

have been less than eight. Nevertheless, the combination of these records and their geographical spread strongly indicate a genuine influx of White-tailed Plovers northwestwards into Europe from their Asiatic breeding grounds. The reasons for such an influx remain obscure, but, if recent developments in Transcaucasia and Turkey reflect a phase of range expansion, then a certain amount of extralimital movement might be expected. In the USSR west of the Caspian (Azerbaijan SSR), nesting was first suspected in 1954 and confirmed in 1961 and 1963 (Vinogradov 1963). In May 1970, a displaying pair was seen in southern Turkey, and breeding was confirmed in 1971 in two well-separated parts of Anatolia: two pairs were present and one nest found on the Goksu delta (south coast) and nine pairs present (two nests found) on wetlands near Yarma on the central plateau; before 1970, there had been only one record for Turkey, and that as long ago as 1910 (Kumerloeve 1971, Ornithological Society of Turkey 1975). Thus, a westward expansion may be in progress, although it has yet to be ascertained whether this represents permanent colonisation or irruption due to desiccation farther east.

Acknowledgements

We should like to thank the various individuals who submitted details of their observations to the review bodies. R. A. Hume contributed much useful discussion of plumage characters and a valuable criticism of an earlier draft. M. Brandel, Jenö Radetzky, W. Semmler, Dr J. T. R. Sharroek and R. Triebel kindly provided details of other European records during 1975, while a summary of recent distributional changes was supplied by R. Hudson. Special thanks are due to the Earl of Aylesford and the head keeper of Paekington Estate, L. J. Brown, for permitting temporary access to private land.

Summary

A White-tailed Plover *Vanellus leucurus* at Paekington, Warwickshire, from 12th to 18th July 1975 was the first to be recorded in Britain and Ireland. Principal characteristics were generally vinous-brown upperparts and breast, a strikingly black-and-white wing pattern, uniformly white tail, and long, bright yellow legs. During 1975, White-tailed Plovers were reported in seven other European countries, constituting an unprecedented influx into Europe and perhaps reflecting a westward expansion of the breeding range.

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Thermal soaring of raptors

C. J. Henty



The relationship between the soaring of raptors and the daily temperature cycle is investigated

Although most birds are very active soon after dawn, no experienced field observer would expect to see birds of prey soaring over flat country at that time of day. The basic fact that large raptors start to soar several hours after daybreak has been known for a long time and there is now a natural explanation in terms of the way that upcurrents in the air are produced by the daily cycle of instability in the air mass (Wallington 1961). Over 60 years ago, before any detailed information relevant to thermal soaring was available from glider pilots or meteorologists, careful and systematic observations were made in India by Hankin (1913), who was particularly interested in the times at which soaring started in relation to season and visible heat shimmer. Most authors, however, even those concerned with bird flight or the characteristics of birds of prey, have paid only the most fleeting and qualitative attention to the subject. Most

modern studies, such as the remarkable work of Pennycuick (1972), have concentrated on detailed aerodynamics, although, very recently, Brooker (1974) found that the Wedge-tailed Eagle *Aquila audax* started soaring only after a period of low-level flapping that occupied about 2½ hours in the early morning. A standard work on animal locomotion (Gray 1968) could quote only Hankin (1913) on the temporal pattern of soaring. The extensive work on the migrations of raptors is not wholly relevant, since, in some instances, the birds move along ridges that generate non-thermal upcurrents and, in any case, it is not usually known for how long they have been flying before they pass over an observation point.

The Coto Doñana in Andalucía, Spain, is notable for possessing a dense and varied population of breeding birds of prey (Valverde 1958) in an area of flat coastal heathland. In early March 1973, I made some observations to investigate quantitatively the increase in soaring activity as both air and ground surface warmed up.

Observations were made at the field centre of the Estación Biológica de Doñana on 3rd, 5th and 6th March, all days when the weather was anticyclonic, relatively calm and with uninterrupted sun. On the three days, observations were made on seven, three and six occasions: they were limited due to other work and, in particular, none was made in the late afternoon since it seemed that interpretation would be too uncertain. Between 09.00 and 15.00 GMT, I made repeated counts of all birds of prey seen from a point covering about 200° of arc over a large area of heath with some dunes and woodland clumps of gum *Eucalyptus* and pine *Pinus*. Each time, I scanned slowly around with × 8.5 binoculars and decided whether each bird in the air was flapping or was soaring at one of three heights: low (below tree height), moderate (up to 100 m) or high. Due to heat shimmer, distance and the need to complete each scan in as short a time as possible (usually less than ten minutes), a large proportion of the records (72 out of 128) was not specifically identified, even though tripod-mounted × 20 binoculars were used to check on distant birds. The species-mix, however, was quite typical of general experience on the Coto Doñana in late winter and early spring.

Temperatures were taken within ten minutes of counts, by means of two mercury thermometers, one hung in shade 1½ m above ground level (air temperature) and the other pushed at each occasion into the upper 2 cm of a sand surface fully exposed to the sun. The air temperatures at midday closely resemble those recorded officially at Gibraltar and Faro.

Results

The major species involved were Marsh Harriers *Circus aeruginosus* (25) and Red Kites *Milvus milvus* (13), with smaller numbers of Imperial Eagles *A. heliaca* (eight), Griffon Vultures *Gyps fulvus* (four), Black Kites *M. migrans* (three) and Buzzards *Buteo buteo* (two). Kestrels *Falco tinnunculus* were frequent, but were excluded from this analysis due to their hovering; Short-toed Eagles *Circaetus gallicus* would have caused the same problem, but did not arrive until 17th March.

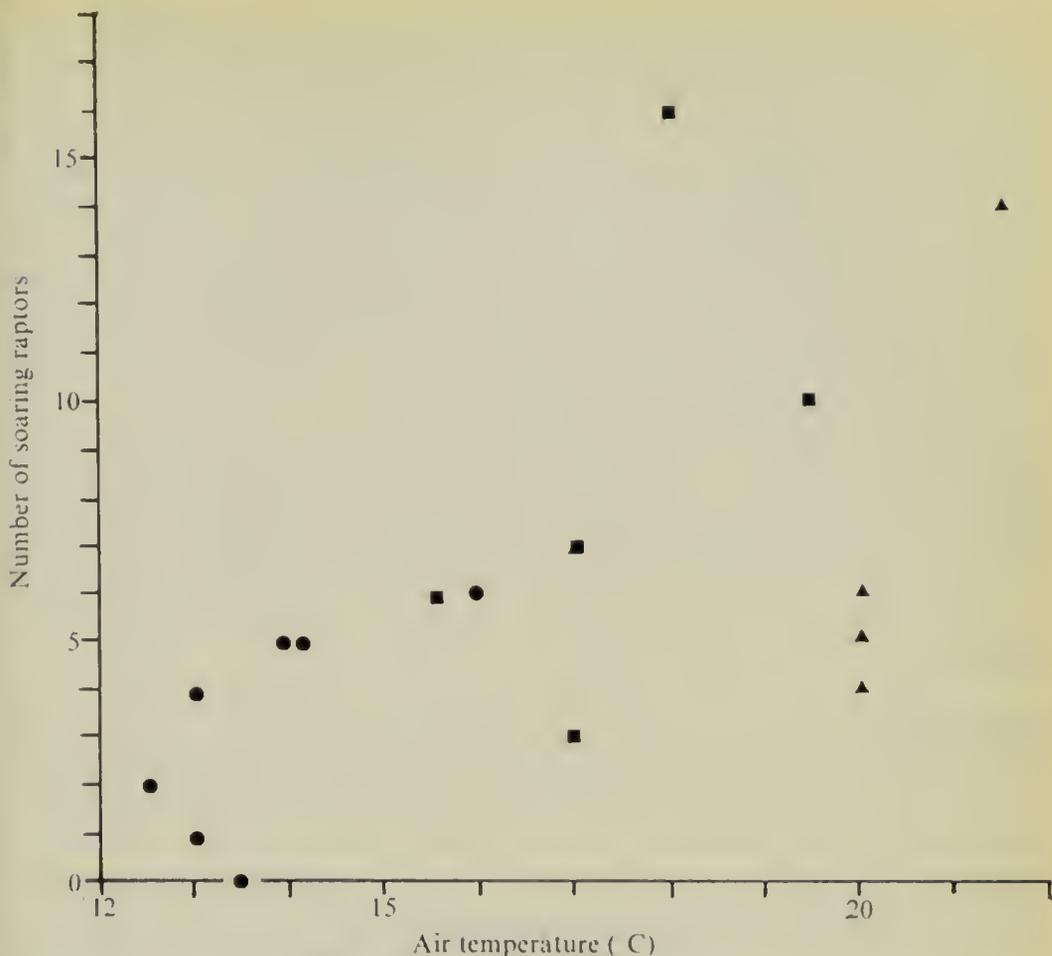


Fig. 1. The numbers of soaring birds of prey at Coto Doñana, Spain, in relation to air temperature. Observations made in 16 periods on three days in early March 1973 (see text). Time of observation indicated by symbols: dot = before 11.00 GMT; square = 11.00-12.59; triangle = 13.00-15.00. Morning data, correlation coefficient: Spearman $r_s = \pm 0.92$, $P < 0.01$

Raptors seen at low heights were flapping or flapping-and-gliding straight, while all those flying high, and most of those at medium heights, were soaring—circling with only occasional (or no) flapping. Marsh Harriers made up almost all (12 out of 14) of the identified flapping birds, but were also, together with the Red Kite, one of the commonest species seen soaring. There was no apparent difference between these two species in the temporal pattern of soaring.

The total number of all soaring raptors increased between 09.00 and 13.00 hours and then, in the afternoon, became very erratic. Because of this, and also for reasons mentioned later, my formal analysis of a temperature effect concerns the morning results, with 12.30 being a convenient dividing line (it would make little difference if the data were divided at 12.00 or 13.00). In fig. 1, the numbers of soaring birds are plotted against air temperature and, since there is a strong correlation between air temperature and time of day, this is almost the same as plotting soaring against time. It can be seen that high levels of soaring activity occur when the air temperature is at least 2-3°C higher than it was at the start.

For the morning data, there is a close relation between temperature and soaring. Thermal instability in the air can be caused by local heating and, hence, could conceivably be measured by the difference between the temperature of the air and that of the sand surface. In fact, this measure correlates less well with soaring, and a Kendall partial correlation analysis failed to demonstrate any independent effect involving the temperature of the sand surface. This turns out to be perfectly understandable, since, with the particular weather at the time of the observations, it would be expected on meteorological grounds that thermal instability would be closely connected with simple air temperature (see, for example, the tephigrams in Wallington 1961, page 146).

High soaring is characteristic particularly of the late morning and early afternoon. Thus, before 11.00 85% of the raptors were noted at medium heights, whereas after 14.00 65% were high; between these times, high birds made up 34% of the soarers. This result is statistically significant ($\chi^2 = 9.73$, $P \approx 0.022$, 2-tailed) and, although the height distinctions were subjective, I feel that the differences were typically noticeable and reliable.

Discussion

So close is the correlation between air temperature and time that it is not practicable to use partial correlations to test whether soaring is directly connected with temperature or is controlled by a distinct biological rhythm. I can offer three arguments on this point. First, since soaring birds are subject to the same physical principles as gliders it seems perverse to deny the relevance of gliding experience, which shows that under many conditions the possibility of thermal soaring is related to air temperature (Wallington 1961). Secondly, if change in soaring activity is really related to a general activity cycle, then the low-level flapping records should follow the same pattern. In fact, there is no significant correlation of low-level flight with time and, if anything, this activity is greatest in the earlier observations (Spearman $r_s = -0.24$). It must, however, be admitted that the Marsh Harrier contributed largely to this effect. Thirdly, there is at least one well documented example where large birds of prey flew long distances immediately after dawn. Houston (1976) studied a colony of Rüppell's Griffon Vultures *Gyps rueppellii* nesting in a gorge in Tanzania. These birds travelled up to 150 km for carrion and flew where the prevailing wind struck the cliffs of a rift valley: '... they were usually airborne shortly after first light and started leaving the gorge at about 06.30 hours.'

Hence, the lack of soaring activity in the early morning over the flat Coto Doñana may be economically and realistically ascribed to a lack of thermal upcurrents. It would be very interesting to study soaring activity in an area that included flat and hilly country and see if large raptors selected their habitat according to the soaring opportunities at different times of day.

The greater variability of the numbers of birds soaring in the afternoon might be related both to a more complex atmospheric state and to greater

variability among birds in their motivation, since, presumably by this time, some birds would have fed and others might still be hungry.

Finally, two points may be noted on particular species. As many Marsh Harriers were seen soaring over the heaths as beating low in the characteristic harrier fashion. Some of those soaring were displaying pairs, but many occurrences were of single birds, so that the role of soaring in this species would be worth further investigation. Black Kites arrived mainly in mid March, after this study ended, but casual observations suggested strongly that their flight activity was much more depressed by wet and windy weather than was that of the Red Kites. This impression fits with the distribution of the two species. Brown (1970) observed similar phenomena in the movements of the Black Kite in Africa. Thus, in Nigeria in October, 'It seemed probable that the kites were moving south in or at the edge of the dry air . . .'; while in Kenya, '. . . kites generally avoid wet, cold, or heavy cloud.' Although a soggy Black Kite is not a pretty sight, the immediate effect of bad weather on its activity seems to merit further observations.

In conclusion, I should emphasise that the main results strongly support the idea that soaring is related to the effect of the sun in heating the lower levels of the air mass; in many situations, however, varied topography and weather will complicate the relationship between temperature and a bird's activity in the air.

Acknowledgements

I am greatly indebted to the hospitality of Dr J. A. Valverde and to the present director, Dr J. Castro-Viejo, and other members of the staff of the Estación Biológica de Doñana for their help in this and other projects.

Summary

During three days of sunny, anticyclonic weather in early March 1973, the numbers of soaring birds of prey over the Coto Doñana correlated closely with the change in air temperature during the morning. It is argued that this result reflects the general change in atmospheric stability as a result of solar heating rather than an activity rhythm. The variable soaring activity in the afternoon could be due to a more complex meteorological situation or to changes in the reactivity of the raptors, or both.

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The European Atlas : woodpeckers

J. T. R. Sharrock

The EOAC, formed in 1971, now has 20 member countries. Results from 15 national atlas schemes have been combined in the compilation of some provisional maps



Even in well-watched Britain and Ireland, the atlas fieldwork of 1968-72 provided observers with new discoveries, and the final maps (Sharrock 1976) included unexpected—and some inexplicable—distributions, even of common species. Those who took part found the project exciting and interesting: it provided a reason for thorough investigation of all habitats in home areas and a good excuse for travelling to explore new ones. Many participants commented that it gave a welcome purpose to their normal, casual birdwatching. Even after five years of such work, enthusiasm had not wholly waned and enquirers were asking the date of a repeat survey. The success of similar completed atlas projects in Denmark (Dybbro 1976) and France (Yeatman 1976), and others still in progress, bears witness to observers' enthusiasm. It is little wonder, therefore, that the plans for a Europe-wide mapping project are progressing steadily under the aegis of the European Ornithological Atlas Committee.

The main aims of the EOAC are to standardise and co-ordinate atlas work throughout the continent, and to ensure that fieldwork on a 50-km square grid is carried out by every member nation during 1985-88, leading to the eventual publication of *The European Atlas of Breeding Birds* (see Sharrock 1973a, 1974; Sharrock, Bogucki and Yeatman in press). In preparation for this project, most countries represented on the EOAC have carried out, or are currently engaged in, national atlas schemes. These serve three purposes: first, to provide a baseline with which to compare 1985-88 results; secondly, to solve the administrative problems; and, thirdly, to train a team of observers in the special methods required in efficient atlas fieldwork (see Sharrock 1971, 1973b). A national atlas project based on 50-km squares has already been completed in the German Federal Republic (Rheinwald 1977).

There are now 20 delegates on the EOAC, representing Belgium, Bul-

garia, Czechoslovakia, Denmark, Estonian SSR, Finland, France, German Federal Republic, Italy, Malta, Netherlands, Norway, Poland, Republic of Ireland, Spain, Sweden, Switzerland, Turkey, United Kingdom and Yugoslavia. Ten major European nations, however, remain unrepresented: Albania, Austria, German Democratic Republic, Greece, Hungary, Iceland, Luxemburg, Portugal, Romania and USSR. The committee hopes, therefore, that publicity created by publication of some of its incomplete data may encourage non-members to join and participate (it is very aware, for instance, that almost half of the 50-km squares in Europe are in European Russia, and would especially welcome representation and participation from the USSR).

One provisional map has already been published—Red-backed Shrike *Lanius collurio* (Sharrock 1975)—but the delegates at the 3rd meeting of the EOAC, at Symbark in Poland in October 1976, selected the woodpeckers (Picidae) and pipits *Anthus* for the first series of comparative maps. These have now all been plotted and those of the woodpeckers are shown here (figs. 1-10). Even though very incomplete (the unsurveyed areas are shaded), they begin to show the patterns which we may hope for as a result of Europe-wide mapping in 1985-88. The up-to-date distribution maps in *The European Atlas* will have a far greater precision—based on actual fieldwork within proscribed areas during a defined period of time—than was possible in the pioneer work of, for example, Hollom (in Peterson *et al.* 1954) and Voous (1960).

By spring 1977, data were available from half of the countries of Europe. Although coverage was complete in some, in others, which had started atlas projects more recently, it was only partial. There was information from the high total of 1,098 50-km squares, but this represents only one-quarter of the area of Europe.

Acknowledgements

The maps display the results of national atlas schemes; they are shown by courtesy of the atlas organisations in the member countries and the delegates to the EOAC who supplied the data: Dr Z. Bogucki, Dr P. Devillers, Dr St. Dontshev, T. Dybbro, K. Hyytiä, R. F. Porter, Dr F. Purroy, Dr G. Rheinwald, Dr A. Schifferli, D. Scott, Dr K. Šišasny, Dr S. Svensson, Drs R. M. V. Teixeira and L. J. Yeatman. The base map is reproduced by permission of the secretariat of the European Invertebrate Survey.

Summary

Provisional atlas data from 15 countries are shown for the woodpeckers (Picidae); maps of the pipits *Anthus* have also been plotted. These are the first such series of maps to be derived from the fieldwork by member nations of the European Ornithological Atlas Committee. Delegates are sought from the ten major European countries not yet represented on the EOAC. Europe-wide mapping is planned for 1985-88.

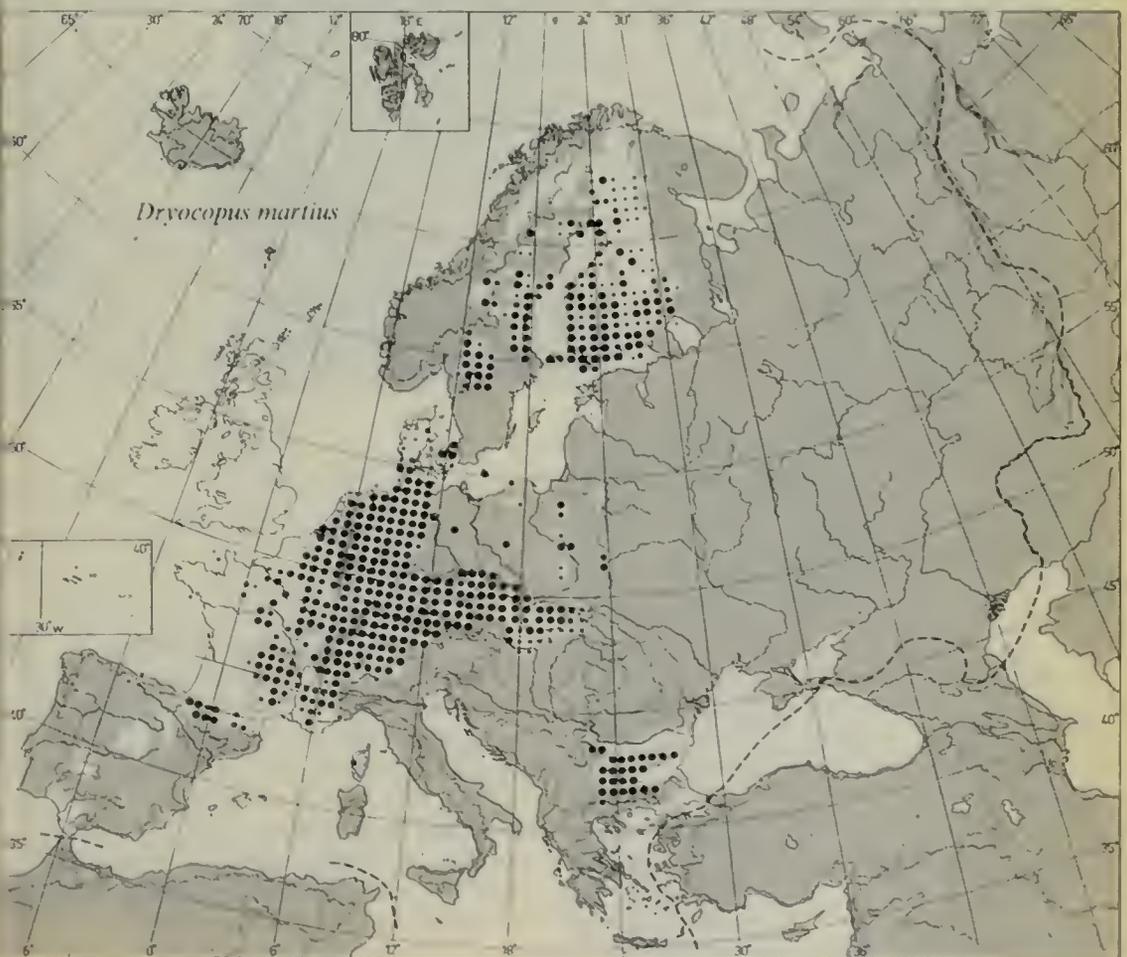
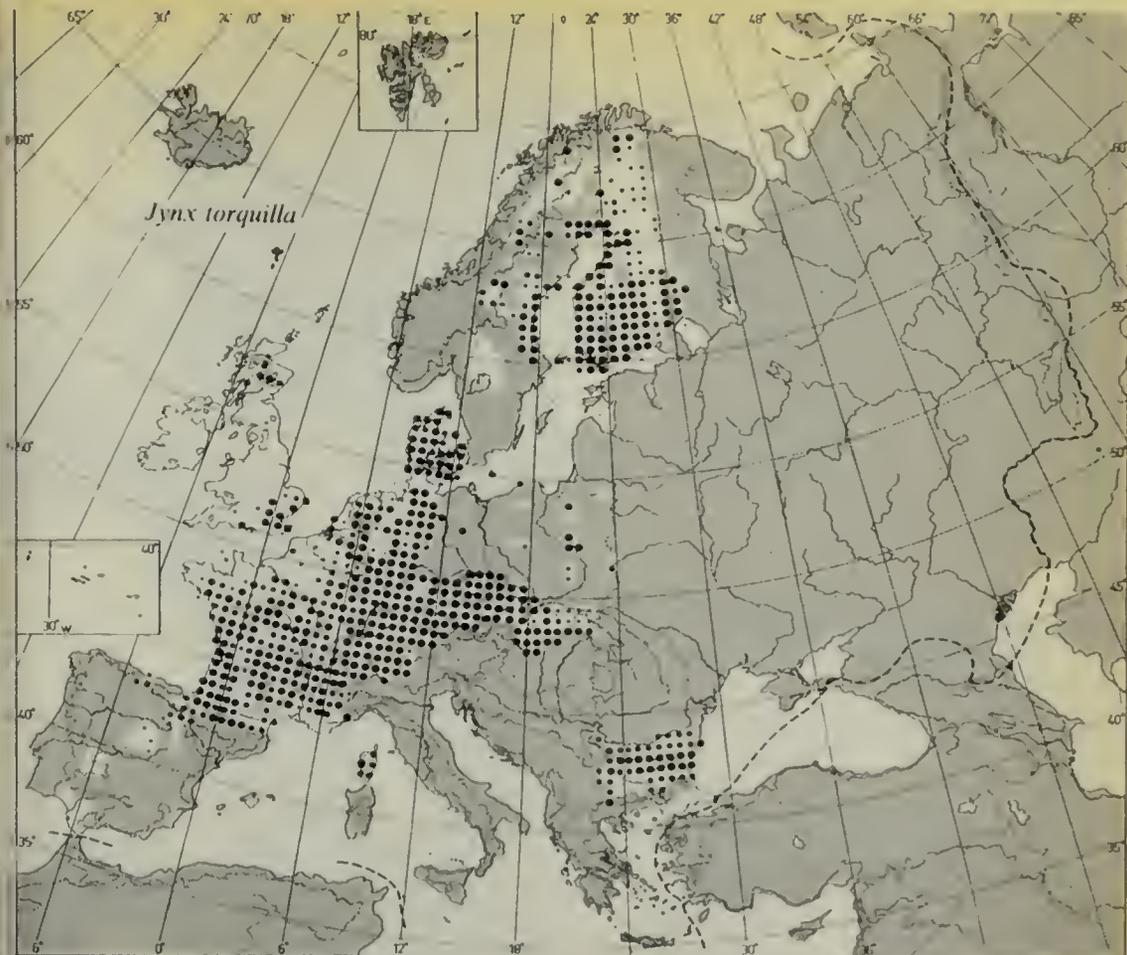
! Figs. 1-10 show 1968-76 breeding season records within 50-km squares. Large dots indicate confirmed breeding, medium dots probable breeding and small dots mere presence in suitable breeding habitat



128. Left, pair of Wrynecks *Jynx torquilla* at nest-hole, Austria, June 1972 (A. N. H. Peach). Fig. 1. In view of marked withdrawal from Channel coast of France and Belgium, surprising that any English Wrynecks left at all. Colonisation of Scotland, never occupied in Wryneck's heyday in early 19th century, being watched with interest: note that in Finland breeding occurs well to north of Arctic Circle

129. Below, male Black Woodpecker *Dryocopus martius* at nest-hole, Sweden (M. D. England). Fig. 2. Range of this shy species, occupying mainly larger woods and forests, has been slowly expanding westwards in Denmark, Netherlands, Belgium and France. Adults largely sedentary, but ringing has shown that young may travel considerable distances (over 500 km); there is, however, still no satisfactory record of vagrancy to Britain and Ireland





130. Right, female Grey-headed Woodpecker *Picus canus* at nest-hole, Finland, June 1973 (J. B. and S. Bottomley). Fig. 3. Close relation of Green Woodpecker, but with far more widespread world range, extending east to Japan; distinct races in Malaysia and Sumatra. Range slowly expanding westwards across traditional Green Woodpecker territory in Europe, in narrow finger extending towards Finistère

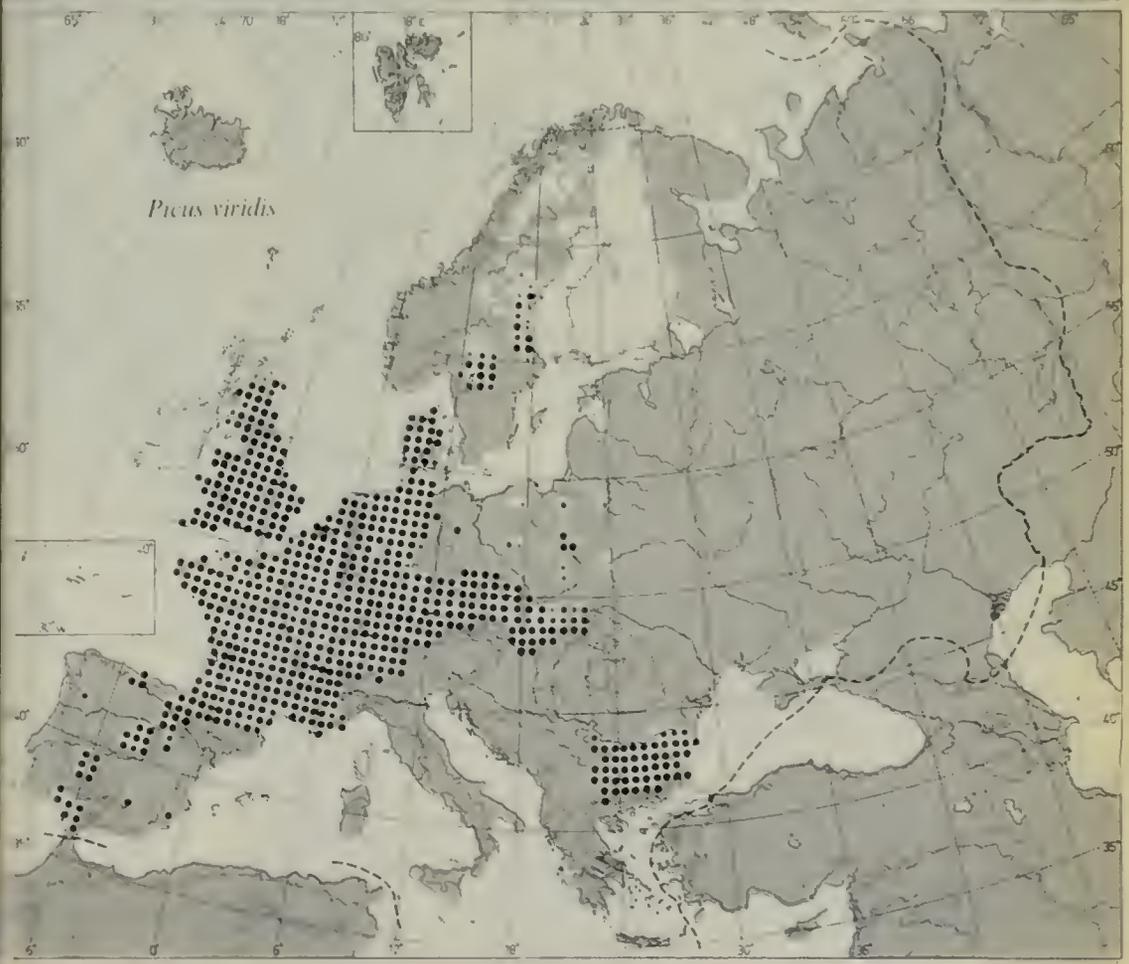


131. Left, male Green Woodpecker *Picus viridis* at nest-hole, Sussex, July 1975 (A. N. H. Peach). Fig. 4. Closely related to more widespread Grey-headed Woodpecker, from which probably separated by geographical isolation during Pleistocene glaciation, and also to relic North African Green Woodpecker *P. vaillantii*. Currently, spreading northwards in Scotland. Note absence from Finland, although present to south and east in uncovered areas of Baltic States

Picus canus

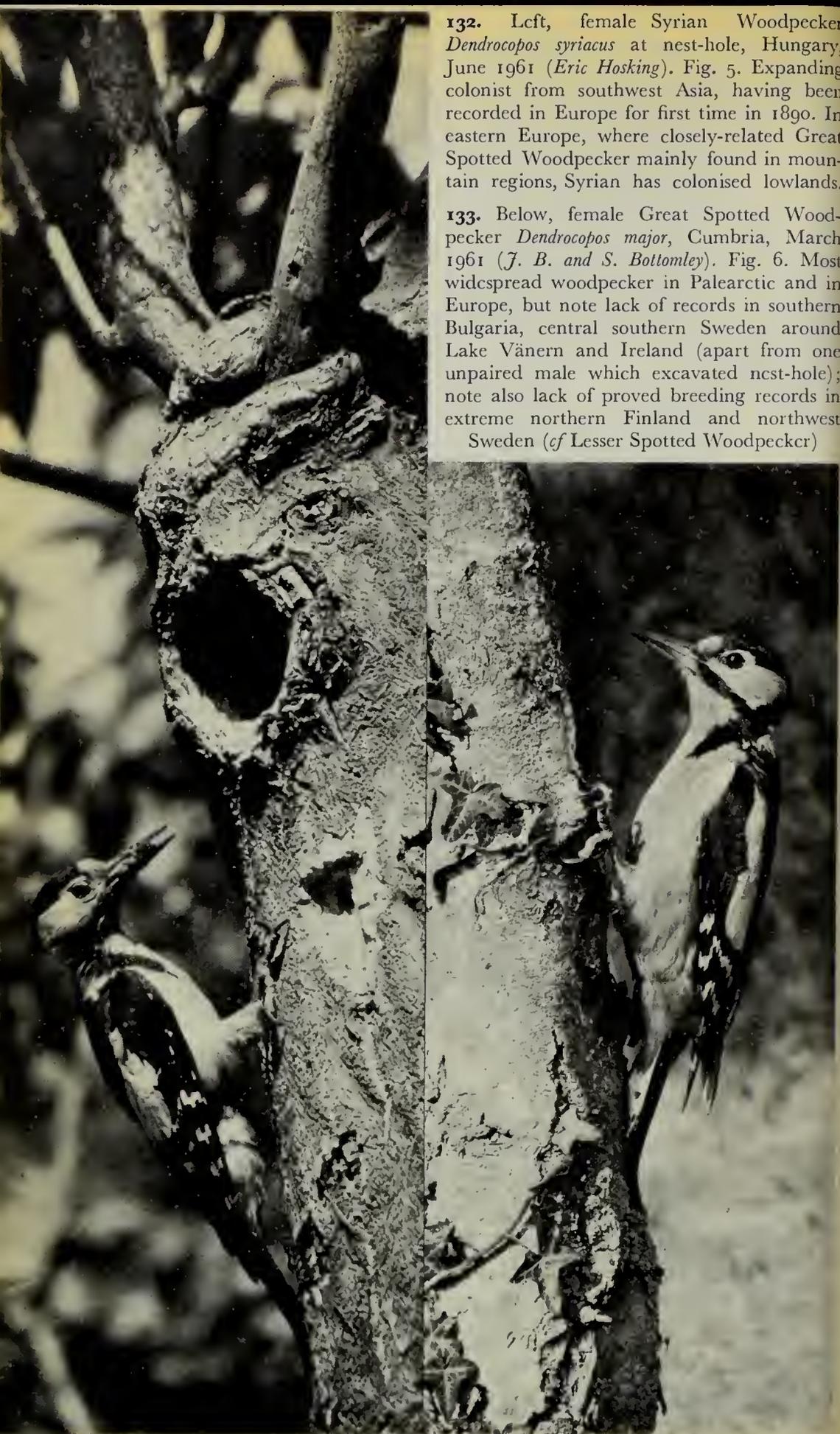


Picus viridis



132. Left, female Syrian Woodpecker *Dendrocopos syriacus* at nest-hole, Hungary, June 1961 (*Eric Hosking*). Fig. 5. Expanding colonist from southwest Asia, having been recorded in Europe for first time in 1890. In eastern Europe, where closely-related Great Spotted Woodpecker mainly found in mountain regions, Syrian has colonised lowlands.

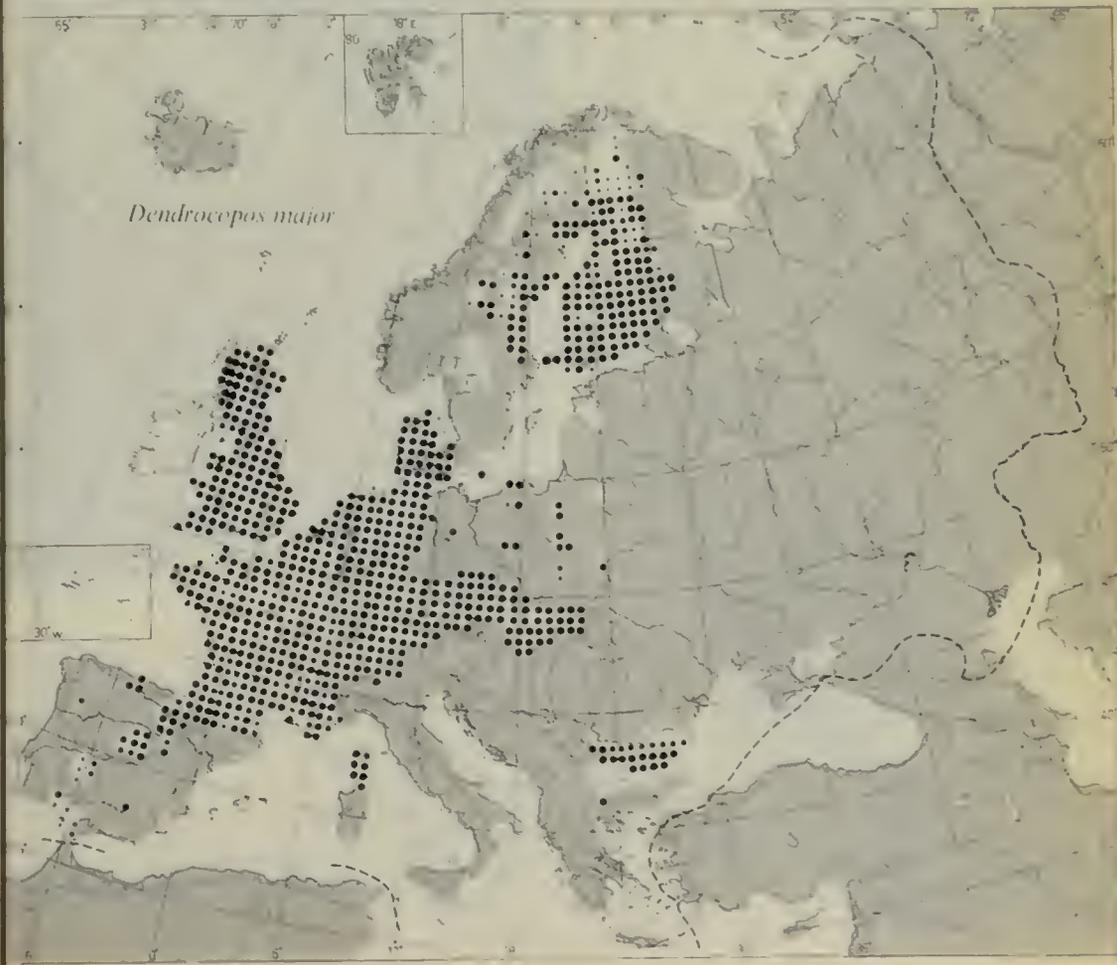
133. Below, female Great Spotted Woodpecker *Dendrocopos major*, Cumbria, March 1961 (*J. B. and S. Bottomley*). Fig. 6. Most widespread woodpecker in Palearctic and in Europe, but note lack of records in southern Bulgaria, central southern Sweden around Lake Vänern and Ireland (apart from one unpaired male which excavated nest-hole); note also lack of proved breeding records in extreme northern Finland and northwest Sweden (*cf* Lesser Spotted Woodpecker)



Dendrocopos syriacus



Dendrocopos major



134. Right. Middle Spotted Woodpecker *Dendrocopos medius*, Austria, summer 1972 (R. G. Carlson). Fig. 7. Thin and patchy west European distribution suggests that this species, typical of vanishing virgin broadleaved forest fauna, may be failing to adapt so well as its close relation the Great Spotted Woodpecker to man's changes to woodland distribution, structure and composition. Note isolated Pyrenean population (cf White-backed Woodpecker)



135. Left, female White-backed Woodpecker *Dendrocopos leucotos*, Sweden (Gunnar Lind). Fig. 8. Europe's most sparse woodpecker, being found in only 5% of surveyed 50-km squares, with highly disjunct distribution. World distribution resembles Grey-headed Woodpecker, extending east to Japan and Kamehatka, and, similarly, has apparently reinvaded Europe from the east since last glaeiation. Note relic population in Pyrenees

Dendrocopos medius



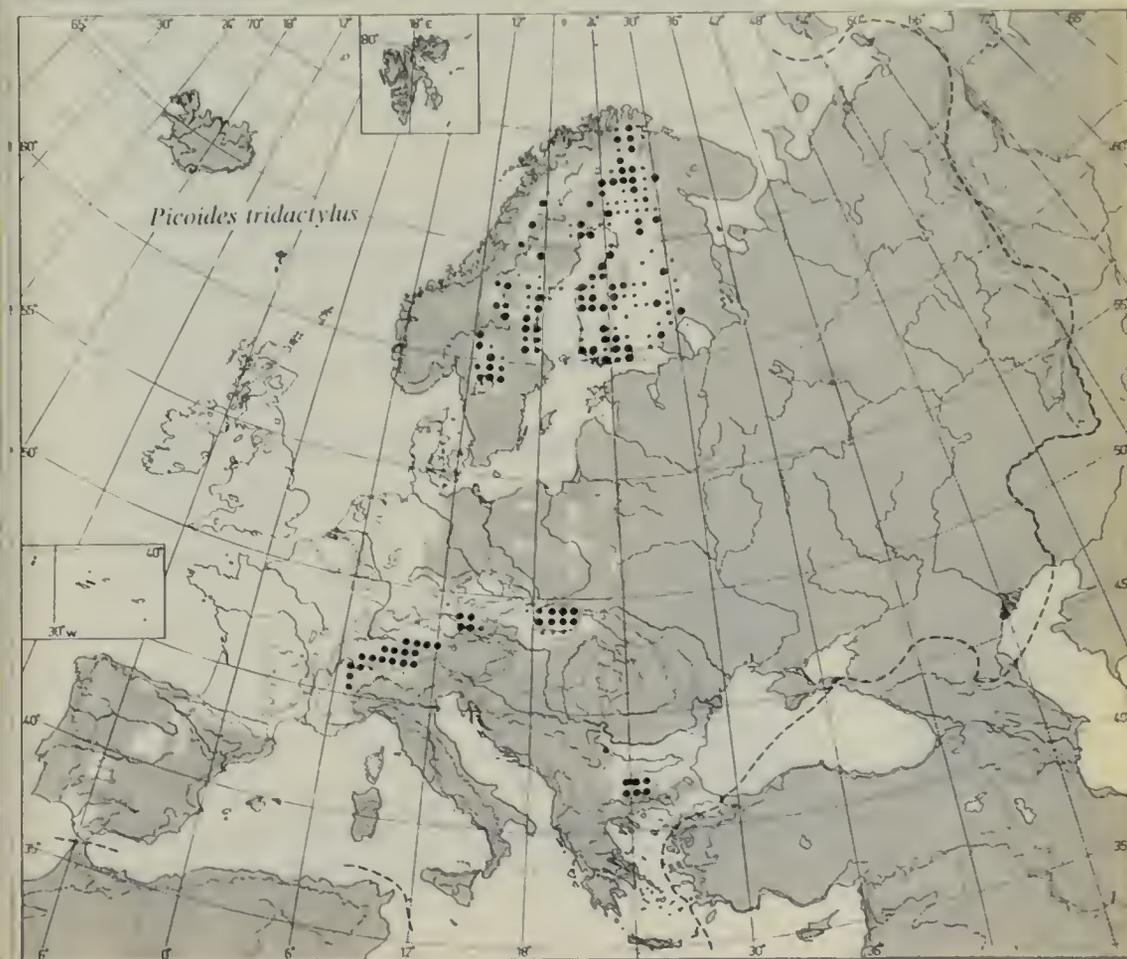
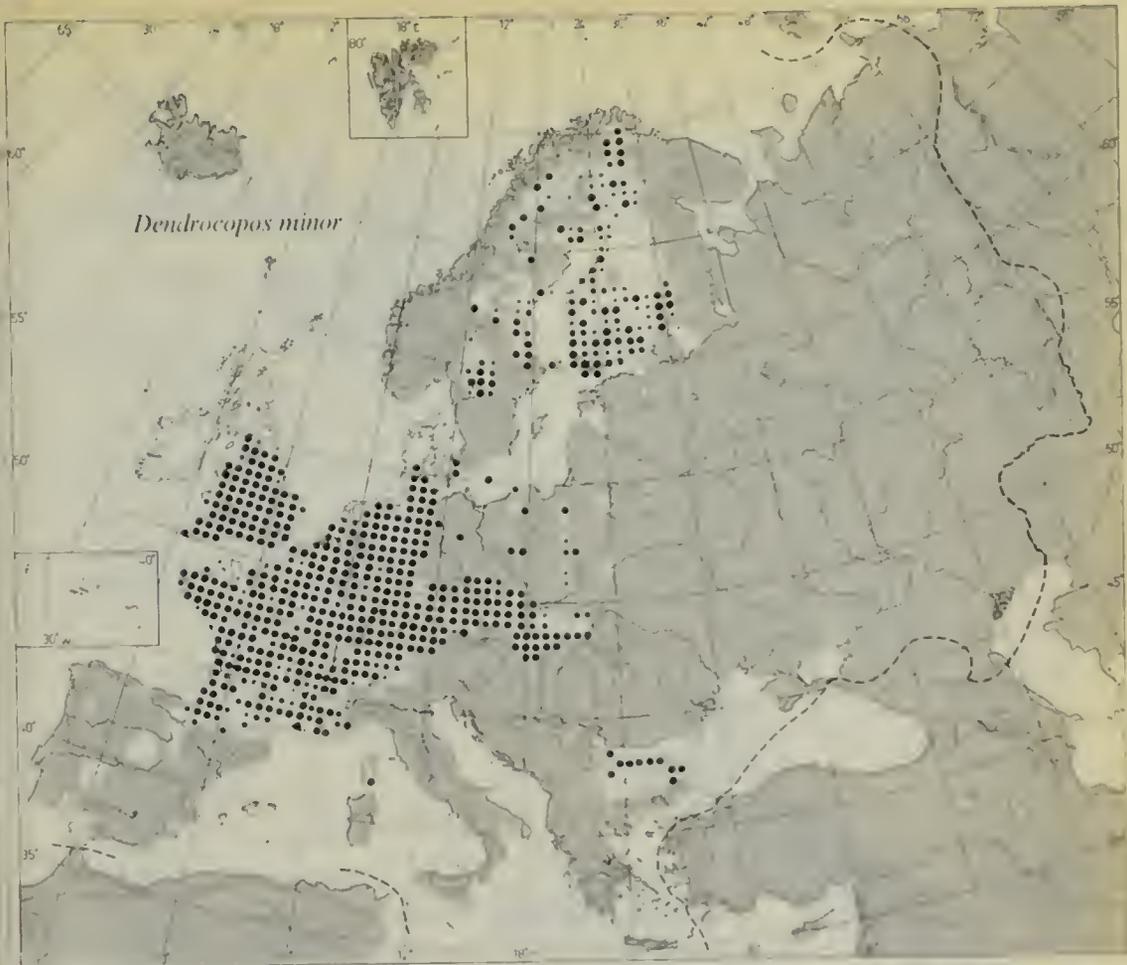
Dendrocopos leucotos





136. Above, male Lesser Spotted Woodpecker *Dendrocopos minor* at nest-hole, Norfolk, summer 1972 (*M. D. England*). Fig. 9. Virtual absences from Denmark and Scotland appear strange in comparison with presence in Sweden and Finland north to 70°N. So far, records surprisingly few in Spain.

137. Left, male Three-toed Woodpecker *Picoides tridactylus*, Finland, summer 1972 (*Hannu Hautala*). Fig. 10. Only European woodpecker to occur in North America as well as Eurasia. Not widespread, however, within Europe, with distinct central and southeast European mountain pockets, completely divorced from more continuous population of northern coniferous and birch forests



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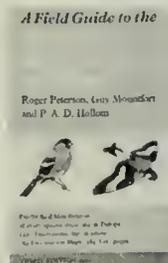
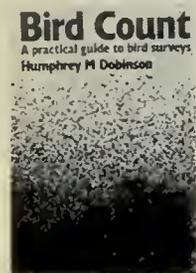
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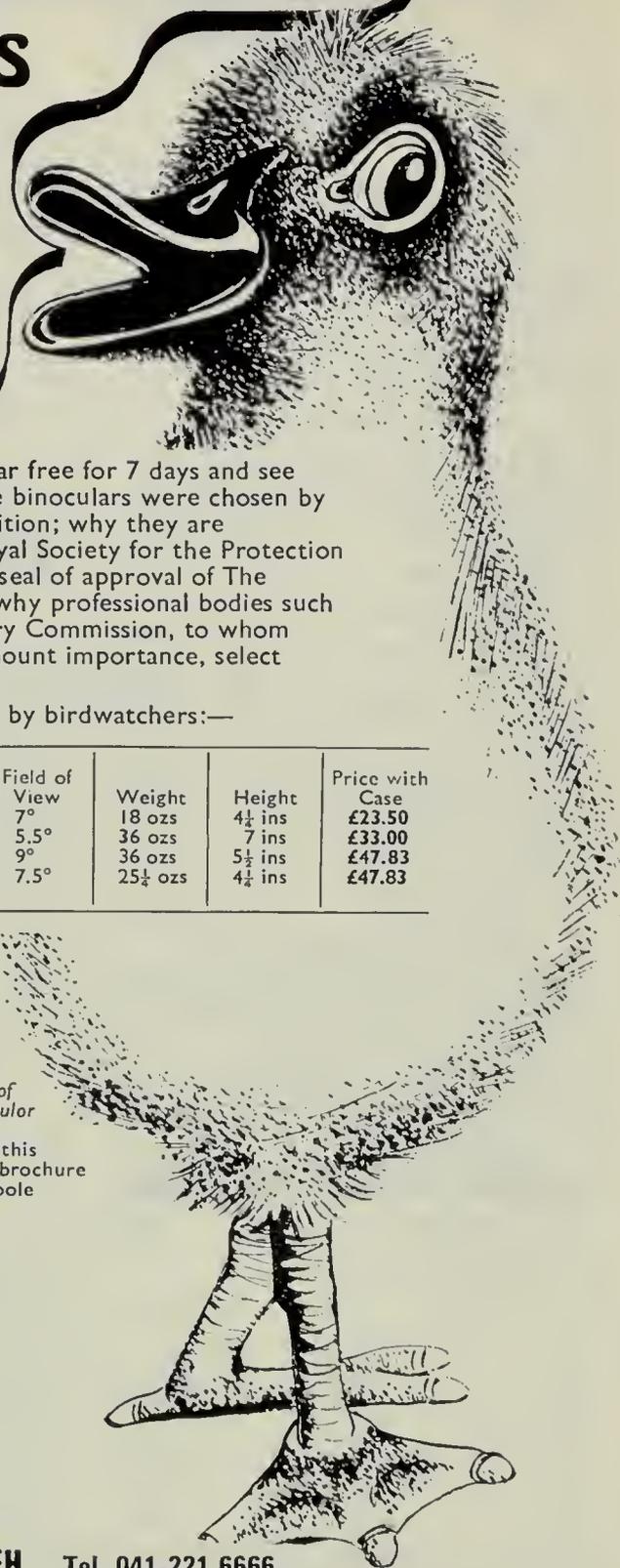
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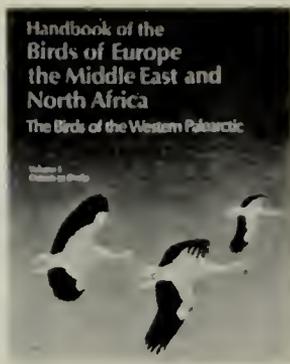
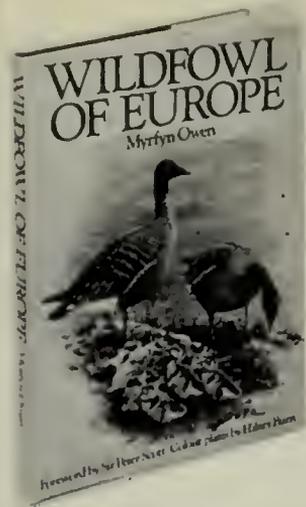
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Evolution Illustrated by Waterfowl. By **David Lack.** (Blackwell Scientific Publications, Oxford, 1975. Paperback, £1.50.) Waterfowl are used to illustrate the theory of animal evolution in a totally readable and comprehensible manner.

Population Studies of Birds. By **David Lack.** (Clarendon Press, Oxford, 1966. Hardback, £6.50; paperback, £3.75.) A sequel to and an extension of *The Natural Regulation of Animal Numbers*, the author's 1948 classic, drawing on many detailed studies to show how bird populations are regulated.

The Naturalized Animals of the British Isles. By **Christopher Lever.** (Hutchinsons, London, 1977. Out of print.) Includes accounts of the histories of the 16 introduced species of birds in Britain.

Ocean Wanderers. By **Ronald M. Lockley.** (David and Charles, Newton Abbot, 1974. Temporarily out of print.) An enthralling account of seabirds in all their aspects; very well illustrated.

Finches. By **Ian Newton.** (Collins, London, 1972. £4.50.) Illuminating and well-written account by a professional scientist who is also a superb field naturalist.

Ducks of Britain and Europe. By **M. A. Ogilvie, illustrated by Carol Ogilvie.** (T. and A. D. Poyser, Berkhamsted, 1975. £5.00.) Habitats, habits and identification.

Wildfowl of Europe. By **Myrfyn Owen.** (Macmillan, London, 1977. £12.00 until 31/12/77, then £15.00.) Authoritative text, beautifully illustrated by Hilary Burn and Joe Blossom.

Breeding Birds of Britain and Ireland. By **John Parslow.** (T. and A. D. Poyser, Berkhamsted, 1973. £4.60.) A historical survey based on a comprehensive literature search.

Flight Identification of European Raptors. By **R. F. Porter, Ian Willis, Steen Christensen and Bent Pors Nielsen.** (T. and A. D. Poyser, Berkhamsted, (second edition) 1976. £5.60.) A masterly review of some of the biggest problems for the bird-identifier.

Birds of North America. By **Chandler S. Robbins, Bertel Bruun and Herbert S. Zim, illustrated by Arthur Singer.** (Golden Press, New York. £5.95.) Perhaps the handiest and fullest of the field guides to North American birds (some of which reach Europe each year).

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Precocial Birds



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skarv

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Rare Birds in Britain and Ireland. By **J. T. R. Sharrock and E. M. Sharrock.** (T. and A. D. Poyser, Berkhamsted, 1976. £6.00.) Shows the changing patterns of records of our 220 rarest migrants and vagrants.

Scarce Migrant Birds in Britain and Ireland. By **J. T. R. Sharrock.** (T. and A. D. Poyser, Berkhamsted, 1974. £3.80.) Analyses records of migrants of Hoopoe to Arctic Warbler rarity.

The House Sparrow. By **D. Summers-Smith.** (Collins, London, 1963. Out of print.) A distinguished amateur's investigations into the life of one of our commonest birds.

Identification Guide to European Passerines. By **Lars Svensson.** (K. L. Beckmans Tryckeri, Stockholm, (second edition) 1975. £3.30.) An essential pocketbook for ringers.

Natural History Photography. By **D. M. Turner-Ettlinger.** (Academic Press, London and New York, 1974. £8.00.) Five of the chapters are devoted to birds—well worth possessing.

Atlas of European Birds. By **K. H. Voous.** (Nelson, London, 1960. Out of print.) World distributions of all European species.

The Handbook of British Birds. By **H. F. Witherby, F. C. R. Jourdain, Norman F. Ticehurst and Bernard W. Tucker.** (H. F. and G. Witherby, London (five volumes) 1938-41. Out of print.) The books that put Britain firmly in the forefront of world ornithology. Still of enormous value for reference.

4 For the serious student



Handbuch der Vögel Mitteleuropas. Edited by **U. N. Glutz von Blotzheim, with K. M. Bauer and E. Bezzel.** (Akademische Verlagsgesellschaft, Frankfurt am Main, 1966-73 (seven volumes, so far). Latest volume, DM 112.) Mammoth handbook of the birds of central Europe.

Crows of the World. By **Derek Goodwin.** (Cornell University Press, Ithaca, 1976. £15.00.) Authoritative survey of one of his two favourite families by a life-long student of bird behaviour who is also a distinguished taxonomist.

Flamingos. Edited by **Janet Kear and Nicole Duplaix-Hall.** (T. and A. D. Poyser, Berkhamsted, 1975. £8.00.) An absorbing symposium on a group of birds, which, since Lewis Carroll, has fascinated many.

Bird Navigation. By **G. V. T. Matthews.** (Cambridge University Press, 1968. Hardback, £6.00; paperback, £2.50.) Nine years old, but still the best on this theme.

The Palaearctic-African Bird Migration Systems. By **R. E. Moreau.** (Academic Press, London and New York, 1972. £9.40.) Prodigious compilation, putting our migration systems into a world perspective.

The Web of Adaptation. By **David W. Snow.** (Collins, London, 1976. £4.50.) Exciting and difficult field studies of some Neotropical birds which illuminate the ecological aspects of less exotic species.

The Birds of the Palearctic Fauna. By **Charles Vaurie.** (H. F. and G. Witherby, London, two volumes, 1959 (Passeriformes) and 1965 (Non-passeriformes). Out of print.) An essential source of reference for the serious ornithologist.

Der Zug Europäischer Singvögel. By **Gerhardt Zink.** (Vogelwarte Radolfzell, West Germany, 1973 and 1975 (two volumes, so far). DM48 and DM62.) An atlas of ringing recoveries.

European news

This is the second report on recent ornithological events in Europe. The first (*Brit. Birds* 70: 218-219) included records from six nations; this summary contains data from nine. We should greatly welcome the receipt of information from other countries, so that these periodic reports can be more complete and any patterns become clearer.

Unless otherwise stated, all dates refer to 1977

Black-browed Albatross *Diomedea melanophrys* SWEDEN One off west coast in September was first Swedish record.

Cattle Egret *Bubulcus ibis* SWITZERLAND A total of 12 (including five together) in April to June and two in early September (first Swiss record was in 1974).

Bittern *Botaurus stellaris* FINLAND Has been increasing through 1970s so that in south Finland there are now many nests at lakes where no Bitterns were seen in the 1960s. Despite a cold, rainy summer, 1977 produced record numbers.

Pochard *Aythya ferina* ITALY After discovery as breeding species in 1960, becoming more and more frequent and now regular in northeast Italy. In spring and summer 1976 and 1977, breeding discovered in southern Italy, with several females and broods on freshwater reservoir in northern Apulia.

Goldeneye *Bucephala clangula* CZECHOSLOVAKIA In southern Bohemia, the species' most southern regular breeding area in Europe, nesting began in the Třeboň pond basin in 1960 (three females with broods),

where the pond dams are overgrown by very old oaks *Quercus* (some 200 or 300 years old) with many available nest-holes. Nevertheless, the use of nestboxes increased the breeding population from nine families in 1961 to 17 in 1964 and 22 in 1967. The population in the Třeboň basin is now probably about 70-80 breeding pairs. In the well-known Velký a Malý Tisý reserve, 27 out of 30 nestboxes were occupied by Goldeneyes in 1977, although Dr M. Boucliner reported successful breeding in only 17. Goldeneyes have spread to other parts of southern Bohemia, and in 1976 at least two pairs bred in holes in willows *Salix* in northern Moravia.

Steller's Eider *Polysticta stelleri* DENMARK Four at Mosede/Copenhagen, one at Mon and one at Christianso all stayed for long periods in spring.

Smew *Mergus albellus* SWITZERLAND High count of 72 (including 36 adult males) on Zürich Lake on 20th March.

Brent Goose *Branta bernicla* DENMARK Highest number ever: 9,000 at Hojer, south Jutland, on 10th April.

Red Kite *Milvus milvus* DENMARK Almost double normal numbers in spring 1976: 20 migrants between 8th May and 26th June at Skagen, northern Jutland. Again many in spring 1977, including flocks of ten at Nyord/Mon and five at Røvrig on 5th May.

Hobby *Falco subbuteo* DENMARK High migrant totals at Grilleleje, north Zealand: 37 on 4th May and 27 on 5th May.

Peregrine *Falco peregrinus* DENMARK Still increasing: about 15 sightings in northern Jutland during 1976.

Red-footed Falcon *Falco vespertinus* AUSTRIA Breeding proved in the Rheindelta in Vorarlberg, the extreme western land: three or four young being fed by adults in old nest of Magpie *Pica pica* on 28th July (per Raffael Winkler). DENMARK About double normal numbers in spring 1976: 25 migrants between 8th May and 10th June at Skagen, northern Jutland.

Quail *Coturnix coturnix* DENMARK Highest numbers for many years in 1976: 15 singing in northern Jutland. SWITZERLAND A very good year (the last 'Quail year' was in 1970).

Kentish Plover *Charadrius alexandrinus* DENMARK Breeding population still decreasing.

Red-necked Phalarope *Phalaropus lobatus* DENMARK From mid to late August 1977.

seen at almost every suitable locality, sometimes in flocks of six or seven.

Wilson's Phalarope *Phalaropus tricolor* GERMAN FEDERAL REPUBLIC One at Hauke-Haien-Koog in Schleswig-Holstein from 23rd to 25th May.

Lesser Crested Tern *Sterna bengalensis* SWITZERLAND Adult in Geneva from 19th to 20th August was second Swiss record.

Sandwich Tern *Sterna sandvicensis* GERMAN FEDERAL REPUBLIC A total of seven at three localities in the Rhein valley between 26th April and 27th May.

Bee-eater *Merops apiaster* SWEDEN One pair nested on island of Öland in 1976, but one adult killed by car and young did not fledge. In 1977, one pair from a flock of nine at Jönköping (58°N) successfully reared two young. These are the first Swedish breeding records.

Hoopoe *Upupa epops* DENMARK Three pairs bred in west Jutland (only previous record this century was in 1970).

Black Woodpecker *Dryocopus martius* ITALY Previously considered to be present only on the Alps and in the extreme south in Calabria, recently found in forests of beech *Fagus sylvatica* near Salerno and Rieti; probably present also in other suitable parts of the Apennines.

Wryneck *Jynx torquilla* BELGIUM Several cases of breeding reported, whereas a few years ago they were very rare.

Red-rumped Swallow *Hirundo daurica* GERMAN FEDERAL REPUBLIC One at Wangen on Lake Constanz on 9th April.

Nutcracker *Nucifraga caryocatactes* NORWAY Several small flocks of slender-billed race *N. c. macrorhynchos* in August/early September near Oslo and Revtangen. SWEDEN Heavy irruption after almost complete crop failure of hazel *Corylus avellana* in most of Scandinavia.

Nuthatch *Sitta europaea* FINLAND After invasion of the eastern race *S. e. asiatica* in autumn 1976 (*Brit. Birds* 70: 218), there have been instances of breeding (not recorded after previous invasions).

Bearded Tit *Panurus biarmicus* SWITZERLAND After first breeding in 1976, colonisation of further new sites on south bank of Lake Neuchâtel, with breeding certain in five localities and probable in a sixth.

Stonechat *Saxicola torquata* DENMARK For third spring in succession, several (15-30 in 1977) seen on west coast of Jutland.

Thrush Nightingale *Luscinia luscinia*
 SWITZERLAND First-year female found dead in Davos on 25th August was first Swiss record.

Cetti's Warbler *Cettia cetti* SWEDEN One at Ottenby on 12th May was first Swedish record. SWITZERLAND One or two singing in the Bolle di Magadino (where one apparently overwintered despite cold and snow) and near Veyrier during April to June.

Reed Warbler *Acrocephalus scirpaceus*
 FINLAND Breeding numbers have increased greatly in last ten years on southern lakes.

Melodious Warbler *Hippolais polyglotta*
 SWITZERLAND New colonisation in canton of Geneva: three cases of proved breeding

Fan-tailed Warbler *Cisticola juncidis*

SWITZERLAND Again singing in summer near Zürich and on Lake Geneva.

Citrine Wagtail *Motacilla citreola* SWEDEN First breeding record reported from province of Jämtland, about 63°N (*cf Brit. Birds* 70: 439).

Siskin *Carduelis spinus* NORWAY Many comments on scarcity in winter 1976/77 (*cf* scarcity in Switzerland and Britain, *Brit. Birds* 70: 219 and 510).

Redpoll *Acanthis flammea* BELGIUM Continued sprcad of breeding range.

Two-barred Crossbill *Loxia leucoptera*
 FINLAND Reported from mid July at Säppi on west coast and at Lågskär and Signilskär in Åland Islands, with the most being a flock of 16 at the last locality on 10th August (*per* Göran Andersson).

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Personalities

10 T. P. Inskipp

It may not be known to readers that 'Personalities' featured in *British Birds* usually choose their own biographers. The fact that two of us are writing this piece is not, however, a reflection on Tim Inskipp's decisive nature, but shows the keenness of us both to write about one of Britain's leading ornithological characters.

One of the features which immediately identifies Tim is his sartorial indifference. Whether sea-watching at Dungeness or attending a meeting

at the House of Lords, he is likely to have bare feet and be wearing a faded T-shirt and patched jeans. His long, Mohican length, black hair and tanned, foreign features help to substantiate one's impression of a cross between a Red Indian and a hippie. But one should not be misled by this outward appearance, for here is a person of great knowledge and intelligence who is more concerned with the depth of a subject than any superficial gloss.

He was born in 1945 at Hastings, where he developed an early interest in birds while studying at Hastings Grammar School. From there, he went to Bangor University to take an honours degree in botany. A variety of jobs and expeditions followed, among which was a particularly notable eight-month trip to India, culminating in a 14-day passage from Bombay to Kuwait shared with a couple of hundred Arabs and Indians, during which time his belongings were chained to him and he lived on two bowls of rice a day.

His first involvement with conservation was comparatively recent. In 1972, he helped to warden Peregrine sites in Wales, thus beginning his present association with the Royal Society for the Protection of Birds. He followed this with a two-year study of the importation of birds into Britain, resulting in the meticulously compiled *All Heaven in a Rage* (1975). In 1976, further work on bird importation, again mainly at Heathrow airport, culminated in *Airborne Birds* (1976), written jointly with Gareth Thomas.

138. T. P. Inskipp (*Jane Inskipp*)



These were the first attempts both to qualify and to quantify importation of wild birds into Britain and the findings would have been by no means so complete were it not for Tim's encyclopedic knowledge, assisted by an almost photographic memory and a devotion to detail and precision. He is at present on a four-month trip to India to look at importation from the trappers' end, and no doubt this will result in a further detailed exposition.

In between studies of importation, he returned to Wales to spend a few months surveying the birds of 23,000 ha of upland. Bare-footed and often bare-topped, he has left an indelible mark on that corner of Britain. His outstanding capability in the field—he is an excellent botanist as well as ornithologist—makes him one of the modern generation of field men who have reached heights of proficiency in identification which were unthinkable not many years ago.

Travelling has always been an important part of Tim's life, but his driving skill is something to be avoided at all costs. On one journey between Newmarket and Cambridge he picked up a hitch-hiking priest who crossed himself at every corner and, instead of saying 'Thank you' at the end of the journey, stumbled out muttering 'God be with you, my son'. He is resourceful—once, for example, when hitching from Scotland, he found himself with nothing edible save a packet of butter and a pot of jam, so promptly halved the butter and made a sandwich. His catholic tastes extend to a variety of plants and moths; even an obnoxious house plant in the home of a prominent MP was defoliated without any apparent effect—except to the plant. He is adaptable and placid: ask Peter Grant who drove over him, sleeping in his bag on the observatory path at Dungeness—there was more damage to the car than to Tim.

He is a thoroughly likeable person, with a reluctance to push himself forward. This, combined with a dislike for writing papers, means that he will have to be gently coaxed into putting on record the many more ideas brewing in his mind. If this can be done, he is certain to make an outstanding contribution to ornithology.

ROGER LOVEGROVE and RICHARD PORTER

Mystery photographs

11 The fine bill, distinctive face pattern and rounded crown give the warbler (plate 123, page 456, repeated at reduced size here) the look of a typical *Phylloscopus*. Without wing-bars or prominent supercilium, it looks rather ordinary, and there is nothing about its structure to suggest other than a Willow Warbler *P. trochilus* or Chiffchaff *P. collybita*. The careful observation needed to separate these two provides valuable practice for identifying other difficult warbler pairs or groups.



139. Mystery photograph 12.
What is this species? Answer
next month



Having thus narrowed the choice, the glossy, dark brown or blackish feet and legs (which look strikingly thin), and the short projection of the primaries beyond the secondaries readily identify the bird as a Chiffchaff: individuals with light brown legs and feet (perhaps of the southern race '*P. c. ibericus*') are rare in Britain. Although the *legs* of Willow Warbler may often appear dark, the *feet* at least are always pale orange-flesh or light brown. The primary projection of Willow Warblers is long, about the same length as the exposed tertials and secondaries: this feature is diagnostic, but requires careful close-range observation.

Willow Warblers are slightly larger and look more attenuated, mainly because of their longer wings; the underparts are cleaner yellow, and the supercilium is typically clear yellow and well-defined behind the eye. On Chiffchaffs, the yellow is dingier, often with a narrow crescent of bright ochreous yellow on the sides of the breast around the wing bend; the less distinct supercilium is typically warm buffy-yellow with more prominent pale crescents above and below the eye, forming an often striking eye-ring. Both species have brown-and-white forms which have the yellow and olive tones reduced or lacking: Chiffchaffs, particularly those of the non-yellow Siberian race *P. c. tristis*, may also show an indistinct wing-bar on the tips of the greater coverts, causing possible confusion with Greenish Warblers *P. trochiloides*.

Chiffchaffs tend to be more restless, with more continuous wing- and tail-flicking. Willow Warblers, especially migrant young in autumn, have the frequent habit of chasing other birds which happen to fly close to them: Chiffchaffs behave in this way less frequently. The calls of the two are usually very difficult to distinguish: both have a 'hooet' note, but the Willow Warbler's is subtly clearer and sweeter. Some Chiffchaffs, especially those of the Scandinavian race *P. c. abietinus*, give a diagnostic, plaintive 'pseep'—the so-called 'lost chick' note.

The Chiffchaff in plate 123 was photographed by E. A. Janes in Hertfordshire in May 1969.

P. J. GRANT

Notes

Kestrels hunting long-eared bats On the evening of 5th August 1975, in calm, hot, sultry weather with good visibility, I watched two Kestrels *Falco tinnunculus* hunting bats around the cliffs of Middle Head and Kay Nest, Bilsdale Midcable,



North Yorkshire. At about 18.00 GMT, immediately after the passing of the last of several light showers, a number of bats started hunting, with repeated, jerky passes along the cliff face and out over the very narrow valley of Tripsdale Beck. They came quite low and the eight or so which I saw clearly were long-eared bats *Plecotus*. About 20 minutes later, an adult male and an adult female Kestrel appeared. They flew about 3 km along the length of the valley, a few tens of metres apart and at speed, dipping below and rising above the top of the cliffs some 75 m above the stream. At the valley head, near my vantage point, they turned abruptly; the male flew close to the cliff and the female followed the course of the stream: both appeared to be hunting, hovering for a few seconds or longer at heights between 10 and 20 m above the hummocks and open ground for over ten minutes. The female Kestrel made a few sudden turns whenever any bats or hirundines came near her. Suddenly, the male flew from the vicinity of the cliff face in close pursuit of a bat, following its twists and turns across the valley as a Sparrowhawk *Accipiter nisus* or Merlin *F. columbarius* might pursue a bird. The female climbed above the two, circled twice and, as the bat changed direction to follow the stream, made a vertical stoop of about 20 m at it, with wings half-closed and left foot out at an angle; she only just missed the bat. The male Kestrel had now swung around in front of the bat, which, losing height rapidly, turned back upstream and flew rather weakly towards me. The Kestrels must have been aware of my presence, but the male continued to pursue the bat, passing 5 m from me, very close to the ground; the female, waiting above, then captured the prey in flight with her left foot after a 10 m drop on to it. The two falcons then skimmed out of sight.

COLIN SIMMS

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Ringed Plover nesting under cover On 2nd May 1975, at North Coates, Lincolnshire, I saw a Ringed Plover *Charadrius hiaticula* run away from the edge of the sand-dunes as if it had a nest there, although the site seemed unlikely. I noticed, however, a line of footprints in the soft sand leading to a tunnel formed by a piece of driftwood embedded in the dune; in a hollow under the overhanging edge of the dune, I discovered a clutch of four eggs. In order to photograph the nest, I temporarily parted the grasses slightly, but otherwise the eggs or incubating bird would have been almost completely hidden (plate 140). The entrance is on the right in the photograph. There is little or no shingle on the adjacent flat beach, though several pairs of Ringed Plovers nest on the disused runways of an aerodrome immediately behind the dunes. Unfortunately, a few days later, strong northerly winds completely buried the nest under a metre or so of drifting sand.

The species normally nests in the open, but, on arable land or at sewage farms, nests sometimes become partly hidden by rapidly growing vegetation.

KEITH ATKIN

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140. Nest of Ringed Plover *Charadrius hiaticula* under overhanging edge of sand-dune, Lincolnshire, May 1975. The position of the eggs is indicated by the arrow (*K. Atkin*)

Although nests of Ringed Plovers are typically in quite open situations, Bruce Campbell and James Ferguson-Lees (1972, *A Field Guide to Birds' Nests*) mentioned other covered sites, including some 'quite hidden by marram, thistles, ragwort and other plants'. Eds

Little Owl dead with head stuck in nest-hole of Great Tit On 20th May 1973, at Slinfold, West Sussex, I was shown a dead Little Owl *Athene noctua* which had been found with its head lodged inside a hollow metal post. The post had an internal diameter of 7.5 cm and contained the nest of a Great Tit *Parus major*, approximately 25 cm from the top, which on the previous day had held at least five eggs. When the owl was removed, the nest was found to be empty except for a few wing feathers; a wing of an adult Great Tit was found on the ground a metre or so from the gate. Thus, although there was circumstantial evidence of an adult tit having been killed, there was no clue as to the fate of the eggs.

In the report of the 1936-37 Little Owl food enquiry (*Brit. Birds* 31: 162-167, 205-229, 249-264), Alice Hibbert-Ware concluded that nest-raiding was not a usual habit, but occurred exceptionally when hole-nests were in easily found situations. One record involved a Little Owl lodged in the nest of a Blue Tit *P. caeruleus*, but the owl was still alive when removed and the nest contained young. She also recorded four nestlings in Little Owls' food remains (two House Sparrows *Passer domesticus*, one Blackbird *Turdus merula* and one Skylark *Alauda arvensis*), and the raiding of nests of Starlings *Sturnus vulgaris* and of a nestbox colony of Tree

Sparrows *P. montanus*. No eggs of other species were found in the nests or food of the Little Owl.

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Stoat harassing thrush flock The avian prey of stoats *Mustela erminea* has been shown by M. G. Day (*J. Zool.* 155: 485-497) to be predominantly passerines, but R. Hewson and T. D. Healing (*J. Zool.* 164: 239-244) reported that species as large as Ptarmigans *Lagopus mutus* and Black-headed Gulls *Larus ridibundus* may be killed. There are, however, few accounts of stoats attacking birds and none of them taking thrushes *Turdus*, so the following description of one attacking a flock feeding in a field before roosting is of interest. At 15.30 GMT on 17th December 1975, on the south ridge of the Rivelin Valley, west of Sheffield, South Yorkshire, I noticed a mixed flock of about 40 Song Thrushes *T. philomelos*, Redwings *T. iliacus*, Mistle Thrushes *T. viscivorus*, Blackbirds *T. merula* and Fieldfares *T. pilaris* in a pasture field. Suddenly, most of the flock took flight and landed at the far end of the field, although I had not seen any cause of the disturbance. My attention was then drawn to a Mistle Thrush in a part of the field some distance from where the main flock had been. It suddenly flew up, but, before it returned to the ground, about 3 m farther on, I saw a stoat rushing after it. The thrush was again forced to take off, but landed once more, close by. I then lost sight of the predator. The main flock very soon returned to the centre of the field, but the stoat reappeared and, apparently unseen by the thrushes, hurried through the long grass, frequently pausing and changing direction, until it reached the end of a gully. After running 2 m down this, it turned abruptly and ran straight towards another Mistle Thrush, which was facing it. The thrush, seeing the stoat, stood upright, but did not fly off, and the carnivore then hesitated before ducking its head and rushing back into the gully. The rest of the flock gave no indication that they had seen this episode and continued to feed. The stoat progressed farther down the gully, rapidly and repeatedly changing the main direction of its run from one side to the other, before running at great speed towards, and very nearly catching, a Song Thrush. This bird flew up briefly, as did most of the flock. Another Song Thrush, which, having had its back to the previous events, had not flown up, was soon seen by the stoat and attacked from the rear. Again, the stoat was unsuccessful, but by a very narrow margin, since the bird noticed it only just in time. After this last attack, the stoat continued running, mostly in short spurts in a variety of directions as if still hunting, before vanishing at the edge of the field.

R. A. CHEKE

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Unusual song of Grasshopper Warbler At 05.00 GMT on 14th July 1976, in a marshy corner of a small field at Wendover, Buckinghamshire, a Grasshopper Warbler *Locustella naevia* came up from concealment into the upper bare branches of a small dead hawthorn *Crataegus* laced with a skirt of lush herbage. It crept about hesitantly, 1 m from me at

eye level, then delivered twice a soft, sweet, jingling song, each time of a few seconds' duration. The song, in its diversity, bore a slight resemblance to the rambling notes of a Dunnock *Prunella modularis*; but, in quality, it was more like a very soft version of the jingling song of a Serin *Serinus serinus*. While the warbler was singing, its bill was open and its throat vibrated; its posture was typically that of a *Locustella*. This took place during a series of 12 visits between 9th and 16th July (seven between 05.00 and 07.00 hours) to observe the activities of two Grasshopper Warblers in a well established territory. The normal reclining song was given regularly from a number of perches in the territory, but I did not hear it uttered from the hawthorn.

I have found no reference in the literature to this jingling song being given by the Grasshopper Warbler.

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We know of no other similar record; P. J. Sellar and F. V. Blackburn, who has photographed this species at the nest from a hide on a number of occasions, have never heard this jingling song. Dr K. E. L. Simmons suggests that it may be the sub-song of a juvenile. Eds

Pied Wagtails roosting on factory roofs In winter, large numbers of Pied Wagtails *Motacilla alba* roost on factory roofs at the Treforest Industrial Estate, near Pontypridd, Mid Glamorgan. On nine occasions between December 1970 and December 1974, I counted the numbers of wagtails leaving the roost at dawn (table 1). A few pairs breed on the

Table 1. Numbers of Pied Wagtails *Motacilla alba* counted leaving roost at Treforest, Mid Glamorgan, 1970/71-1974/75

Winter	Date	Count
1970/71	22nd December 1970	860
1971/72	13th December 1971	731
	30th December 1971	338
	4th January 1972	680
	20th January 1972	870
1972/73	13th December 1972	911
	19th December 1972	1,041
1973/74	14th December 1973	1,100
1974/75	19th December 1974	1,215

estate, but the roost is generally not occupied until late September, numbers building up gradually until late October. The wagtails begin to arrive an hour before sunset and in late afternoon many can be observed bathing in puddles or feeding in open spaces between factories. In wet weather, up to 500 gather on one particular roof which has many hot-air vents, but this is rather exposed and, before darkness falls, all the wagtails leave for the main roosting area about 70 m away.

The first wagtails leave the roost soon after first light, in groups varying from a few to about 50; dispersal lasts for 35 minutes, with a peak during

the middle 15 minutes. Very few Pied Wagtails are present on the estate in the morning and early afternoon. The roost is concentrated on one factory, which is active 24 hours a day, seven days a week, and it seems that the Pied Wagtails are attracted by the heat. The factory was closed from 25th December 1971 to 2nd January 1972, and a count on 30th December 1971 revealed only 338 wagtails, while three counts made during the same winter, when the factory was open, produced totals of 731, 680 and 870. The roost has increased in size annually since 1970/71, but this probably reflects the general increase in Pied Wagtail numbers associated with the recent series of very mild winters.

P. MARSHMAN

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Letters

The protected status of the Goosander In their recent paper (*Brit. Birds* 70: 229-237), E. R. Meek and B. Little referred incorrectly to the protection afforded to the Goosander *Mergus merganser* by the 1954-76 Protection of Birds Act.

In Scotland, the Goosander is included upon Schedule 2 and may be killed or taken at any time by authorised persons. In England and Wales, it is afforded standard protection, but it is not, as was stated, included upon Schedule 1.

The Goosander, and other similarly protected species not upon Schedule 1, may be killed to prevent serious damage to crops, vegetables, fruit, growing timber or any other form of growing property, or to fisheries. The person taking such action, however, must, if charged, be prepared to satisfy a court of law that the killing was necessary. (For further information see Section 4 (2)(a) of the 1954 Act.)

In view of the above and of the persecution of the Goosander in England and Wales, I agree with Messrs Meek and Little that a study to assess the seriousness of Goosander predation upon non-migratory fish stocks is long overdue.

STUART D. HOUSDEN

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Turtle Dove migration in southern Europe, the Middle East and North Africa In his interesting paper on Turtle Doves *Streptopelia turtur* (*Brit. Birds* 61: 193-212), Dr R. K. Murton gave a detailed account of autumn migration through Iberia (pages 203-206). In this, he implied, mainly from radar evidence, that migration occurred mostly at night at high altitude, and that recoveries of low-flying birds in Portugal were therefore a misleading indication of the normal migration route. Whether or not this is so in Iberia, a number of published and unpublished records of large, low-altitude, diurnal movements elsewhere seem worth mentioning, in addition to those given by S. Marchant (*Brit. Birds* 62: 84).

In his *Birds of Arabia* (1954), Col. R. Mcinertzhagen referred to spring

passage of close-packed parties following the contours of the ground, and on one occasion in Transjordan he counted a total of about 300 Turtle Doves in 45 minutes. In this region, other observers, including myself, have seen a similar spring migration in fine weather at Azraq, Jordan. In summarising the observations from this oasis in the springs of 1963, 1965 and 1966, D. I. M. Wallace and I. J. Ferguson-Lees (unpublished) classify the Turtle Dove as abundant. They add that the species is one of the most obvious migrants, sharing with a few passerines a wide distribution in the desert areas. It apparently moves mainly at night, but diurnal passage is also marked, flocks arriving from the south (particularly at dawn), passing without stopping and usually departing to the northwest or west.

I witnessed a very large diurnal passage over the Hortobagy Plain, just west of Karcag, Hungary, on 9th September 1965, a hot cloudless day with light breezes. The movement was in progress on my arrival in the area at 13.00 hours, and, from then until 15.15 when I left, I estimated from sample counts that 10,450 Turtle Doves passed. Flocks ranged in size from two to 200 and all flew due south on a very narrow front about 400 m wide and not more than 15 m above the ground. Flocks could be seen approaching from a long way off over the open plain, and for a similar distance after they had passed—probably nearly 10 km in all. Over this distance, the only deviation was to avoid a low-flying crop-spraying aircraft, which periodically appeared on their track about $1\frac{1}{2}$ km to the south. Associated with the doves were hundreds of Swallows *Hirundo rustica* and a few small flocks of Starlings *Sturnus vulgaris*. Inquiries by Dr Andrew Keve have indicated that very large gatherings of Turtle Doves are well known to observers in Hungary, but records in the literature (e.g. Dr Peter Beretz in *Aquila* 51-54: 51-80) seem to refer only to feeding flocks. Similarly, Dr Imre Patkai (per Dr Keve *in litt.*) mentioned immense flocks on the Alföld Plain east of Tiesza. Neither Dr Istvan Sterbetz in southeast Hungary nor Dr Keve in west Hungary has recorded large numbers.

Further to the references quoted by Dr Murton, and to the immense daylight flocks in autumn in Portugal recorded by W. Tait in Dr D. A. Bannerman's *The Birds of the British Isles* (8: 367), it is of interest that the late K. D. Smith (*in litt.*) told me that he had seen flocks of up to 30 Turtle Doves flying south overland by day, between mid September and late October, along the Atlantic coast of Morocco. It seems likely, therefore, that some of the low-flying birds in Portugal continue to migrate in this manner down the Atlantic seaboard of northwest Africa.

Besides these large migratory movements, about which surprisingly little seems to have been recorded, and the large summer gatherings mentioned above, Turtle Doves also flock in winter. For example, R. E. Moreau (*Ibis* 103a: 373-427) referred to the dense concentrations found in *Acacia seyal* woodland in northern Nigeria and elsewhere in the savannah south of the Sahara.

On the question of spring passage through southwest France, I have gained the impression from two visits totalling 18 days, between 14th May and 8th June in 1961 and 1964, that many of the Turtle Doves seen were

grounded night-migrants. Moreover, in coastal Gironde and Les Landes there were generally very few Turtle Doves and there was certainly no evidence of a large visible migration while I was there. I undertook daily migration watches (during which there were some vast movements of hirundines) and checks for grounded migrants, but saw only one Turtle Dove which was actually on migration. This individual flew in low over the sea during a watch near Hourtin between 06.05 and 07.30 hours on 5th May 1964, but, before reaching the coast, it rose to a great height, until it was only just visible through $\times 10$ binoculars when directly overhead. On 21st May, one freshly dead was washed ashore at 06.30 at the same place. Turtle Doves were much sought after by local gunners at the time of these visits.

I should like to express my thanks to Dr Keve for his most helpful comments on Turtle Doves in Hungary, and for translating excerpts from the Hungarian literature.

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This contribution was accepted for publication on 10th December 1968. We apologise to Dr Ash for the unintentional delay between acceptance and publication. EDS



The first of these annual awards was in 1976 and the winning photographer, M. C. Wilkes, was presented with a cheque for £100 and an engraved salver by Sir Peter Scott at a press conference in London (*Brit. Birds* 70: 133-136, 310-311). The 1977 award will be marked by a similar ceremony, with the presentation made by a well-known personality. The winning photograph, and perhaps some of the runners-up, will be published in *British Birds*, and entries are accepted on this understanding.

Up to three photographs (colour transparencies or black-and-white prints), each taken during 1977, may be submitted. They will be judged on interest and originality, as well as on technical excellence. Preference will be given to photographs taken in Britain or Ireland, but those of species on the British and Irish list taken elsewhere are also eligible. A brief account (not more than 200 words) should be attached to each, giving the circumstances in which obtained, the method used, technical details (focal length of lens and make of camera and film), locality, date

and photographer's name and address. Photographs will be returned only if accompanied by a stamped and addressed envelope.

The closing date for entries is 31st January 1978. They should be clearly marked 'Bird Photograph of the Year' and sent to the editorial office at 11 Fountains, Park Lane, Blunham, Bedford MK44 3NJ.

Winter summary

K. Allsopp and S. C. Madge

This report summarises the general picture of the status of our more common wintering species during the period mid November 1976 to mid March 1977. References have been made to rarities only where they have some relevance to related species. Readers are urged to consult the monthly summaries already published in this journal, where they will find short-term occurrences and weather patterns discussed in more detail.

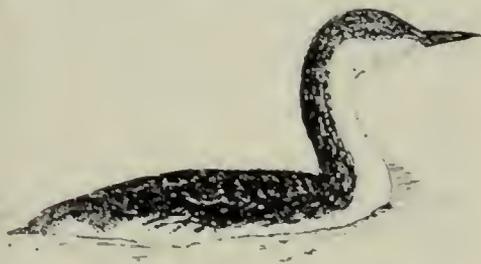
Divers and grebes

Following an interesting autumn for seabird movements in the North Sea, the latter part of the winter provided observers with good passages of divers *Gavia*, which have already been mentioned (*Brit. Birds* 70: 176). Elsewhere in the country, there were no gatherings or movements of note, apart from a scattering of Black-throated Divers *G. arctica* inland in Somerset,

Clonakilty Bay (Co. Cork) on 8th December. More exciting were single White-billed Divers *G. adamsii* away from their usual areas, at Cliffe (Kent) on 3rd January and Rosses Point (Co. Sligo) at the end of that month. Fewer Slavonian Grebes *Podiceps auritus* than usual wintered in southwest England, but 43 were counted in Sullom Voe (Shetland) on 5th February.

Waterfowl

The prolonged freezing conditions during mid winter forced many waterfowl out of inland waters, on to estuaries and into southwest England. Counts of Mallard *Anas platyrhynchos* in southern Britain were the highest for many winters; peak figures included 2,961 on Rutland Water (Leicestershire) in December and 4,500 on the Ouse Washes (Cambridgeshire-Norfolk) in January. An indication that numbers of Wigeon *A. penelope* would be high was a build-up to 27,000 at Lindisfarne (Northumberland) in November; later, although numbers were normal in northern Britain, those in the south reached record proportions in many places; there were 30,000 on the Ouse Washes in late December. Teal *A. crecca* built up quickly to high counts in many places in November, and these were maintained through the winter, with maxima of 8,750 and 8,400 on the Mersey estuary in mid November and early January. This area also took pride of place for Pintail *A. acuta* in Britain, with a maximum of 9,200 on 12th December, but there were 1,020 on the Ouse Washes and 600 on the River Medway (Kent) in January. There was a record waterfowl count of 9,190 at Chew Valley Lake (Avon) in late December (70: 132); this count obviously included a lot of birds pushed into the southwest by



Northamptonshire, Hertfordshire, West Midlands, Lancashire and North and West Yorkshire, mostly singles in the first week of November. A gathering of 15 Black-throats off Hartland Point (Devon) in the first part of the winter was the only one of note. Numbers of Great Northern Divers *G. immer* were noted as low in Devon and Cornwall, and the only sizeable groups were 36 around Yell, Unst and Fetlar (Shetland) on 18th November and 15 in

the freeze-up farther east. An unusual record was a duck Garganey *A. querquedula*, which remained on Swithland Reservoir (Leicestershire) through November, although its origin was rather suspect.

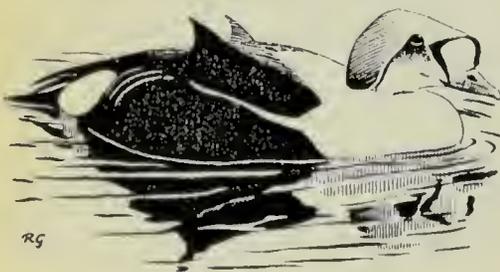
Numbers of diving ducks rose in south-west England after Christmas, following increases in the northeast earlier in the month, which gave Northumberland a record count of 565 Pochards *Aythya ferina* at Derwent Reservoir on the 12th. In general, however, Pochard numbers were lower than in recent winters. Numbers of Tufted Ducks *Aythya fuligula* were also low over most of the country, with the exception of the southwest, where record counts were made at several sites early in the new year. Reports of Smew *Mergus albellus* were well scattered by the end of December, reaching Shetland, Loch of Strathbeg (Aberdeenshire) and Devon. Blithfield Reservoir (Staffordshire) held 130 Goosander *M. merganser* in early January with large counts elsewhere in the north during the next few weeks, including a local maximum of 52 at Killington Reservoir (Cumbria). With the increasing number of feral waterfowl breeding in Britain, a count of 101 Ruddy Ducks *Oxyura jamaicensis* at Chew Valley Lake on 29th December was interesting; there had been 350 at Belvide Reservoir (Staffordshire) in late October. A total of 112 Mandarin Ducks *Aix galericulata* was counted at Virginia Water (Surrey) on 12th December. Coincident with the influx of Black-throated Divers, a number of Long-tailed Ducks *Clangula hyemalis* appeared at inland sites in November, with a few remaining to overwinter; larger concentrations included over 800 to the north of Hascosay (Shetland) on 26th December and 260 off Luna (also Shetland) on the 28th. The number of Eiders *Somateria mollissima* counted off Hascosay reached 6,200 during the winter, and drake King Eiders *S. spectabilis* turned up in Shetland (two),

off Golspie (Sutherland) and on Loeh Ryan (Wigtown).

January counts of Shelduck *Tadorna tadorna* were the highest on record, with maximum figures of 3,500 at Teesmouth (Cleveland) in December and 2,300 on the Mersey estuary in January; this duck, being primarily estuarine, is less affected by cold weather than inland waterfowl. We have no information to hand on Brent Geese *Branta bernicla* in Britain this winter to build up a picture of any value, but a bird at Trimley (Suffolk) on 7th February, among the usual flock of dark-bellied Brents *B. b. bernicla*, was identified as a Black Brant *B. b. nigricans*; it was probably the same individual as that seen in Suffolk in December 1975 and February 1976. The Black Brant breeds in northeastern Siberia, Alaska and northwestern Canada, and winters chiefly on the Pacific coast of North America.

There was a decrease in the number of Greylag *Anser anser* and Pink-footed Geese *A. brachyrhynchus* wintering in Britain, due to a poor breeding season in Iceland. The clean, early harvests of the previous autumn in Scotland meant less stubble for them, and flocks moved farther south than usual, providing record counts on the mosses of south Lancashire (see 70: 88). The flocks of Greenland White-fronted Geese *A. albifrons flavirostris* totalled over 6,000 in early January on the Slobs (Wexford) and included three Canada Geese *B. canadensis*. The cold weather in late December brought an influx of geese of more Continental origin to the east coast, with a party of 152 White-fronts moving north over Minsmere (Suffolk) on 6th January, and reports from many other places where they do not normally occur. Associated with these were small numbers of Bean Geese *A. fabalis*, while a Lesser White-front *A. erythropus* turned up in Lancashire and there were two at Slimbridge (Gloucestershire) at about the same time.

More Bewick's Swans *Cygnus bewickii* wintered on the Ouse Washes, with a record count of 1,777 there in February, while there were 393 on the nearby Nene Washes at the same time; in fact, this important area of Britain held over one-quarter of the northwest European population of this swan. In contrast, Whooper Swans *C. cygnus* were reported as 'down' in most areas; they probably had a poor breeding season, along with Greylags and Pinkfeet, being also mostly from Iceland.



Raptors and crakes

It was an extremely poor winter for Rough-legged Buzzards *Buteo lagopus*: we received reports of only eight, scattered along the east coast from Teesside to Kent, and two other singles, on Fair Isle on 2nd-15th November and at Crossens Marsh (Merseyside) on 26th March.

The only out-of-place Red Kite *Milvus milvus* was seen over Brean Down (Avon) on 4th November, but a Golden Eagle *Aquila chrysaetos* at North Mavine in March was the first Shetland record this century, although there had been unconfirmed reports of one at Hermaness the previous summer and earlier in the winter on Foula.

The few days around 7th November produced a spate of crake records, with a male Little Crake *Porzana parva* at Attenborough (Nottinghamshire) on 6th (staying to 27th), three Spotted Crakes *P. porzana* found there on the 7th, others at Tixall (Staffordshire), Stodmarsh (Kent) and Lightshaw Hall Flash (Lancashire) around the same time, and more later in the winter in Devon, near Liverpool (Merseyside), at Dartford Marsh and near Sandwich (Kent). A Corncrake *Crex crex* was seen near Margate (Kent), also on 'the crakey 7th'.

Waders

Following a good autumn passage of Little Stints *Calidris minuta*, a number remained to winter with us, scattered singly about England, and with others in Gwynedd and Co. Cork. As usual, a few Whimbrels *Numenius phaeopus* also wintered in the milder southwest of England and southern Ireland, chiefly in rocky, coastal localities. Avocets *Recurvirostra avosetta* were noted wintering in very small numbers on several south coast estuaries, with the largest numbers on the traditional Tamar and Tavy mudflats (Cornwall and Devon), where there were 53 in December. Wintering Ruffs *Philomachus pugnax* were widespread, with the largest counts—again from traditional sites—of 150 on the Ouse Washes in December and 161 at Martin Mere (Lancashire) in February. Single midwinter Grey Phalaropes *Phalaropus fulicarius* turned up during the cold spell at a few coastal spots in the east: Scarborough and Filey Brigg (North Yorkshire), Sandwich Bay, Seaton Sluice (Northumberland) and, inland, at North Moor (Somerset). The hard weather moved flocks of Lapwings *Vanellus vanellus* down into the milder parts of southwest

England and Ireland, and as many as 15,000 gathered on west Sedgemoor (Somerset) in December. Snipe *Gallinago gallinago* were similarly affected (see 70: 132). The results of the British Trust for Ornithology's survey of Golden Plovers *Pluvialis apricaria* are not yet to hand, but it seems that the cold weather badly affected counts in Scotland and northern England, where there were total absences in some places on the count weekend. Farther south, however, in the Stour Valley (Kent), 12,880 were counted, while earlier in the winter there had been a massive concentration of as many as 50,000 at Druridge Bay (Northumberland) in mid November, dropping to 2,000 in December.

Seabirds

A Leach's Petrel *Oceanodroma leucorhoa* was found inland at Drayton Parslow (Buckinghamshire) on 24th November, after a few days of northwesterly winds, and one was seen off Hartlepool (Cleveland) on 19th December. On the latter day, an immature Long-tailed Skua *Stercorarius longicaudus* was seen at Fairburn Ings (West Yorkshire), a remarkable record, but less surprising this winter considering the number of reports of other skuas in the North Sea: 12 Arctic Skuas *S. parasiticus* passed Flamborough Head (Humberside) on 15th January, after four Pomarine *S. pomarinus* had been seen there the previous day. Late terns were also noted through November at various places, with an extremely late Sandwich Tern *Sterna sandvicensis* at Warsash (Hampshire) on 20th December and a Common Tern *S. hirundo* off Clogher Head (Co. Louth) on 29th. Little Auks *Plautus alle* were remarkably scarce in British waters this winter, with most records being of singles in the North Sea in January and February, although 20 flew north off Seaton Sluice on 11th January and one was found inland at Staunton Harold (Derbyshire) on 25th December. A Gannet *Sula bassana* was also found inland, under telegraph wires at Caythorpe (Nottinghamshire) on 26th January.

There were fewer Glaucous *Larus hyperboreus* and Iceland Gulls *L. glaucoides* in Shetland this winter and several other coastal sites reported less than usual, but the inland reservoirs in the Midlands and north of England produced several of both species and there was a marked influx in northeast England around 28th December.

The largest numbers of arctic gulls were in Donegal Bay, however, where 28 Glaucous and three Iceland were counted during 12th to 14th March. Ireland also produced the largest counts of winter Little Gulls *L. minutus*: two at Kilcoole (Co. Wicklow) on 15th January had increased to 180 by 21st.

Owls and passerines

In contrast to 1975/76, the number of reports of Long-eared Owls *Asio otus* was low, with comparatively few coastal records and the largest roost being of only about 15 in north Kent in early February. Short-eared Owls *A. flammeus* were also scarce.

Hooded Crows *Corvus corone cornix* were more widely reported than usual on the east coast of England, and to a lesser extent inland as well. There were more Shore Larks *Eremophila alpestris* than in the previous winter, although it was not all that good a season for them: the largest flock reported to us was of 40 at Walberswick (Suffolk) on 21st November. There were, however, reports from widely scattered places, including up to seven on Fair Isle in November and from Cos. Kerry and Derry in mid winter. Great Grey Shrikes *Lanius excubitor* were notable for their virtual absence, as were Waxwings *Bombicilla garrulus*, the largest party of the latter being 50 at Corbridge (Northumberland) on 16th December.

The lack of Waxwings was probably due to the good crop of berries in northern Europe last summer, but more surprising was the scarcity of Siskins *Carduelis spinus*, remarked upon from all parts of the country (and also noted in Switzerland and Norway, *Brit. Birds* 70: 219 and 496). Twites *Acanthis flavirostris* were also slightly down, with the largest flocks being of up to 400 at Sandwich Bay in November and Cliffe in mid January. The previous winter had been good for Bramblings *Fringilla montifringilla*, but, although there were a number of flocks reported, it was a rather disappointing season on the whole for this attractive finch. Numbers of Snow Buntings *Plectrophenax nivalis*, too, were poor, with the only flocks of note being 100 at Sandwich Bay and 150 at Redcar (Cleveland) in December. There was a thin scattering of Lapland Buntings *Calcarius lapponicus* down the east coast, with up to five at Spurn and Barmston (both Humberside) during January: again very few.

Thrushes

Except in the extreme north of Scotland, everyone commented on the lack of Scandinavian thrushes in October and early November. They were late in arriving, and one must suspect that it was the good berry crop on the Continent which held them back. When they did come, they stripped our heavily-laden hawthorns bare, leaving little for the subsequent waves of Redwings *Turdus iliacus* that entered the country in late December escaping from the frozen Continent. A total of 50 Mistle Thrushes *T. viscivorus* moved southwest over Cliffe on 26th December and, the following day, 1,000 Redwings moved south over Croyde (Devon). On the 28th, a Siberian Thrush *T. sibiricus* was seen at Alice Holt Forest (Hampshire); from just how far east had some of the other thrushes come? Redwings passed at 2,000 an hour over Reculver (Kent) on the 29th, when flocks were also watched coming in from the sea at Hook Head (Co. Wexford). Another eastern thrush, White's *Zoothera dauma*, also appeared, at Thirsk (North Yorkshire) on 18th and 19th December, and (not yet confirmed) Pagham Harbour (West Sussex) on 13th January.

Overwintering summer migrants

November produced an interesting crop of late migrants (see 70: 87). Perhaps the strangest of these was a male Red-breasted Flycatcher *Ficedula parva* in full plumage on the Calf of Man (Isle of Man) on the 21st, a day on which a late Swift *Apus apus* was noted over Ogston Reservoir (Derbyshire), with an even later one over Keele (Staffordshire) on 26th. A Hoopoe *Upupa epops* was seen on the Northumberland coast throughout the month, being last noted on 5th December. Chiffchaffs *Phylloscopus collybita* and especially Blackcaps *Sylvia atricapilla* were widespread, being reported from gardens all over the country following a late influx in November, with several even as far north as Fair Isle in December. About 50 Blackcaps are considered to have wintered in the Dublin area and nearly 40 Chiffchaffs at one small sewage farm near St Erth (Cornwall). Five juvenile Swallows *Hirundo rustica* were reported from Titchfield Haven (Hampshire) in mid December, but there were no reports of overwintering House Martins *Delichon urbica*.

News and comment

Peter Conder and Mike Everett

New breeding birds From Scotland comes the exciting news of a new British breeding species: two pairs of Lapland Buntings *Calcaeus lapponicus* each reared four young at one site and a total of five males and one female were found at three other localities. Shore Lark *Eremophila alpestris* was also 'proved' (even for the purists!) in 1977, by the finding, at long last, of a nest with eggs. Perhaps the most interesting record of all, however, is that of two pairs of Red-backed Shrikes *Lanius collurio* nesting (one of them successfully rearing young) in northern Scotland: the colonisation, emulating the Wryneck *Jynx torquilla*, had been predicted. In the light of all these records, one is bound to wonder which northern colonist will be next.

IWC newsletter Congratulations to the Irish Wildbird Conservancy on the attractive new format of *IWC News*. This gives plenty of up-to-date information on birds in the Republic, as well as on ornithological activities generally. Enquiries and contributions should be sent to the editor, IWC, c/o Royal Irish Academy, 19 Dawson Street, Dublin 2.

Nature conservation review It is 30 years since the first major assessment of suitable sites for nature reserves was made. The Huxley Report, which laid the foundation for National Nature Reserves and the (then) Nature Conservancy, has, however, been eclipsed by a ten-year co-operative effort culminating recently in the publication of *A Nature Conservation Review* (Cambridge University Press, 2 volumes, £60). The Nature Conservancy Council has now provided Britain with a sound scientific basis for protecting and managing an élite selection of its various habitats. Without at least this microcosm of representative sites, it will be fortuitous whether or not posterity will enjoy our tremendous diversity of wildlife associated with these semi-natural ecosystems.

From thousands of candidates, 735 'key sites' have been chosen, on defined criteria, as best representing the range and variety of our wild heritage. The total area

amounts to over 800,000 ha, but that includes a high proportion of marginal uplands and coasts. Each of the sites is described in the context of its ecosystem and given one of two grades, both of national importance. Virtually all are now scheduled as Sites of Special Scientific Interest, and a good proportion are already statutory or private nature reserves. But the task of safeguarding the remainder is enormous.

Although the selection process was bound to be made on vegetational grounds, bird communities nevertheless influenced the final choice, particularly of coastal and wetland sites. In these ecosystems, data from Operation Seafarer, the Wildfowl Trust censuses and the Birds of Estuaries Enquiry provided a quantitative basis for site grading. Otherwise, the presence of good breeding communities, such as those of the uplands and heaths, added a significant complexion to sites best representing the general habitat.

Site protection by nature reserve status is always a cornerstone of conservation policies. Some scarcer bird species require individual measures such as nest-guarding, law enforcement and habitat manipulation to help retain their British populations. But the bulk of our avifauna is best conserved by safeguarding the habitat. Managing these Nature Conservation Review sites for their scientific integrity, whether by reserves or other means, would go a long way towards achieving this. Implementation of the Review needs all possible support. (Contributed by Anthony Chapman.)

Two new reserves A new National Nature Reserve has been established over 600 ha of Nigg and Udale Bays, part of a 2,000-ha area on the lower Cromarty Firth of international importance for migrating wildfowl and with wader numbers of European significance. The Devon Trust for Nature Conservation declared a new reserve at Dawlish Warren in July—32 ha of inner warren and saltings, with the adjacent golf course, and 80 ha of mudflats and foreshore. Besides being nation-

ally important for its wader roosts, this is an area of high botanical interest.

Sea-eagle success Göran Andersson tells us that successful breeding of White-tailed Eagles *Haliaeetus albicilla* on the Åland Islands, Finland, has resulted this year in as many young being reared as in the previous three years combined. It looks as if winter feeding programmes are helping immatures to survive and reach breeding age and also reducing pesticide intake among adults. We await further news with great interest.

Spitsbergen Barnacle Geese The Wildfowl Trust has had many expeditions to the Arctic to study geese, but few as successful as this year's to Spitsbergen, when 1,180 Barnacle Geese *Branta leucopsis* were ringed. The area visited, on the west coast, held a maximum of 1,320 geese, so that, including recaptures from previous years, no less than 94% of the available geese were caught! The expedition was a joint one with the Norwegian Ministry of the Environment and with Groningen University, Netherlands. In addition to the catching team of five, who were in the field for 3½ weeks, two Dutch and two British research students spent the entire summer monitoring the breeding and social behaviour of the geese and investigating their food and energy requirements.

All the geese were marked with plastic leg-rings bearing individual letter codes. These can be read quite easily, especially during the winter when the geese are on the Solway, principally at Caerlaverock, where the Trust has a refuge alongside the National Nature Reserve. Of 350 geese marked in the summer of 1973, no fewer than 343 were observed in subsequent winters, revealing important new information on individual life histories, flock structure and social behaviour. The newly marked geese should enable significant further advances to be made.

The population has been increasing in recent years, reaching 7,200 in autumn 1976. It has, however, received a serious setback this summer, with the worst breeding season recorded in more than 20 years: a very late, cold spring in Spitsbergen allowed less than 5% of potential pairs to rear young.

New rarities committee in FDR A German rarities committee (Bundesdeutscher Seltenheiten Ausschuss der Dachverband Deutscher Avifaunisten) officially started operating on 1st September. The chairman is Dr Jochen Hölzinger, the deputy chairman is Herbert Ringleben and the secretary is Alistair Hill, whose address is Albrecht-Haushofer-Strasse 10, 32 Hildesheim.

Colour-marked Storm Petrels Storm Petrels *Hydrobates pelagicus* can be notoriously hard to see, but sea-watchers should keep an eye open in future for any with yellow (turning brown), red (turning pink), green or blue rumps, or yellow plastic back-tags. The Centre des Recherches sur la Biologie des Populations des Oiseaux (55 rue Buffon, 75005 Paris, France) marked the rumps of several hundred this year, and back-tagged a few more: they would welcome full details of any sightings.

Dungeness Bird Observatory More accessible than those on islands and only a short trip from London, the bird observatory at Dungeness, Kent, has, since it opened in 1952, helped in the training of many hundreds of birdwatchers and ringers. There must be many who will wish to maintain their links with and support the observatory's work by joining the newly-founded 'Friends of Dungeness Bird Observatory' (minimum £2.00 per annum). Details and application forms may be obtained from Mrs Mary Waller, Lindisfarne, 17 Embereourt Road, Thames Ditton, Surrey.

The 400 barrier is broken R. J. Johns flew to Shetland to see the Rüppell's Warbler *Sylvia rueppelli*, his 399th species in Britain. With the observation of a Yellow-breasted Bunting *Emberiza aureola* at the other end of the country, at Portland, Dorset, Ron has now attained the distinction of being the first ornithologist to see 400 species in Britain. We understand that the occasion was marked by 'a quiet dinner party'.

Recent reports

K. Allsopp and S. C. Madge

These are largely unchecked reports, not authenticated records

This report covers August and the first part of September; except where otherwise stated, all dates refer to August.

The main features of this interesting period were from two extremes: a fall of migrant passerines on the east coast, with a presumed origin in the Baltic region and southern Scandinavia, during the middle of the month, and an influx of American waders, principally in the southwest, during the last few days of August into the first half of September.

The weather during August was influenced mainly by high pressure systems in mid Atlantic. Minor depressions tracked slowly over the country on occasions and associated fronts disrupted migrants on 7th and again between 15th and 23rd, when there was a general northeasterly airflow. From 24th, pressure began to decline in the Atlantic and deeper depressions started to cross quickly by 27th, with associated fronts stretching right across the Atlantic from 28th to 10th September. The resulting strong westerly airstream produced good flying conditions for American waders to reach western Europe.

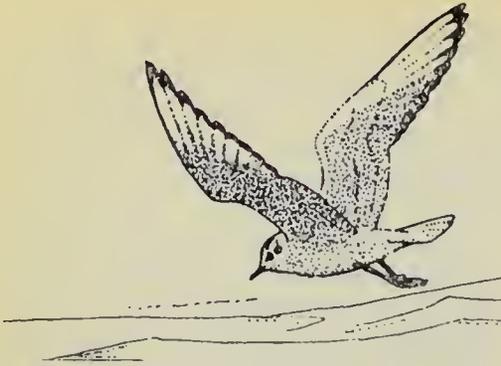
Nearctic waders

Without doubt, the highlight of the early autumn has been the number of Nearctic waders that reached Britain in late August and early September. At the forefront once again have been **Buff-breasted Sandpipers** *Tryngites subruficollis* in the southwest, with 16 on the Isles of Scilly, ten in Cornwall and ones and twos in Essex, Cheshire, Cleveland, West Yorkshire, West Glamorgan and Shetland, totalling some 34 individuals. **Pectoral Sandpipers** *Calidris melanotos* have also been well represented, with reports of about 20 scattered in southwest and eastern England: a **Sharp-tailed Sandpiper** *C. acuminata* at Seal Sands (Cleveland) on 3rd September could also have come from the west rather than the east. Single **Wilson's Phalaropes** *Phalaropus tricolor* turned up on Tresco (Scilly), Hayle estuary, Crowdy and Siblyback Reservoirs (all Cornwall) and the Tees marshes (Cleveland) during the

first week of September. There was a good showing of **Baird's Sandpipers** *C. bairdii*: one at Steart (Somerset) in early August was followed by others at Benacre Broad (Suffolk), Eye Brook Reservoir (Leicestershire) and Tresco in early September, while the only **White-rumped Sandpipers** *C. fuscicollis* were reported from Holme (Norfolk) and the Tees marshes and Tynemouth (Tyne and Wear). Other American waders included two **Lesser Yellowlegs** *Tringa flavipes*, at Lodmoor (Dorset) and Dibden Bay (Hampshire), **dowitcher** *Limnodromus* at Cape Clear Island (Co. Cork), **Western Sandpiper** *C. mauri* at Sandwich Bay (Kent) and **Lesser Golden Plover** *Pluvialis dominica* near Edinburgh (Midlothian), all in September. It is significant that the species best represented were those that are rarest on the eastern seaboard of the USA; it seems that Buff-breasted and Pectoral Sandpipers, Wilson's Phalaropes and Lesser Golden Plovers move from their Arctic breeding grounds to their winter quarters in South America in as few 'hops' as possible, allowing these really long-distance migrants a greater degree of 'error' during unfavourable weather conditions. It is surprising, therefore, that more Lesser Golden Plovers have not been found in Britain.

Other American waterbirds

A handful of American waterfowl were identified during the period that brought the influx of waders; doubtless there will be others later in the autumn and winter, as identification in early autumn is hampered by drakes being in eclipse plumage, making such birds as Green-winged Teal *Anas crecca carolinensis* impossible to identify. A **Black Duck** *A. rubripes* from the previous autumn remained on Tresco in early September, when a **Blue-winged Teal** *A. discors* was found on nearby St Mary's. A female **American Wigeon** *A. americana* was identified at Fairburn Ings (West Yorkshire) on 17th September and, on the same day, a drake **Surf Scoter** *Melanitta perspicillata* was noted flying north with a party of Common Scoters



M. nigra from two points on the Cleveland coast.

The only gull of Neartic origin was a well-watched **Bonaparte's** *Larus philadelphia*, found on the Tees marshes on the 12th and remaining into September. What must have been the same bird had been reported in late July from near Hornsea (North Humberside), which suggests that it had not crossed the Atlantic this autumn.

Passerines

Lighthouses are well-known to attract large numbers of night migrants. Few can have been as well-studied as that on Bardsey (Gwynedd). Some of the numbers involved there during mid August were reminiscent of the mid 1960s, with 2,000 **Willow Warblers** *Phylloscopus trochilus* on 19th, and totals of 150-200 **White-throats** *Sylvia communis* and **Grasshopper Warblers** *Locustella naevia*. Several other places reported large numbers of Willow Warblers, notably Dungeness (Kent) and Calf of Man (Isle of Man). **Wood Warblers** *P. sibilatrix* are rarely found at migration watch points, but several stations remarked on larger numbers than usual, with up to seven on Fair Isle (Shetland) and 14 bird-days on Cape Clear Island. There was a small sprinkling of rarer warblers around the 20th, with single **Greenish** *P. trochiloides* at Saltfleetby (Lincolnshire) and Flamborough Head (North Humberside) and two at Low Hauxley (Northumberland). Fair Isle produced single **Arctic** *P. borealis* and **Booted Warblers** *Hippolais caligata* on 20th, but the main fall of migrants seems not to have reached that far north. It was the numbers of **Red-backed Shrikes** *Lanius collurio* on the east coast, between Northumberland and Suffolk, that caused most excitement, with perhaps over 200 being reported, including 32 on the Bampton-Flamborough stretch of coast and 20 at Spurn (all North Humberside),

and scattered individuals south and west to Dungeness and Portland Bill (Dorset). **Wrynecks** *Jynx torquilla* were also much in evidence, with 30 at Spurn and smaller numbers elsewhere. Some 100 **Icterine Warblers** *H. icterina* were said to be on the East Anglian coast at this time, including, for instance, about a dozen at Blakeney Point (Norfolk); the usual few individuals were reported elsewhere: Walney Island (Cumbria), Cape Clear Island and Fair Isle. We have come to expect a good crop of **Aquatic Warblers** *Acrocephalus paludicola* along the south coast, but so far this autumn has been a bit of a disappointment: one at Spurn on 20th, however, was exceptional so far north. A male **Two-barred Crossbill** *Loxia leucoptera* arrived on Fair Isle on 14th, with the first **Scarlet Rosefinch** *Carpodacus erythrinus* of the autumn; the latter species had increased to three by the end of the month, and there were also singles at Low Hauxley and Hartlepool during the 'big fall'.



Latest news

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British Birds

Volume 70 Number 12 December 1977



**County and regional bird clubs
Wader plumages**

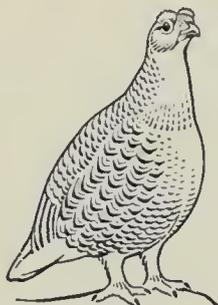
Palearctic bird recordings

David Morrison Reid-Henry (1919-1977)

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News and comment

Peter Conder, 12 Swaynes Lane,
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Papers should be typewritten with double spacing and wide margins, and on one side of the sheet only. Shorter contributions, if not typed, must be clearly written and well spaced, and notes should be worded as concisely as possible. Authors of papers and notes should consult this issue for style of presentation (especially for systematic lists, reference lists and tables). Tables must either fit into the width of a page or into a whole page lengthways, and should be self-explanatory. English names of birds should have capital initials for each word, except after a hyphen, but group terms and names of other animals and plants should not. Both English and scientific names of birds, and the sequence, follow *A Species List of British and Irish Birds* (BTO Guide 13, 1971). Scientific names (underlined) should appear immediately after the first mention of the English name. Subspecific names should not be used except where relevant to the discussion. Dates should always take the form '1st January 1977', except in tables where they may be abbreviated.

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British Birds

VOLUME 70 NUMBER 12 DECEMBER 1977



County and regional bird clubs and societies

The bird clubs of Britain and Ireland co-ordinate a work force of field observers which gives coverage—collated in annual reports—envied by most other countries. They also provide a wide range of services for their members, and usually have low annual subscriptions. Most birdwatchers choose to join their local club. Beginners of all ages are usually welcomed and many clubs arrange special trips or lectures for junior members

In recognition of the part played by local clubs in the evolution and development of British ornithology, *British Birds* takes a detailed look in this article at those in Britain and Ireland which responded to a short questionnaire sent to every local recorder in May 1977. All but a handful of the forms were returned and we hope that this analysis and listing of details from the replies will be useful as a historical record and as a service both to readers and to the societies themselves. We should welcome details from any unlisted clubs or societies, so that our files are made complete.

The oldest club is the London Natural History Society, founded in 1858, but only five others started in the 19th century and well over half (63%) have come into existence in only the last three decades. The 'average club' is now 27 years old, but, including minor clubs as well as the main ones in each county, it is encouraging to note that more have been started in the seven years of the 1970s than in any previous decade.

Membership of the listed societies and clubs has increased by 20% in the last five years and is now close to 40,000 (the average club has 483 members). They nearly all produce an annual report and a more frequent newsletter and have evening lectures (especially in winter). Field trips are run, both within their immediate area and to well-known bird-watching areas farther afield; a few even organise trips abroad. The

majority offer the opportunity for co-operative fieldwork by organising local studies, especially censuses of the scarcer species and surveys of important sites.

We urge all those who are not yet members to join and support their local club or society. JTRS

This list of local ornithological clubs and societies follows the same sequence as the list of 'County, regional and bird observatory recorders in Britain and Ireland' (*Brit. Birds* 70: 356-360) except (1) that the bird observatories are listed under their counties, and (2) in Scotland and the Republic of Ireland, where local branches of the Scottish Ornithologists' Club and the Irish Wildbird Conservancy often fulfil the functions of county bird clubs. Royal Society for the Protection of Birds' members' groups are not listed; nor are county naturalists' trusts, which are concerned mainly with conservation, unless the county has no or few other ornithological organisations and the naturalists' trust plays a wider role than usual.

Each entry gives (1) the full name of the organisation, (2) its age in years, (3) its current membership (and the percentage change in membership in the past five years), (4) the services provided for members (see list of code letters, below) and (5) a list of current surveys or censuses (those carried out in 1977 or planned for 1978). SERVICES CODES: *R* annual report; *N* newsletter, with prefix *m* monthly, *bm* bimonthly, *q* quarterly, *b* bi-annual or *a* annual; *L* lectures; *F* organised field trips; *S* local surveys or censuses; *members can now or will soon be able to subscribe to *British Birds* at a reduced rate (currently £6.00 instead of £8.00). National and international surveys and censuses, such as the Wildfowl Trust's counts, the British Trust for Ornithology's various projects and the Seabird Group's censuses, are not listed, since all clubs and societies encourage their members to participate.

Avon BATH NATURAL HISTORY SOCIETY. 10. 400 (?). *aNF*.

BRISTOL NATURALISTS' SOCIETY. 115. 786 (-3%). *RmNLFS**, extensive library. Population study of Shelduck (since 1958); breeding distribution of Kestrel, Swift and House Martin in City of Bristol; distribution of Yellowhammer and Reed Bunting in Avon; survey of wildlife along River Avon from Bristol to Avonmouth.

BRISTOL ORNITHOLOGICAL CLUB. 11. 501 (+31%). *mNLFS**, beginners' meetings and trips, annual journal with papers and notes (*Bristol Ornithology*). Bristol Channel seabird survey; migration watches.

Bedfordshire BEDFORDSHIRE NATURAL HISTORY SOCIETY. 31. 403 (?). *RqNLFS**. Tetrad breeding bird survey of county.

Berkshire READING ORNITHOLOGICAL CLUB. 31. 400 (+33%). *RbNLFS**, publishes annual *The Birds of Berkshire*; junior members encouraged. Local wader passage; colour-ringing of Pied Wagtails.

THE NEWBURY AND DISTRICT ORNITHOLOGICAL CLUB. 42. 180 (+80%). *RbNLFS*, ringing tuition available.

Buckinghamshire MIDDLE THAMES NATURAL HISTORY SOCIETY. 30. 400 (0). *RmNLFS*.

Cambridgeshire CAMBRIDGE BIRD CLUB. 52. 350 (-5%). *RmNLFS**, library. Woodpecker survey.

HUNTINGDONSHIRE FAUNA AND FLORA SOCIETY. 30. 130 (+18%). *RLFS**. Survey of clay-pits south of Peterborough.

Cheshire CHESHIRE ORNITHOLOGICAL ASSOCIATION (incorporating Altrincham & District Natural History Society, Chadkirk & District NHS, Chester & District Ornithological Society, Hale Ornithologists, Heald Green Naturalists, Hilbre Island Survey Group, Knutsford

Ornithological Society, Liverpool Naturalists' Field Club, Liverpool Ornithologists' Club, Lynn Ornithological Society, Macclesfield branch of Cheshire Conservation Trust, Manchester Ornithologists' Society, Merseyside Naturalists' Association, Merseyside Ringing Group, Mid-Cheshire Ornithological Society, South-East Cheshire Ornithological Society, Stockport Ornithologists, Wilmslow Guild Ornithological Society, Wirral Bird Club). 8. ? (?). *RS* (individual societies usually also *NLF*).

Cleveland TEESMOUTH BIRD CLUB. 17. 376 (+14%). *RbNLFs*. Censuses of important areas for Cleveland Countryside Plan; census of breeding seabirds; censuses of Barn Owl, Goldfinch and Corn Bunting.

Cornwall CORNWALL BIRD-WATCHING AND PRESERVATION SOCIETY. 46. 1,000 (-2%). *RLFS*, separate bird reports for Cornwall and Isles of Scilly. Survey of Bodmin Moor.

Cumbria ASSOCIATION OF CUMBRIA NATURAL HISTORY SOCIETIES (incorporating Ambleside Field Society, Arnside Natural History Society, Barrow Naturalists' Field Society, Coniston Natural History Society, Eden Field Club, Grange Natural History Society, Kendal Natural History Society and West Cumberland Botanists' Group, as well as the four societies listed below). 6. ? (?). *RLFS*.

CARLISLE NATURAL HISTORY SOCIETY. 84. 120 (+50%). *LF*.

KESWICK NATURAL HISTORY SOCIETY. 7. 90 (-10%). *LF*.

MARYPORT EDUCATIONAL SETTLEMENT NATURE GROUP. 30. 20 (+66%). *LFS*. Flora of Cumbria.

PENRITH AND DISTRICT NATURAL HISTORY SOCIETY. 42. 80 (+14%). *LF**.

Derbyshire DERBYSHIRE ORNITHOLOGICAL SOCIETY. 23. 470 (+18%). *RmNLFs*, annual dinner. Surveys and censuses of Golden Plover, Curlew, Dunlin, Little Owl, House Martin, Nuthatch, Dipper, Ring Ouzel and Whinchat.

Devon DEVON BIRD WATCHING AND PRESERVATION SOCIETY. 49. 1,500 (+25%). *RqNLFs**, Slapton bird observatory, South Milton reserve. Tetrad survey of eight woodland species; surveys of Red Grouse and Ring Ouzel.

Dorset DORSET BIRD CLUB. 10. 363 (+89%). *RqNLFs*. Studies of Turtle Dove, Corn Bunting and Tree Sparrow; census of Dartford Warbler to assess effect of 1976 drought and heath fires.

PORTLAND BIRD OBSERVATORY AND FIELD CENTRE. 26. 300 (+20%). *RbN**, hostel accommodation, ringing tuition. Surveys of flora and fauna, seabird colony census.

Durham DURHAM BIRD CLUB. 2. 130 (-). *RmNLFs**.

East Sussex SUSSEX ORNITHOLOGICAL SOCIETY. 15. 1,293 (+32%). *RqNLFs**, active conservation work group. Coastal counts of waders and wildfowl now in 13th year; surveys/censuses of Nightingale, Grasshopper Warbler and Corn Bunting; other private members' surveys also supported. Grants given to other bodies (£1,020 in 1976).

Essex ESSEX BIRD WATCHING AND PRESERVATION SOCIETY. 28. 750 (+15%). *RbNLFs*, conservation work, permits for Hanningfield and Abberton Reservoirs and Southend pier available to members.

- ST OSYTH BIRD WATCHING AND PROTECTION SOCIETY. 21. 130 (+63%).
RLFS. Winter and breeding survey in local wood.
- Gloucestershire** GLOUCESTERSHIRE NATURALISTS' SOCIETY. 29. 965 (+36%). *RmNLFS*, library.
- Greater London** see 'London'.
- Hampshire** HAMPSHIRE FIELD CLUB AND ARCHAEOLOGICAL SOCIETY. 26. 600 (?). *RqNLFS*. Gull-roost counts.
- Hereford and Worcester** HEREFORDSHIRE ORNITHOLOGICAL CLUB. 25. 643 (+35%). *RqNLFS**, extensive nestbox scheme (1,000 boxes) for Pied Flycatchers.
 See also 'Staffordshire'.
- Hertfordshire** HERTFORDSHIRE NATURAL HISTORY SOCIETY. 102. 400 (0).
RbNLFS.
- Humberside** see 'Lincolnshire' and 'North Yorkshire'.
- Isle of Wight** ISLE OF WIGHT NATURAL HISTORY AND ARCHAEOLOGICAL SOCIETY. 58. 500 (+25%). *RqNLFS*. Survey of Forestry Commission woodland; filling in gaps revealed by BTO/IWC Atlas survey.
- Isles of Scilly** see 'Cornwall'. Separate *Isles of Scilly Bird Report*.
- Kent** KENT ORNITHOLOGICAL SOCIETY. 26. 1,000 (0). *RmNLFS**, bookstall at meetings. Five-yearly breeding census of Medway islands.
 DUNGENESS BIRD OBSERVATORY. 25. Membership now being sought (see *Brit. Birds* 70: 512). *bN*, hostel accommodation, ringing tuition.
 SANDWICH BAY BIRD OBSERVATORY. 25. 102 (+108%). *RqNS**, hostel accommodation, ringing tuition. Survey of breeding birds of lowland areas of east Kent.
- Lancashire** LANCASHIRE AND CHESHIRE FAUNA SOCIETY. 63. 150 (0). *R*.
 CHORLEY ORNITHOLOGICAL SOCIETY. 2. 15 (-). *RFS*.
 EAST LANCASHIRE ORNITHOLOGISTS' CLUB. 22. 50 (0). *LS*. Long-term population studies of Rook, House Martin and Sand Martin.
 HYNDBURN ORNITHOLOGISTS' CLUB. 2. 48 (-). *RqNLFS**.
 LANCASTER AND DISTRICT BIRD WATCHING SOCIETY. 18. 284 (+26%).
RLFS. Ten-year bird report published in 1968 and another planned for 1978.
 LEIGH ORNITHOLOGICAL SOCIETY. 5. 180 (+600%). *RbmNLFS**, social evenings including annual dinner dance. Censuses of Nightjar, Rook and Reed Warbler; mid month waterbird counts in September-March.
 MERSEYSIDE NATURALISTS' ASSOCIATION. 39. 400 (-20%). *RLFS**, library, 'grapevine' news. Surveys of Ruddy Duck, Woodcock, Barn Owl and Crossbill; relation between birds and oak galls; extensions of ranges in suburbs.
 ROSSENDALE ORNITHOLOGISTS' CLUB. 2. 70 (-). *RLFS*. Censuses of Kestrel and Rook.
 WALNEY BIRD OBSERVATORY. 7. 12 (+20%). *R*.
- Leicestershire** LEICESTERSHIRE AND RUTLAND ORNITHOLOGICAL SOCIETY. 36. 522 (+12%). *RmNLFS**.
- Lincolnshire** LINCOLNSHIRE NATURALISTS' UNION. 84. 350 (0). *RLFS**, irregular newsletters. Humber and Wash estuaries surveys; census of breeding Pochard and Tufted Duck.

- London** LONDON NATURAL HISTORY SOCIETY. 119. 1,200 (0). *RmNLFS**, reading circles, library, annual symposium, annual journal *The London Naturalist*. Lower Thames winter counts; survey of Grey Wagtails.
- Merseyside** see 'Cheshire' and 'Lancashire'.
- Norfolk** NORFOLK AND NORWICH NATURALISTS' SOCIETY. 108. 750 (0). *RqNLFS**, publishes annual *Transactions* as well as bird report. Censuses of Grey Heron and Bittern.
NORFOLK NATURALISTS' TRUST. 51. 5,000 (?). *RF*. Censuses of Grey Heron and Bittern.
NORFOLK ORNITHOLOGISTS' ASSOCIATION (formerly Holme Bird Observatory). 7. 1,100 (+120%). *RbNLFS**, information centres at Holme and Walsey Hills Reserve.
- Northamptonshire** NORTHAMPTONSHIRE BIRD CLUB. 4. 170 (-). *mNLF**, special meetings for beginners and juniors.
NORTHAMPTONSHIRE NATURAL HISTORY SOCIETY. 80. 500 (?). *LFS*.
- North Yorkshire** YORKSHIRE NATURALISTS' UNION. 110. 700 (0). *RqNLFS*. Surveys of Red-legged Partridge and Reed Warbler.
- Northumberland** TYNESIDE BIRD CLUB. 19. 220 (+47%). *RmNLFS**, library, junior project competition, use of seawatch observatory, an 'access guide' is available to all members. Census of Whooper Swan and survey of breeding Oystercatchers.
- Nottinghamshire** TRENT VALLEY BIRD WATCHERS. 42. 400 (+33%). *RmNLFS**. Survey of Coot.
- Oxfordshire** BANBURY ORNITHOLOGICAL SOCIETY. 25. 120 (+20%). *RmNLFS**, annual RSPB/BOS film show, annual dinner. Annual survey of Coot.
OXFORD ORNITHOLOGICAL SOCIETY. 57. 300 (0). *RmNLFS*.
- Shropshire** SHROPSHIRE ORNITHOLOGICAL SOCIETY. 22. 425 (+13%). *RqNLFS**. Surveys of Swift and disused railway lines.
- Somerset** SOMERSET ORNITHOLOGICAL SOCIETY. 54. 334 (-6%). *RbNLFS**. Society appeals for all records to be submitted, from non-members as well as members.
- South Yorkshire** see 'North Yorkshire'.
- Staffordshire** WEST MIDLAND BIRD CLUB. 48. 1,930 (+31%). *RbmNLFS**.
- Suffolk** SUFFOLK NATURALISTS' SOCIETY. 48. 730 (-3%). *RLFS*.
- Surrey** SURREY BIRD CLUB. 20. 1,250 (+69%). *RqNLFS**, library, training for ringers.
- Tyne and Wear** see 'Durham' and 'Northumberland'.
- Warwickshire** see 'Staffordshire'.
- West Midlands** see 'Staffordshire'.
- West Sussex** see 'East Sussex'.
- West Yorkshire** see 'North Yorkshire'.
- Wiltshire** WILTSHIRE ORNITHOLOGICAL SOCIETY. 3. 320 (-). *RqNLFS*. Surveys of Barn Owl and other selected species for compilation of a new *Birds of Wiltshire*.
- Isle of Man** MANX ORNITHOLOGICAL SOCIETY. 10. 100 (+22%). *RqNLFS**. Census of Raven and 5-km square survey for an *Atlas of Manx Breeding Birds*.

- Clwyd** CLWYD ORNITHOLOGICAL SOCIETY (formerly Flintshire Ornithological Society). 25. 100 (+25%). *bNLF*, wardening of Little Tern colony.
See also 'Gwynedd'.
- Dyfed** WEST WALES NATURALISTS' TRUST (formerly Pembrokeshire Bird Club, then West Wales Field Society). 39. 2,000 (?). *bNLFS**, five-yearly *Dyfed Bird Report* covering 1972-76. Surveys of less usual birds; Peregrine sites monitored.
- Gwent** GWENT ORNITHOLOGICAL SOCIETY. 16. 300 (0). *RLFS**, annual dinner. Surveys of Crossbill, Siskin and Redpoll. Recently published *The Birds of Gwent*.
- Gwynedd** CAMBRIAN ORNITHOLOGICAL SOCIETY. 25. 350 (+17%). *RqNLF**, annual dinner.
BARDSEY BIRD AND FIELD OBSERVATORY. 24. 200 (0). *RqN**, hostel accommodation, ringing tuition.
- Mid Glamorgan** CARDIFF NATURALISTS' SOCIETY. 31. 330 (+10%). *RbNLFS**, issuing of reservoir permits. *Birds of Glamorgan* published in 1967.
- Powys** BRECKNOCK NATURALISTS' TRUST. 13. 472 (+18%). *RbNLFS**, shop. Nestbox scheme (300 boxes), small mammal trapping project, fieldwork for flora of Breconshire, projects for selected junior schools.
MONTGOMERYSHIRE FIELD SOCIETY. 30. 180 (?). *RLF*.
See also 'Hereford and Worcester'.
- South Glamorgan** see 'Mid Glamorgan'.
- West Glamorgan** GOWER ORNITHOLOGICAL SOCIETY. 21. 145 (-6%). *RqNLFS**. Several surveys and censuses in local areas are supported.
- Scotland** SCOTTISH ORNITHOLOGISTS' CLUB. 41. 2,940 (+24%). *LFS**, annual report published in quarterly journal *Scottish Birds*, major annual conference. Reference library and bird bookshop at the Scottish Centre for Ornithology and Bird Protection (21 Regent Terrace, Edinburgh EH7 5BT), where callers are welcome (9 a.m. to 1 p.m. and 2 p.m. to 5 p.m.) and advice is available to birdwatchers visiting Scotland. There are the following SOC branches: Aberdeen, Ayr, Dumfries, Dundee, Edinburgh, Glasgow, Inverness, New Galloway, St Andrews, Stirling, Thurso, Wigtown.
- Shetland** SHETLAND BIRD CLUB. 4. 220 (-). *RbmNLS**. Survey of Cormorant breeding sites.
FAIR ISLE BIRD OBSERVATORY TRUST. 30. 595 (+19%). *R*, library, hostel accommodation, ringing tuition. Annual censuses of seabirds (including Arctic and Great Skuas) and Wren.
- Sutherland** EAST SUTHERLAND BIRD GROUP. 1. 50 (-). *LF**.
- Aberdeenshire** ABERDEEN UNIVERSITY BIRD CLUB. 6. 100 (+230%). *RmNLFS**, newsletter fortnightly in termtime. Responsible for weekend wardening of Forvie National Nature Reserve. Membership open to non-university members.
- Perthshire** PERTSHIRE SOCIETY OF NATURAL SCIENCE. 15. 125 (+39%). *RqNLFS**.

Dumfriesshire ESKDALE AND LIDDLESDALE BIRD CLUB. 8. 47 (-28%).
LF.

Northern Ireland NORTHERN IRELAND ORNITHOLOGISTS' CLUB. 13. 16
(-30%). *LFS**, expeditions abroad. Winter waterfowl census of Lough
Neagh basin.

Co. Down COPELAND BIRD OBSERVATORY. 23. 170 (+70%). *RqNLFS**.
Censuses of Manx Shearwater, Water Rail and gulls on Copelands,
survey of Storm Petrel on Inishglora.

Republic of Ireland IRISH WILDBIRD CONSERVANCY. 8. 1,540 (+14%).
*RqNLFS**, ringing courses, teacher training courses, education.
Breeding census of Black-headed Gull. The IWC has branches in
Cork, Dublin, Galway, North Munster and Sligo.

Co. Cork CAPE CLEAR BIRD OBSERVATORY. 17. 80 (-50%). *R*, irregular
newsletter, hostel accommodation.

Acknowledgement

I am most grateful to Robert Hudson, who helped to devise the questionnaire and commented on the typescript of this article.

Wader plumages in autumn and winter

C. D. T. Minton

A further set of photographs by J. B. and S. Bottomley illustrates juvenile and adult plumage characters

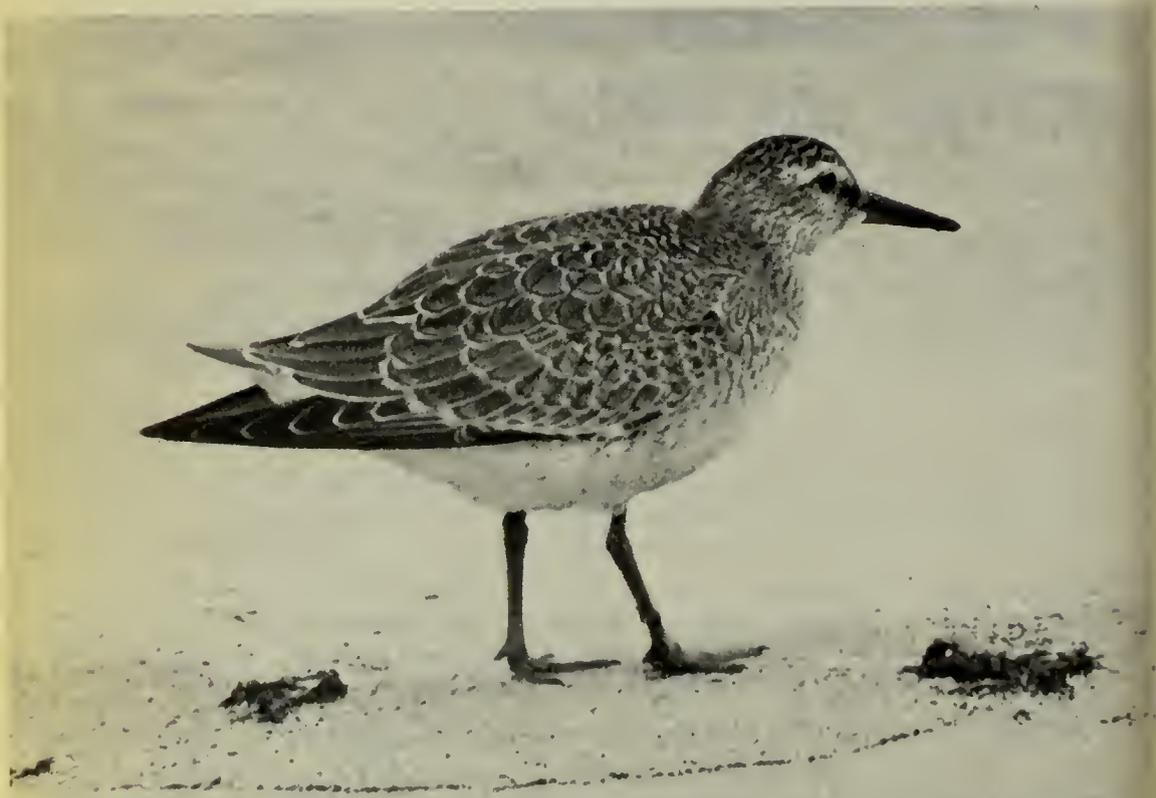
Bird-photography away from the nest has almost inevitably tended to concentrate on wading birds, a challenging subject with that most photogenic combination of contrasting shapes and plumages, allied to the water and mud habitat. Few photographers have obtained as comprehensive a range of wader portraits of such high quality as those that J. B. and S. Bottomley have accumulated in Cornwall over the last few years (e.g. see *Brit. Birds* 69: 155, plates 13-16). It is pleasing to be able to show a further series from their collection and to have the opportunity of including an expanded text in which to elaborate some of the plumage features which the photographs show so clearly (see also *Brit. Birds* 69: 514-515).

A high proportion of the early autumn photographs are of juveniles, perhaps because these younger birds are less wary than adults and, thus, allow a closer approach by the photographer! The Ringed Plover *Charadrius hiaticula* (plate 141) appears to portray the youngest bird in the series:



141. Juvenile Ringed Plover *Charadrius hiaticula*, Cornwall, August 1969 (J. B. and S. Bottomley)

142. Juvenile Knot *Calidris canutus*, Cornwall, August 1966 (J. B. and S. Bottomley)



photographed in mid August, it had probably fledged only about one month before. The contrasting black-and-white head pattern of the adult is completely absent, but the characteristic marking of the juvenile back feathers and wing-coverts (dark brown subterminal bands and buffish-white fringes) is clearly visible. Adults have uniform grey-brown upperparts, which would also be showing considerable wear by mid August, in contrast to the typically fresh plumage of this juvenile. The dull bill and leg colour (in contrast to the orange of the adult) are also indicative of a young bird. The juvenile plumage characteristics are gradually lost during the autumn, by partial moult and abrasion; in late winter, it is difficult to determine the age of some individuals, even in the hand. Incidentally, the habitat of wet mud illustrated here is typical of that used for feeding by passage Ringed Plovers; this one was probably from Iceland or Greenland and on its way to wintering grounds in northwest Africa.

The Knot *Calidris canutus* (plate 142) is also likely to be of northwestern origin, from Greenland or Ellesmere Island, Canada, but, in this case, it is in the less typical habitat of a sandy shore. Late August marks the peak arrival of juvenile Knots from their arctic breeding grounds, and lost or tired young birds frequently occur away from the large muddy estuaries which are the preferred habitat. The juvenile plumage characteristics are similar to those of the Ringed Plover—a dark brown subterminal band and buffish-white fringes to the grey back feathers and wing-coverts

143. Juvenile Common Sandpiper *Tringa hypoleucos*, Cornwall, September 1970 (J. B. and S. Bottomley)





144. Juvenile Curlew Sandpiper *Calidris ferruginea*, Cornwall, September 1970 (J. B. and S. Bottomley)

—but arc rather bolder and arc retained (at least on the wing-coverts) throughout the first year. Some juveniles also have a pale orange or pink wash on the upper breast in early autumn. In late August, adult Knots would be well advanced in their moult from summer into winter plumage, in which the back feathers and wing-coverts are a more uniform grey, paling slightly towards the tip, but lacking the contrasting dark sub-terminal band and light-coloured fringes of the juvenile, so well illustrated in this photograph.

The juvenile Common Sandpiper *Tringa hypoleucos* (plate 143) also has the upperparts more heavily marked than does the adult. The 'tortoise-shell' pattern on the back and, especially, on the wing-coverts is formed by a buff/dark brown/buff triple fringe to each of the brownish feathers. This is easily visible in the field and is markedly different from the adult plumage, in which the brown back feathers and wing-coverts have a darker area near the central shaft of the feathers and no contrasting fringes. The main passage of adult Common Sandpipers takes place in July and the first half of August; by the time that this photograph was taken in early September, most of those still in Britain and Ireland are juveniles.

Fresh, unabraded plumage and broad buffish fringes to the back feathers and wing-coverts are typical characteristics of the young of many species of waders in autumn. The Curlew Sandpiper *Calidris ferruginea* and Dottrel *Eudromias morinellus* photographs (plates 144 and 145) clearly illustrate such



145. Juvenile Dotterel *Eudromas morinellus*, Isles of Scilly, September 1974 (J. B. and S. Bottomley)

juvenile plumages. The slight streaking associated with the pale buffish-orange wash on the upper breast of the juvenile Curlew Sandpiper is also visible. The low elevation from which this photograph was taken helps to illustrate just how much larger, particularly in leg length, this species is compared with the Dunlin *C. alpina*. Taken in early September, this photograph illustrates the typical plumage of most Curlew Sandpipers in the influxes which occur in Britain in late August and early September in some years (e.g. see *Brit. Birds* 65: 365-380). Any autumn passage of adults usually occurs a month earlier, and such birds are still largely in summer plumage. The same is true of the much smaller numbers of Dotterels: by mid September, when plate 145 was obtained, it is most unusual for adult birds to occur.

The Grey Plover *Pluvialis squatarola* (plate 146) is one of the easiest waders to 'age' in the field, since the characteristic spotted appearance of the juvenile's upperparts differs significantly from the more uniform



146. Juvenile Grey Plover *Pluvialis squatarola*, Cornwall, November 1969 (J. B. and S. Bottomley)

147. Juvenile Bar-tailed Godwit *Limosa lapponica*, Cornwall, December 1970 (J. B. and S. Bottomley)

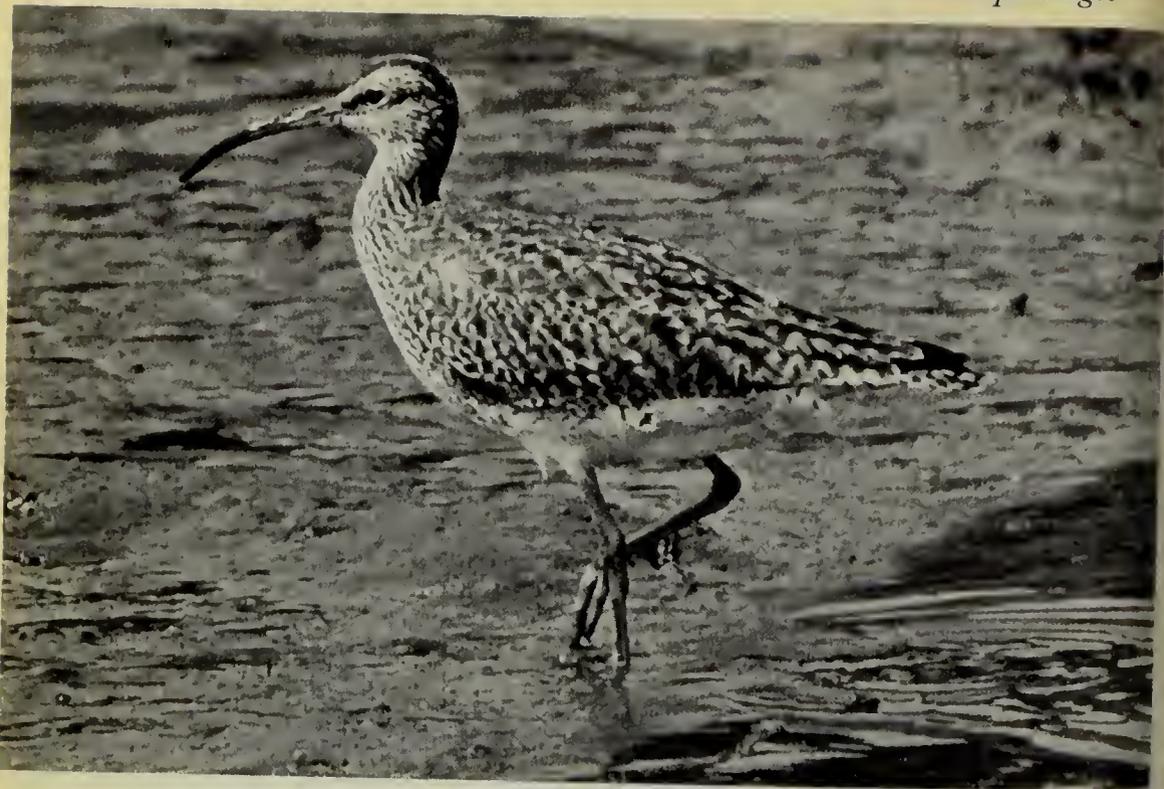


upperparts of the adult and is retained throughout the bird's first winter. None of the juvenile grey-brown back feathers, with the large white or yellowish-gold spots down the edges of the feather and on either side of the tip, has been replaced by the more uniform silvery-grey feathers, paling towards the tip, of the adult winter plumage, even though this photograph was taken in mid November. The photograph also portrays well the pensive gait of a feeding plover, and the typical habitat on the muddy margins of water.

The last of the photographs of juvenile waders in this series is plate 147, a Bar-tailed Godwit *Limosa lapponica*, and this illustrates a typical mid-winter situation of mixed plumages. The juvenile back feathers have been moulted and replaced by the uniform (except for a slight paling towards the tip) grey winter plumage, similar to that of an adult. The juvenile scapulars (heavily indented with buffish-white triangular markings down both sides) and wing-coverts (with a broad buff edge on both sides), however, are still retained. The abrasion of these feathers (about five months old in this bird photographed in late December) is clearly visible, especially on the scapulars, where the buffish-white markings on the edges of some feathers have been almost totally worn away, to give a serrated edge. Differential abrasion, such as this, is frequently seen in waders, with paler parts of a feather being much more rapidly worn than those parts with a dark pigment. The relatively short bill indicates a male: the Bar-tailed Godwit is the only wader occurring in Britain with no overlap in bill length between the sexes. Note also the typical deep wading of a feeding Bar-tailed Godwit.

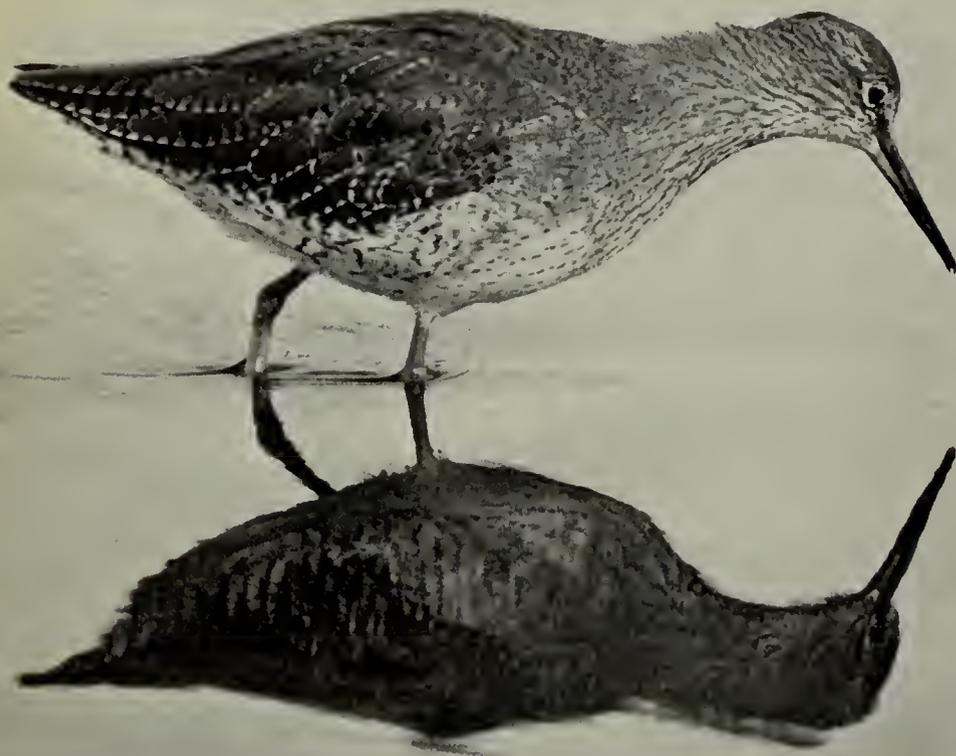
The interpretation of fresh or abraded plumages differs with species and with time of year and needs a knowledge of the moulting cycles. The Whimbrel *Numenius phaeopus* (plate 148) shows heavy abrasion of the scapulars and some of the back feathers and wing-coverts, but, since the photograph was taken in late August, this indicates an adult. Adult Whimbrels complete their migration through Britain and Ireland to their wintering grounds farther south before starting their autumn moult. On the other hand, a juvenile Whimbrel, which could also have reached Cornwall by late August, would be in a fresh, unabraded, but otherwise superficially similar, plumage at that time. The head pattern and the much shorter and markedly down-curved bill—characters which distinguish the Whimbrel from the Curlew *N. arquata*—are clearly illustrated.

In contrast, adult Redshanks *T. totanus* (plate 149) are quick to moult into winter plumage, the British population completing this by early September, when the photograph was taken. There is considerable variation in the winter plumage, with some having almost uniform dark grey back feathers, wing-coverts and scapulars, and others, like the one in this photograph, having a distinct pattern of black and white markings down the edges of the feathers. This is not related to the age of the bird, nor, so far as is known, to the race. The Icelandic race *T. t. robusta* does, however, have noticeably bolder markings on the breast, both in breeding and in winter plumages, and the fine streaks on the breast of this bird suggest it is of the British race *T. t. britannica*. Juvenile Redshanks have



148. Adult Whimbrel *Numenius phaeopus*, Cornwall, August 1968 (J. B. and S. Bottomley)

149. Adult Redshank *Tringa totanus*, Cornwall, September 1970 (J. B. and S. Bottomley)





150. Adult Dunlin *Calidris alpina*, Cornwall, November 1972 (J. B. and S. Bottomley)

prominent buffish spots and fringes on all the upperparts, which are noticeable in the field until September, but which are almost entirely lost in a nearly complete body moult before the end of October. At least one of the juvenile scapulars is, however, retained by young birds throughout their first winter, and the browner and heavily abraded appearance of such feathers enables the age of a Redshank in the hand to be determined throughout the winter (and this would have been possible in this case, if it had been a juvenile, such is the quality of the photograph).

No sample of wader photographs in Britain would have been complete without that most ubiquitous wader, the Dunlin *Calidris alpina* (plate 150). The typical 'nose-down', hunched appearance of a feeding Dunlin is well captured in this portrait, and the slightly open bill suggests that it is in the process of swallowing a small prey item. This photograph was taken in November and the uniform grey-brown upperparts and scapulars are typical of an adult freshly moulted into winter plumage. While a young Dunlin could also have moulted its back feathers, the buff-ringed juvenile wing-coverts are retained throughout the winter, and often until the following July, when the bird is a year old.

Paleartic bird sound recordings, 1973-75

Patrick Sellar, Jeffery Boswall and Ron Kettle

This latest instalment of the discography again draws attention to recordings of particular value to the field ornithologist and to interesting trends in the selection or presentation of bird sounds on disc, cassette or tape

Throughout this paper, figures in bold type continue the sequence of numbering used in previous instalments (Boswall 1964 to Sellar 1973). The full value of a review of this kind can be realised only if all the discs can be readily obtained. Unfortunately, there is still some difficulty with those published in Japan and the USSR, but most East and West German ones are available. The following sources may prove helpful:

Discurio, 9 Shepherd Street, London W1; Discourses Ltd, 36 Crescent Road, Tunbridge Wells, Kent; Wildlife Magazine, 243 King's Road, London SW3 5EA; HMV (Record Shops) Ltd, 142 Wardour Street, London W1; The Royal Society for the Protection of Birds, The Lodge, Sandy, Bedfordshire SG19 2DL; P. Haase & Son, Lovstraede 8, København K, Denmark.

Advice may also be obtained from the British Library of Wildlife Sounds (BLOWS), 29 Exhibition Road, London SW7 2AS, where nearly all the records mentioned can be listened to.

A special effort has been made to pursue discs from the USSR: a further three 17-cm and two 30-cm discs (including the first in stereo) are reviewed here. With the founding of the new Central Phonotek of Animal Voices in 1973 by the Soviet Academy of Sciences (Veprintsev 1974), the recording of bird sounds within the USSR will undoubtedly continue to flourish. Attached to the Biology Faculty of Moscow State University, Moscow V-234, the Phonotek constitutes the latest addition to the world list of wildlife sound libraries (see Boswall 1974). A catalogue of recordings already deposited in the Phonotek has been published (Nicholsky 1975).

The three years under review have seen the completion of *A Field Guide to the Bird Songs of Britain and Europe* by Sture Palmér and Jeffery Boswall (164), with the publication of discs 13 and 14, containing sounds from 82 'accidental' species, and the entire set is readily available in Britain. There is, however, still plenty of scope for discs and cassettes of a different and specialist nature. For example, the Danish Ornithological Society's new *Calls of Small Birds* (163) can be taken into the field in a cassette recorder and used for identification on the spot. The idea is highly laudable, but a warning needs to be sounded that 'calling back' or 'talking down' birds by replaying their songs in the field can be seriously distracting to a bird during its nesting season and may prejudice the safety of eggs or young.

John Kirby has produced a series of eight cassettes (178), most of which are arranged by habitat and have great value in their preservation of atmospheres. With the ever-increasing pressure on wetlands, estuaries and even moorland, it has now become a matter of urgency that certain sound pictures be recorded for posterity. Indeed, John Kirby's estuary, superbly captured on his second cassette, has already been largely overrun by industrial development.

Since the last review, only three real stereo discs have appeared; neither the one Russian nor the one British (both 'firsts' for their respective countries) is entirely successful. Stereo has an effective and important contribution to make in many different situations, be it simply the portrayal of an atmosphere or the spatial relationship between male and female during courtship feeding; it may be dispensed with in a field guide, but can be vital in behaviour analysis.

Educational recording is being paid at least lip service in a rather general way by the admirable series of BBC discs edited by Eric Simms, but only two discs designed specifically for children appeared during 1973-75. These are highly effective discs-cum-booklets produced by Dr Gerhard Thielcke of West Germany (162), which even illustrate regional variation in bird song, complete with spectrograms. There is an urgent need for more discs and cassettes tailored for the young and for schools, ideally with sets of photographic slides to make up audio-visual packages.

G. H. Parent has now published a second instalment of his *Discographie Zoologique Critique* (Parent 1976). The thoroughness of this comprehensive work is highly commendable, and we acknowledge the extensive use we have made of it in compiling this paper.

Further additions to the discography

154. VEPRINTSEV, B., LITVINENKO, L., and SHIBAEV, Y. 1965. *The Bird Voices of Ussuriland* [Russian].

One 17-cm, 33.3 rpm, Melodiya 00015441/2. All Union Studio of Disc Recording, Mezhdunarodnaja Kniga, 32-34 Smolensk Square, 121200 Moscow, USSR.

The seven species include Yellow-browed Bunting *Emberiza chrysophrys* and Spotted Eagle *Aquila clanga*. A successor to **83**.

155. VEPRINTSEV, B. 1965. *The Bird Voices of the White Sea Region* [Russian].

One 17-cm, 33.3 rpm, Melodiya 00015443/4. Address as 154.

Eight commonly-recorded species. Companion to **83** and **154**.

156. KÖNIG, C. and RUGE, K. 1968. *Stimmen Europäischer Vögel 5*.

One 17-cm, 45 rpm disc, Kosmos 09685-8. Kosmos Verlag, Franckh'sche Verlagshandlung, Postfach 640, D-7000 Stuttgart 1, West Germany.

Originally another record in the *Stimmen einheimischer Vögel* series (**31**, **65**, **76** and **91**), which has now been renamed. The seven species include Citril Finch *Serinus citrinella*, Three-toed Woodpecker *Picoides tridactylus* and Roller *Coracias garrulus*.

157. KABAYA, T. 1969. *Birds' Concert*.

Two 30-cm, 33.3 rpm, JV-2016-7. Victor Musical Industries Inc., Harajuku Piazza Building, 4-26-18 Jingumae, Shibuya-ku, Tokyo, Japan.

Includes 46 landbird species recorded in Japan. Scientific and English names given.

158. KABAYA, T. 1970. *European Birds' Songs*.

One 30-cm, 33.3 rpm, SJX-2101-M. Address as 157.

Features 22 well-known species. Text in Japanese and English. One of a series of six discs, 'The World-famous Bird Songs', each covering a different region of the world: the others are Australasian (2102), Neotropical (2103), Nearctic (2104), Oriental (2105) and Ethiopian (2106).

159. SIMMS, E. 1970-71. *Sounds of the Countryside and Wildlife of Wales*.

Two 30-cm, 33.3 rpm, RED 60M and RED 96M, BBC Wildlife Series 5 and 11. BBC Records, London. From record shops, not the BBC.

The first disc presents 'a seasonal picture in sound of British wildlife', with recordings from the BBC's 'Countryside' programmes.

The Wales disc includes brief recordings of some 75 bird species characteristic of its wild habitats, delightfully introduced by William Condry and R. M. Lockley.

160. WAHLSTRÖM, S. 1971. *Våra Svenska Fåglar i Ton*.

Three 17-cm, 45 rpm, V Sv F-16, 17 and 18. AB Svensk Litteratur, Vasagatan 16, Stockholm, Sweden.

Successors to **62** and **73**. A feature of these discs is the generous time allotted to each species and the presence of plenty of atmosphere. On disc 16, Whimbrel *Numenius phaeopus* and Green Sandpiper *Tringa ochropus* both feature in exceptionally fine recordings; and there are also the calls of the Golden Eagle *A. chrysaetos*, which are rarely found on disc. Disc 17 includes the Three-toed Woodpecker, again rare on disc. Disc 18 includes a very fine singing Nightingale *Luscinia megarhynchos* and the rarely taped Lapland Bunting *Calcarius lapponicus*.

161. VEPRINTSEV, B. 1971. *Voices of Spring* [Russian].

One 30-cm, 33.3 rpm stereo, Melodiya 02151/2. Address as 154. French language edition, 1975: *Oiseaux des Plaines Russes: Les Voix du Printemps*, LDX75007. Le Chant du Monde, 64 rue Ampère, 75017 Paris. Obtainable from Wildlife Magazine, London.

The first Soviet disc in stereo. Features 16 species. Most of the recordings were made at the end of April 1965 at the mouth of the River Pra, in the woods and marshes of the Mechtchra (bands 2, 3, 5, 6A and 2 and 6B). The Rooks *Corvus frugilegus* were recorded in Orlovchina Park and the mixed heronry on the island of Dzhidali in the River Syr-Darya. The others were recorded at the beginning of June near Pereiaslavl. The stereo is genuine, but has been 'enhanced' in places; for example, bands 2 to 5 on side 1 include an echo-chamber effect. Also, multi-track work has been done in places to 'fill-in' the stereo picture.

162. THIELCKE, G. 1973-74. *Biologie der Vogelstimmen I and II*.

Two 17-cm, 45 rpm, 79311 and 79312, with eight-page booklets. Ernst Klett Verlag, Postfach 809, 7000 Stuttgart 1, West Germany.

Designed for use in schools, and tells children how to listen and what to listen for. Chiffchaff *Phylloscopus collybita*, Chaffinch *Fringilla coelebs*, Nightingale, Quail *Coturnix coturnix*, Tawny Owl *Strix aluco*, Treecreeper *Certhia familiaris* and Little Grebe *Tachybaptus ruficollis* are featured in disc I. The examples include song variation between and within species, the construction of songs and duetting. Disc II features the songs and calls

of Blackbird *Turdus merula* and Great Tit *Parus major*, and the functions of the different sounds are explained. Spectrograms for all the sounds are included with the text. Use is made of slowed-down recordings on I. The whole effort is highly praiseworthy and we hope that the series will be continued.

163. DANISH ORNITHOLOGICAL SOCIETY. 1973. *Kald af Mindre Fugle* (Calls of Small Birds).

One cassette DOF 202, or one 12.5 cm-diameter reel-to-reel tape recorded half-track at 9.5 cm/sec. Dansk Ornithologisk Forening, Faelledvej 9, 2200 Copenhagen N, Denmark.

Successor to **153**, this tape is specifically aimed at the field ornithologist, presenting contact and alarm calls as an identification aid; songs were adequately represented on the earlier tape. Similar-sounding calls from different species are ideally juxtaposed: thus, one can listen to the Goldcrest *Regulus regulus* and, seconds later, the Firecrest *R. ignicapillus*. Other critical comparisons include Meadow *Anthus pratensis* and Rock Pipits *A. spinoletta*, Crossbill *Loxia curvirostra* and Parrot Crossbill *L. pytyopsittacus*, Chaffinch and Brambling *F. montifringilla* and, for the first time ever, Lapland and Snow Buntings *Plectrophenax nivalis*. The churring alarms of the Blackcap *Sylvia atricapilla*, Barred Warbler *S. nisoria*, Whitethroat *S. communis* and Garden Warbler *S. borin* are all brought together. Individual calls of vital import in the field include the flight call of the Hawfinch *Coccothraustes coccothraustes*. The occasional wind noise only bears out the sincerity of this enterprise, the product of seven field observers who, by their long experience, know precisely which diagnostic calls need close comparison. A five-page typewritten schedule lists all 51 species by their scientific, English and Danish names, the assumed function of each call and the locality and date of recording. Each species is introduced on the tape in Danish and English. Total playing time is about 35 minutes.

164. PALMÉR, S., and BOSWALL, J. 1973. *A Field Guide to the Bird Songs of Britain and Europe*.

Two 30-cm, 33.3 rpm electronic stereo, RFLP 5013-4. Publishing Dept., Sveriges Radio, S-105 10 Stockholm, Sweden. Distributed in Britain by EMI. Obtainable from the RSPB.

These two records, which complete the series reviewed under **152** and bring the total number of discs to 14, contain the voices of 78 of the 114 accidental species listed by Peterson *et al.* (1965), plus three which have appeared accidentally in Europe since 1965 and one newly discovered nester, the White-rumped Swift *Apus caffer*.

The first disc covers the albatrosses and southern hemisphere petrels, with a useful selection of particularly fine recordings of American sandpipers by William Gunn. Of the absentees, some are very rare vagrants which, when they do venture astray, are seldom inclined to give voice. The Sharp-tailed Sandpiper *Calidris acuminata* would have been useful in assisting separation from the much commoner Pectoral *C. melanotos*, but we can hardly blame William Gunn for that omission. On disc 14 there is another absent species for which voice on migration is often the first clue to identification, the Citrine Wagtail *Motacilla citreola*. These and the other absentees, from both the two discs of 'accidentals' and the 12

discs covering the 'basic' 469 species, should pose a formidable and attractive challenge to recordists.

The authors have drawn my attention to the inclusion of the voice of one new basic species, the White-headed Duck *Oxyura leucocephala*, on later pressings of disc 5002; to three new accidentals, White-throated Robin *Irania gutturalis* on later pressings of disc 5009, and Thick-billed Warbler *Acrocephalus aedon* and Daurian Jackdaw *Corvus dauuricus* on 5014; and additional recordings of a juvenile Crane *Grus grus* and displaying Corncrakes *Crex crex* on 5003. It is clearly desirable to publish new recordings, particularly of previously missing species, but rather than do this piecemeal it would surely be better to wait for the opportunity for a proper revised edition that can be sold as such, or to save up additional recordings and issue a supplementary fifteenth disc. Moreover, the names of the added species do not appear on the sleeves, and the White-throated Robin has been inserted on the wrong record.

The remaining 19 basic absentees, of which Jeffery Boswall would very much welcome tapes, are:

Levant Sparrowhawk *Accipiter brevipes*, Black Vulture *Aegyptius monachus*, Andalusian Hemipode *Turnix sylvatica*, Houbara Bustard *Chlamydotis undulata*, Greater Sand Plover *Charadrius leschenaultii*, Buff-breasted Sandpiper *Tryngites subruficollis*, Long-billed Dowitcher *Limnodromus scolopaceus*, Slender-billed Curlew *N. tenuirostris*, Iceland Gull *Larus glaucooides*, Ross's Gull *Rhodostethia*

rosea, Pallas's Sandgrouse *Syrhaptes paradoxus*, White-winged Lark *Melanocorypha leucoptera*, Black Lark *M. yeltoniensis*, Pechora Pipit *Anthus gustavi*, Yellow-browed Warbler *Phylloscopus inornatus*, Eye-browed Thrush *Turdus obscurus*, Black-throated Thrush *T. ruficollis*, Azure Tit *Parus cyanus* and Rose-coloured Starling *Sturnus roseus*.

I apologise to the authors for saying in my earlier review (Sellar 1973, page 305) that the Sabine's Gull *L. sabini* could scarcely be heard above the din of Arctic Terns *Sterna paradisaea*. As they point out (and see Witherby *et al.* 1941), the cry of Sabine's Gull is 'similar to the note of the Arctic Tern'. They also tell me that new pressings of disc 5002 now give the voice of the Saker *Falco cherrug* at the correct speed.

This monumental project has been brought to successful fruition. It includes 1,015 separate recordings of 531 species (535 on later pressings) made by 112 recordists in 40 different countries. With a total running time of 11 hours 10 minutes and 36 seconds, it surpasses any other published set of bird recordings.

PATRICK SELLAR

165. SCHUBERT, M., and TEMBROCK, G. 1973. *Stimmen der Vögel Mitteleuropas: V. Vögel in Feld und Flur.*

One 30-cm, 33.3 rpm, Eterna 8 21 284. VEB Deutsche Schallplatten, Gross-Berliner Damm 27/31, 1197 Berlin, East Germany.

Successor to **119** and **143**. IV is unavailable. The recordings, by Prof. Schubert, are each preceded by fairly lengthy explanatory comments spoken by Prof. Tembrock. Some recordings are notable, either for their excellent quality or their rarity: Great Bustard *Otis tarda*, Short-eared Owl *Asio flammeus*, Aquatic Warbler *Acrocephalus paludicola*, three superb examples of Marsh Warbler *A. palustris* and two of Barred Warbler. The species are listed by German and scientific names on the sleeve, but the so-called Fieldfare *T. pilaris* is a Redwing *T. iliacus* giving its sub-song.

166. ANON. 1973. *Birds of the Four Seasons* [Japanese].

One 30-cm, 33.3 rpm, King SKD(H) 78, or one reel-to-reel tape CKS-143, or one cassette 8KA-323. The Japanese Society for Bird Protection, Tokyo, Japan.

Includes 45 species.

167. FENTZLOFF, C., REISINGER, H., THIELCKE, G. and TRETZEL, E. 1973. *Kosmos Wandbild. 1 Singvögel-Jahresvögel, 2 Singvögel-Sommervögel.*

Two 17-cm, 45 rpm discs, Kosmos 04 020-8 and 04 052-6. Kosmos Verlag, address as 156.

Brief recordings of 20 resident species common in Germany and 15 summer migrants, well illustrated on charts.

168. REISINGER, H. 1973. *Frühling in Park und Garten.*

One 17-cm, 45 rpm stereo, Kosmos 09007-8. Address as 156.

A successor to **137**. Recordings of 18 species, including Grey-headed Woodpecker *Picus canus*, each side having species singing in concert that can be identified from the sleeve notes, which give timings and sound descriptions.

169. KÖNIG, C. 1973. *Stimmen Europäischer Vögel No. 1.*

One 17-cm, 45 rpm, Kosmos 09008-6. Address as 156.

The eight species, representing Spain, are: Rose-coloured Starling (first-ever published recording), Calandra Lark *M. calandra*, Red-necked Nightjar *Caprimulgus ruficollis*, Scops Owl *Otus scops*, Raven *Corvus corax*, Imperial Eagle *Aquila heliaca*, Griffon Vulture *Gyps fulvus* and Sparrowhawk *Accipiter nisus*.

170. PENSKI, K. 1973. *Stimmen Europäischer Vögel No. 2.*

One 17-cm, 45 rpm, Kosmos 09009-4. Address as 156.

The eight species, representing Scandinavia, are: Golden Plover *Pluvialis apricaria*, Spotted Redshank *Tringa erythropus*, Greenshank *T. nebularia*, Willow Grouse *Lagopus lagopus*, Scarlet Rosefinch *Carpodacus erythrinus*, Yellow-breasted Bunting *E. aureola*, Siberian Tit *Parus cinctus* and Crane.

171. ANON. 1973. *Belauschte Natur Nos. 1 and 3.*

Two 12-inch, 33.3 rpm stereo discs, Graul 731 and 733. Arno Graul, Kisslingweg 44, 713 Mühlacker, (Württemberg), West Germany.

These discs—number 2 has yet to appear—give evocative, but artificially contrived, sound pictures in 'synthetic' stereo of various location habitats in southwest Germany. The disc covers field and open country, lake and woodland and finishes with unnaturally juxtaposed Capercaillie *Tetrao urogallus* and Black Grouse *Lyrurus tetrix*. Disc 3 is devoted to the sounds of a wetland and heathland reserve, Federsee.

172. ANON. 1973. *Kennst du die Vögel 1, 2, 3 and 4.*

Four 17-cm, 45 rpm discs, Graul 737-7310. Address as 171.

Each disc has 14 common mid-European species, mostly grouped generically (a pity the Paridae run over from disc 1 to disc 2), with the vernacular name announced each time. Useful for the beginner.

173. GRAUL, A., RUGE, K., TILGNER, W., and BLUME, D. 1974. *Die Sprache unserer Spechte.*

One 12-inch, 33.3 rpm disc, Graul 742. and 12-page booklet in sleeve. Address as 171.

This highly commendable disc compares the sounds of all ten woodpeckers (Picidae) of central Europe. There is a brief commentary before

each sound and much fuller text in the booklet, which is illustrated with photographs, spectrograms and oscillograms of each species. Scientific names are given. Cf 90.

174. BURTON, J., and TOMBS, D. 1974. *British Wild Birds in Stereo*.

One 30-cm, 33.3 rpm stereo, REC 197, or one stereo cassette, RMC 4008. BBC Records and Tapes, as 159. Obtainable from RSPB and Wildlife Magazine.

The first stereo disc of wild bird recordings produced in Britain. The disc is reviewed: the cassette should yield similar results but may lack clarity in the top notes of some singers. There are four habitat sections.

Side 1 deals with 'Woodlands', 'Heaths and Moors' and the first part of 'Fens and Marshes'. Despite the recordists' eulogy on the realism of wind sound in trees when replayed in stereo, the effect is more like the sound of distant sea; instead of lending atmosphere, the noise intrudes on what would have been a wholly successful recording in stereo of birds (and bees). The stereo effect is otherwise superb, particularly with the Lapwing *Vanellus vanellus* display and alarm calls in flight.

Side 2 presents the second part of 'Fens and Marshes' and includes characteristic calls of Cetti's Warbler *Cettia cetti*. Not until the last section, 'Sea Cliffs and Rocky Shores', does the disc realise its full potential, with some splendid atmospheres in stereo, free from distracting 'mush' or so-called wind. The harbour at Seahouses, Northumberland, with Herring Gulls *Larus argentatus* and Lesser Black-backed Gulls *L. fuscus*, more than justifies all the effort and care expended.

There is some doubt surrounding the calls of young Water Rails *Rallus aquaticus* in section 3, which seem in fact to be Moorhen *Gallinula chloropus* chicks. Each species is announced on the disc and listed complete with recording details and scientific name on the sleeve.

175. MALCHEVSKY, A. 1974. *Talking Birds and Birds of the White Nights* [Russian].

One 17-cm, 33.3 rpm, Melodiya 0029971-2. Address as 154.

Side 1 presents a Jay *Garrulus glandarius* that mimics a domestic fowl, a dog and a creaking tree; and a Starling *Sturnus vulgaris*, an Indian Hill Mynah *Gracula religiosa* and a Canary *Serinus canarius* that mimic human beings speaking Russian. Canaries that mimic human speech are uncommon (Thorpe 1961, p. 117).

Side 2 features eight species, including Blyth's Reed Warbler *Acrocephalus dumetorum*, and a dawn and a daytime chorus.

176. UNGER, O. 1974. *The Sound Atlas of Nature—2* [Czechoslovak].

One 10-cm reel-to-reel tape recorded half-track at 9.5 cm/sec. Ceskoslovensky Rozhlas, Vinohradska 12, Prague, Czechoslovakia.

Successor to 149 and with the same superb quality of recording, giving generous time to each species. Only the Wren *Troglodytes troglodytes* and the Firecrest suffer from the slow replay speed. Credit for rarity of recording is due in the case of Collared Flycatcher *Ficedula albicollis*. Other remarkable recordings are of Goldcrest sub-song, a very extended vocabulary for the Nuthatch *Sitta europaea*, and an exceptionally continuous song from the Garden Warbler. A leaflet gives scientific names and the date, locality and equipment used for each recording.

177. VEPRINTSEV, B. 1974. *The Voices of Birds in Nature: No. 6, Central Asia* [Russian].

One 30-cm, 33.3 rpm, Melodiya 034449-50. Address as 154.

The first publication from the recently founded Phonotek of Animal Voices, Academy of Sciences of the USSR, Pushchino na Okhye (see introduction). This very exciting record, a successor to **46**, **72** and **99**, gives the first-ever published recordings of the Small Skylark *Alauda gulgula* and the Eastern Stock Dove *Columba eversmanni* and in Eurasia of the Common Mynah *Acridotheres tristis*. The rarely taped Booted Warbler *Hippolais caligata* (in this case of the race *rama*) can be heard, and the *bokharensis* race of the Great Tit. The recordings were made in April and May 1968 in the Dal'verzin district and on the island of Dzhidali in the River Syr-Darya, not far from Tashkent, and in January 1969 in the Lyenkoransk Nature Reserve. Scientific names of the 22 birds and two amphibians are given on the sleeve. These incorrectly included *Celtia celti*, but later sleeves have been amended to show that it is actually the song of the Moustached Warbler *Acrocephalus melanopogon*.

178. KIRBY, J. 1973-75. *Wild Life Sound Tracks 1-8*.

Eight cassettes. John Kirby, 10 Wycherley Avenue, Middlesbrough, Cleveland, TS5 5HH, England.

These represent the most extensive series of bird sounds so far available on cassette. Many recordings are of atmospheres, with no particular species predominating. The concept works superbly well, perhaps for the very reason that there are no constraints imposed by the need to fill gaps, in terms of either species or vocabulary. Nothing is there to sully the pleasure of listening, no human voice, no stereo effect. A written description with each cassette identifies the various sounds. Each side lasts 15 minutes. The whole constitutes an important and unusual contribution to the available recorded repertoire.

1. Shetland: High entertainment value. Shag *Phalacrocorax aristotelis* at nest and Manx Shearwater *Puffinus puffinus* in burrow; very rare flight call of Storm Petrel *Hydrobates pelagicus*. 2. Teesmouth: Historic recording with superb atmosphere of a one-time estuary habitat now largely overtaken by industrial development. Excellent for wader flight calls. 3. Woodland atmosphere: Contains dawn chorus, compares woodpecker drummings, and the songs of four thrushes. 4. Moorland atmosphere: Excellent Red Grouse *Lagopus lagopus*, Black Grouse, Whooper Swan *Cygnus cygnus* and display song of Green-shank. 5. Summer visitors: Side A contains ten species of warblers. The top notes in some songs deserve better treatment than can be accorded by the slow tape speed. Side B includes some rarely recorded but typical sounds from the Dotterel *Eudromias*

morinellus on nesting territory. 6. Common birds: Less entertaining and less successful. Again, the slow tape speed imposes a severe restraint on the songs of Robin *Erithacus rubecula* and Wren. 7. More water birds: A return to the excellent quality of the earlier tapes. Contains seldom recorded sounds from the courtship of Goosander *Mergus merganser* and Red-breasted Merganser *M. serrator*. 8. More small birds: Of particular interest is a recording of a small party of Redwings singing in Sutherland in May, mostly sub-song, but occasionally breaking out into the full cadence, when, significantly, an Icelandic song-type emerges: presumably these were migrants still on their way north. Contact calls of Scottish Crossbills and Waxwings *Bombycilla garrulus* are useful. Twite *Acanthis flavirostris* and Linnet *A. cannabina* are nicely compared.

179. SCHUBERT, M. 1975. *Stimmen der Vögel—VI Vogelstimmen Südosteuropas*.

One 30-cm, 33.3 rpm, Eterna 8 21 611. Address as 165.

Successor to **119**, **143** and **165**, although the title does not quite fit the series, this disc contains recordings mainly from east and southeast Romania. It represents a considerable improvement over the previous discs: the whole of the playing time is devoted to birds and the quality is even better than before. Notes are given in German on the sleeve, together with the scientific names. There are so many outstanding recordings that it is difficult to select the highlights.

On side 1 there is an extraordinary 'duet' between a very sonorous Bittern *Botaurus stellaris* and a Great Reed Warbler *Acrocephalus arundinaceus*. Ruddy Shelduck *Tadorna ferruginea*, Kentish Plover *Charadrius alexandrinus* and White-winged Black Tern *Chlidonias leucopterus* are all superb, and the side concludes with another duet between a Scops Owl and a Long-eared Owl *Asio otus*.

Side 2 has a raucous cacophony of Rollers, Hoopoes *Upupa epops* calling in three different pitches and the drumming of Syrian Woodpecker *Dendrocopos syriacus*, a rarity on disc. Perhaps of most interest is a case of the mimic mimicked: a Lesser Grey Shrike *Lanius minor* gives a fine rendering of the normal song of the Starling. Altogether, this is a disc of exceptional interest and quality.

180. GABERDING, K. 1975. *Wunderbare Welt der Vögel*.

30-cm, 33.3 rpm stereo with picture album. Penny, Postfach 1, 6000 Frankfurt 1, West Germany.

Recordings of some 30 species in the area of a lake near Hanover, including Marsh Harrier *Circus aeruginosus*.

181. VEPRINTSEV, B. 1967. *The Voices of Birds in Nature* [Russian]. (Five 17-cm, 33.3 rpm, Melodiya 0009771/2, 0009855/6, 0009857/8, 0009995/6 and 0009997/8 in a boxed set. Address as 154.) One of these was included in the last instalment of the discography as **151**. Side A of 9866/6 gives previously unpublished recordings; the others give shortened and rearranged recordings previously reviewed as **46**. 40 species.

182. SIMMS, E. 1971. *Wildlife in Danger*. (One 30-cm, 33.3 rpm, RED 55M, BBC Wildlife Series 8, Publisher as 159. Obtainable from Wildlife Magazine, London.) Includes recordings of Imperial Eagle chick, Audouin's Gull *Larus audouinii* and the two British island races of the Wren, *T. t. hirtensis* and *fridariensis*.

183. BONATTI, W. 1972. *Le Voci Meravigliose della Natura*. (One 17-cm, 33.3 rpm stereo. Epoca, Mondadori, Bianca di Savoia, Milan, Italy.) The first wildlife disc known to have been published in Italy. With

spoken commentary and incidental music, this is to be valued more for its intended conservation impact than the quality of its recordings. Side 1 is devoted to mammals; side 2 contains 15 bird species. It was given away with an issue of the magazine *Epoca*.

184. TRABER, H. 1973. *So Singen Unsere Vögel*. (Two 30-cm, 33.3 rpm stereo, EL12150-1 with 16-page booklet in German and French. Ex Libris, Postfach 8023, Zurich, Switzerland.) Part reissue of **35**, discs 15-21 and 23.

185. ROCHÉ, J.-C. 1975. *Ambiances Sonores de Port-Cros*. (One 17-cm, 45 rpm, L'Oiseau Musicien, 16048. CIPSO, La Haute Borie, 84640 St-Martin de Castillon, France.) An atmosphere recording including Peregrine *Falco peregrinus* and Blue Rock Thrush *Monticola solitarius*.

186. ROCHÉ, J.-C. 1975. *Oiseaux*. (One 17-cm, 45 rpm, L'Oiseau Musicien, 16049. Address as 185.) Companion to **185**. Four European birds, and South American birds and frogs.

Corrections to previous instalments

35. Long-eared Owl *Asio otus* should be added to the list of species on disc 19.

83. The disc number of *The Bird Voices of Amurland* should read 00015439/40 (not 5289-61).

139. *Ludwig Koch: Recollections and Recordings* should be no. 6 in the BBC Wildlife Series (not no. 1, which is *Salute to Ludwig Koch*, **128**).

151. This entry refers to only one disc of a set of five, included here as **182**, and should therefore be ignored.

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Obituaries

David Morrison Reid-Henry (1919-1977)

When David Reid-Henry died on 26th September in Salisbury, Rhodesia, the world lost, to my mind, its finest modern bird artist. He was only 58 and at the peak of his profession; scores of half-finished paintings will now never be completed by this man of such outstanding talent.

David was born in Colombo, Ceylon, in 1919, the second son of the famous artist, George M. Henry, illustrator of *Indian Hill Birds* by Dr Sálím Ali (1949) and author of *A Guide to the Birds of Ceylon* (1955), who, incidentally, is still painting most beautifully at the age of 86. David came to England in 1929, with his elder brother, Bruce, and stayed with the late Rev. George Hicks. He was educated at Colchester Royal Grammar School and at Mount Radford School, Exeter. On leaving school, he took a clerical job in London; but, soon after the outbreak of



151. David Morrison Reid-Henry (1919-1977) with 'Tiara' in 1964 (*Jeffrey Taylor*)

war in 1939, joined the Tank Corps and rose to the rank of captain, serving in Egypt and elsewhere in North Africa. After a severe illness, he was seconded into the Military Police and drafted first to Calcutta, then to Singapore and, finally, to Ceylon; he was demobbed in 1946.

As a child, he had no time for bedtime fairy stories, but loved to watch his father draw and paint birds; when aged only four, he started to portray them himself. During the war, he began to produce in his own field sketch-books some of the lovely paintings for which he later became so famous. At this time, too, he began to take an interest in falconry, a passion that remained with him to the end. Many of us remember his striking Crowned Hawk-eagle, 'Tiara', which used to accompany him and was almost the star turn at the inaugural exhibition of the Society of Wildlife Artists in 1964, when it sat on the back of a chair displaying aggressively at anyone who came near. David was an enthusiastic founder member of the SWLA.

But, like so many young and unknown artists, he had a real struggle for existence when he turned professional in 1946; he was frequently let down by people who commissioned work but never paid for it. On the other hand, it is only fair to say that he had a typical artist's temperament, and if he was not in the mood for painting nothing would make him do so: books were sometimes delayed because plates had not been finished. Some of his best work is to be found in the many books by Dr D. A. Bannerman. David was a perfectionist and unless he felt his paintings were beyond criticism he would never submit them. I remember looking through a large folio with him at his home in Woodford Green, Essex, in about 1949: it contained a most magnificent painting of a Martial Eagle, which I begged him to let me buy, but, although he was hard up and in real need of some ready cash, he refused, because he felt that the tarsi were out of proportion to the rest of the body.

George E. Lodge was David's mentor, and one day in 1951 I drove

him to have tea with the great artist at his home in Camberley. It was about the only occasion that I can ever remember David being subdued—as they discussed the various merits of water-colour, oil and gouache. Apart from guidance given to him by Lodge, and particularly by his father, David received no art training at all. In his turn, however, he freely gave his help to young artists who approached him and who showed a willingness and ability to profit from his advice. It is interesting to note, in passing, that in later years father and son occasionally worked together on the same picture, his father painting the birds and David adding the detailed landscape. One such picture, of an Indian Peregrine stooping at a Pompadour Green Pigeon, appears in *A Falcon in the Field* by J. G. Mavrogordato (1966). I always thought that David was much better at painting a bird in its natural habitat than doing multiple plates of ten or more species for a field guide, although those that he did for *The Popular Handbook of Rarer British Birds* by P. A. D. Hollom (1960) were lovely, since he was able to confine himself to single species, showing the sex and age differences. It was, however, no surprise to me when, some five years ago, he gave up book illustration. He was so good at painting landscapes, even including microscopic detail of moss and lichen on the rocks, that I have even heard the opinion expressed that they were better than his bird paintings.

As time went by, David became more and more disenchanted with this country, and was vitriolic in his comments about the Government's attitude towards Rhodesia, a country he knew well and whose people he loved. So, in 1973, he packed his bags, emigrated there and, in the following year, took out citizenship. He tried hard to persuade his wife to go with him, but she naturally did not wish to be parted from their two daughters and their grandchildren. Eventually, they were divorced, and only last December he married Dr Louise Westwater, who was with him when he died. In a letter received last June, David told me that the last few months had been among the happiest in his life, and that he was painting harder than ever before. It seems so tragic that he could not have been spared a little longer.

ERIC HOSKING

Richard Alan Richardson (1922-1977)

I remember my first meeting with Richard Richardson, on a field excursion of the London Natural History Society to Tring Reservoirs on 27th August 1939, only a week before the outbreak of war. I remember him particularly because he borrowed my binoculars to watch a Black Tern, a species he had never seen before. He was then only 17 and already a very keen birdwatcher. I did not meet him again until after the war (during which he served with the Royal Norfolk Regiment in southeast Asia), when he came to hear a talk I gave to the Norfolk and Norwich Natural History Society in January 1947. On that occasion, he showed me his sketchbook, and I was so struck by the quality of his drawings and paintings that I suggested him to Billy Collins and James Fisher as the



152. R. A. Richardson (1922-1977) on the East Bank at Cley, July 1962 (J. T. R. Sharrock)

illustrator for the bird identification book I was planning to write for Collins.

Richard was at that time quite unknown to the general bird world. I was then assistant editor of *The Countryman*, and we published what must have been the first of his work in any national journal, in the summer 1947 issue: four line-drawings of British tits, under the heading 'A new bird artist, drawings by R. A. Richardson'. He had comparatively little experience of the less common species, so, during the summers of 1947 and 1948, he visited the Camargue and Norway, and in August 1948 we both paid our first visit to Fair Isle, in the new observatory's first year. I have never been back, but he returned many times, and became one of the observatory's regulars and a member of the council of the Fair Isle Bird Observatory Trust.

Collins Pocket Guide to British Birds, which I wrote and he illustrated, appeared in 1952, followed by *Collins Pocket Guide to Nests and Eggs* two years later. In the first it was quite a tour de force for him to illustrate all British birds one after another—and I had some anxious moments while he was doing it. In the second, he made the best illustrations I know of birds' nests, a notoriously tricky subject. The books were not popular with the ornithological establishment, because of their unorthodox and unsystematic arrangement, but, luckily for both Richard and me, they have remained standard works ever since so far as the bird-loving public is concerned. Richard indeed did comparatively little book illustration after this, confining himself largely to private commissions and drawings

for the societies he was interested in. But he did do the wader drawings for *The Atlas of Breeding Birds in Britain and Ireland* (1976)—waders were always his favourites and his best.

Some time in the late 1940s, he determined to leave Norwich, where he had been living since the end of the war, and make his home at Cley. I remember taking him over there with his rather meagre personal belongings on the day that he moved. He remained in Cley for the rest of his life, well satisfied to spend his life in his adopted county (he was born at Blackheath in south London). He was most fortunate to find lodgings almost immediately with Mrs Davison, and he stayed with her, even when she moved house, until his last illness. He became in effect her adopted son, and she has miraculously outlived him at the age of 91. Richard had no close living relatives at the time of his death. He lost his mother at an early age and as a result was sent to boarding school, which gave him what he always regarded as an inadequate education. His only brother was killed in a climbing accident on Ben Nevis in the early 1950s.

Richard had two great skills: the field identification of birds and the ability to convey what he saw quickly on to paper as a remarkably life-like vignette, without taking a single note in the field. He was an entirely self-taught artist, and was able to work in the most cramped conditions, no doubt a legacy of his army life: all he needed were pencil, paper and a chair. He was a most cheerful person, often whistling as he worked. Over the years he spent at Cley, he became the local naturalist to whom everybody turned and was especially helpful to young birdwatchers. At least one leading British bird painter says that he taught him all he knows. Richard founded and for a short period ran the Cley Bird Observatory; even after this formally closed, he continued to be a one-man bird observatory himself. No visit to the East Bank was complete without meeting Richard—leather-jacketed, woolly cap or beret on head and dog at heel. The Bank will not be quite the same again without its guardian spirit.

R. S. R. FITTER

Mystery photographs

12 This series has included some very tricky problems, soluble only by more knowledgeable ornithologists. The bird portrayed last month (plate 139, page 499) and repeated here, however, should have been easily identified.

Although the Little Grebe *Tachybaptus ruficollis* has a white throat in winter and the buff sides to its neck are paler than the back of its neck (features which occasionally mislead a novice birdwatcher unfamiliar with the rarer grebes), the contrast never approaches that depicted. The bill of this bird looks straight, but



not all Black-necked Grebes *Podiceps nigricollis* have an obvious tip-tilt to their thin bills. The forehead has a bump in front of the eye, but the highest part of the head is clearly the rear-crown: this is the best evidence so far for Slavonian Grebe *P. auritus*, since Black-necked usually shows a much steeper forehead and often has its high-point towards the front of the head, above or in front of the eye. This is frequently apparent at long range, when bill shape and plumage patterns cannot be detected.

The pattern of black and white on the head and neck is also critical. Slavonian shows the greater contrast, with a sharp division—black above the eye and white (usually gleaming, but sometimes off-white) below the eye. Black-necked, on the other hand, has an indistinct division, and the dark crown-colour (which may be dusky rather than black) extends below the eye and includes a smudgy patch on the ear-coverts. The Slavonian's white cheeks also extend farther back on to the nape, reducing the dark rear border of the neck and head to a narrow stripe.

The clean-cut grebe, photographed by Harold E. Grenfell in West Glamorgan in December 1974, was a Slavonian. JTRS



153. Mystery photograph 13.
What is this species?
Answer next month

Notes

Great Crested Grebes breeding on rivers Bruce Campbell and James Ferguson-Lees (1971, *A Field Guide to Birds' Nests*) stated that Great Crested Grebes *Podiceps cristatus* occasionally breed on stretches of slow-flowing rivers. In the 1970s, in Buckinghamshire, this species has bred increasingly in this habitat. The first recorded instance was in 1970, on the River Ouse (R. E. Megeary *in litt.*). The number of pairs on the River Thames in Buckinghamshire/Berkshire below Henley were as follows: 1971, one; 1972, three; 1973, two; 1974, seven; 1975, 22; and 1976, 24. Data from the 1975 Great Crested



Grebe census show that the species occurred on rivers in summer in nine other counties from Cheshire to Hampshire, while breeding has taken place on the Thames near Goring, Oxfordshire, since the early 1960s (Philip Bacon and S. W. M. Hughes *in litt.*). Favoured sites on the Thames are typically associated with the quieter backwaters behind islands, and nests are usually built on the branches of partially submerged trees. Fluctuating water levels wash out or swamp many nests, particularly early in the year, but pairs are usually faithful to selected areas and will repeatedly attempt to nest: at least nine of the 12 pairs in 1975 successfully raised young, but many not until August. In the 1976 drought, there was little flow, but levels were maintained by the use of the locks. In these conditions, most pairs raised one and some pairs two broods.

Great Crested Grebe numbers have increased markedly in the last decade and suitable breeding habitat on standing water is probably becoming fully utilised. It is likely, therefore, that individuals are moving on to rivers. These, however, and the Thames in particular, are heavily used for recreation and, most interestingly, the grebes are remarkably tolerant of pleasure craft passing within a metre or two; this contrasts with their reaction to disturbance on standing water.

R. E. YOUNGMAN

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White-winged Black Terns perching on telegraph wires On 4th April 1976, in an area of extensive rice-fields (*sawah*) east of Seraung in West Java, Indonesia, Mr and Mrs C. Darsono, my wife and I noticed a flock of about 40 White-winged Black Terns *Chlidonias leucopterus*, in

154. White-winged Black Terns *Chlidonias leucopterus* perching on telegraph wires, Indonesia, April 1976 (C. Darsono)



various stages of transitional plumage, perched along a 20-m stretch of double telegraph wires about 10 m over the fields. Occasionally, individuals would fly off to hawk over the wet fields, but most remained perched for long periods, apparently keeping their positions by balancing their long bodies and fanning their tails. Mr Darsono approached to within 10 m below them to take photographs (plate 154); the terns then flew off, only to alight on wires farther away. There were plenty of earthworks and dykes in the area for the terns to use, and very little human disturbance. On 16th and 18th April, White-winged Black Terns were still feeding in the same area, but none perched on the wires. I can find no reference to web-footed birds perching on wires for protracted periods:

W. G. HARVEY

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Woodpigeon feeding on oak galls A Woodpigeon *Columba palumbus*, shot in early November 1975 near Hartfield, East Sussex, had its crop stuffed with a species of gall, which was at the time very plentiful on the leaves of oaks *Quercus*, including those lying on the ground under the trees. They had apparently been selected deliberately, since there was no trace of leaves in the crop. Unfortunately, the species of gall could not be identified. *The Handbook* does not mention galls as a food of the Woodpigeon.

C. F. TEBBUTT

The Pheasantry, Wych Cross, Forest Row, East Sussex RH18 5JB

Derek Goodwin has commented: 'Spangle galls, taken both from fallen oak leaves and from the ground, are a common food of Feral Pigeons *C. livia*. I believe that the same is also true of Woodpigeons, since I have often seen them taking small objects from the ground where I could find nothing else likely to be eaten by them.' EDS

Prolonged hovering by Short-eared Owl On 5th November 1975, at North Coates Point, Lincolnshire, I watched a Short-eared Owl *Asio flammeus* hovering about 15 m above the low dunes and saltmarsh. It continued for about five minutes, with tail well fanned and head down, looking at the ground; the wings were flapped slowly or held motionless for several seconds, rather in the manner of a ponderous Kestrel *Falco tinnunculus* or Rough-legged Buzzard *Buteo lagopus*. Two other Short-eared Owls were hunting in the usual way. *The Handbook* mentions a Short-eared Owl 'hovering for a few seconds like a Kestrel', but I can find no reference to such prolonged hovering.

ALAN PARKER

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Courtship behaviour, display and calls of Lesser Spotted Woodpecker Dr Geoffrey Beven's note on the display of the Lesser Spotted Woodpecker *Dendrocopos minor* (*Brit. Birds* 69: 506-507) prompts me to record the following. On 16th March 1952, at Fanshawe, Cheshire,

I witnessed a full display by a pair at very close range at eye-level. The woodpeckers' actions agreed closely with Dr Beven's account. Short flights by both sexes took the form of undulating swoops, with the wings momentarily depressed to the sides. The final undulation gave way to a butterfly-like fluttering, followed immediately by a raising of the wings, wader-like, as the bird came to rest on a branch. Often, both woodpeckers perched horizontally like Nightjars *Caprimulgus europaeus*, remaining motionless, but with heads and bills inclined upwards at an angle of about 40°. Once I saw the two only 1 m from the ground, the female clinging to a tree trunk and drumming, the male in a 'frozen' posture about 1 m from her; they appeared entirely oblivious of me as I stood in full view about 6 m away.

The male's call notes were additional to *The Handbook's* triple 'pee' of unvaried intonation. Given frequently during half an hour's observation, they took the form of an ascending and descending phrase lasting about three seconds, based on the note 'kecoo', uttered rapidly and staccato. This phrase started with three or four 'kecoo' notes, followed by an acceleration accompanied by a gradual crescendo; then, at the peak, the notes sounded like the typical 'kee-er', after which the phrase diminished rapidly in volume and pitch and ended abruptly. An occasional variant was a few 'kecoo' notes followed by a rapid musical trill, and rounded off by further 'kecoo' notes. These phrases were invariably uttered by the male just as he alighted from a short flight from branch to branch in pursuit of the female.

JOHN P. WILKINSON

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On 29th April 1970, at Blagdon Reservoir, Avon, I watched two female Lesser Spotted Woodpeckers chasing each other among the branches of a group of white poplars *Populus alba*. They performed the typical moth-like gliding, but, although they kept at least 2 m apart, the displays were with fully spread wings and tail, and sometimes 'aimed' at the other bird.



I heard a few soft 'keer-keer' sounds. After five minutes, a male joined them and all three behaved in this way, the approaches being closer and the back display more intense, so that one bird would even hang under a branch to direct the display towards another woodpecker just below it (as shown in my drawing). This time, I heard no sounds: the soft calling may be a female's attempt to draw attention.

Three days later, at the same place, I watched a pair excavating a nest hole, taking turns, each lasting about three minutes. Between turns, the woodpeckers copulated, the female crouching along a small branch with closed wings, the male gliding in with outspread wings and tail to grasp

the female's nape. The female made a few very soft sounds when soliciting, and once a harsh hissing noise as she left.

D. E. LADHAMS

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On 28th December 1975, near Maidstone, Kent, I heard a Lesser Spotted Woodpecker calling from a line of willows *Salix* about 100 m away. About ten seconds later, another called from some sweet chestnuts *Castanea sativa* 70 m closer. Although the light was poor, I obtained reasonable views during the next few minutes and considered the second bird to be a female; it made two, short, rather moth-like flights, its wings held high over its back as it floated from branch to branch, and then flew to the top of a hop pole and drummed. I heard no further calls from either individual. *The Handbook* states that the male performs this moth-like display flight and that drumming occurs from late January to early June; in *A New Dictionary of Birds* (1964) it is noted that both sexes drum before performing the sexual 'butterfly-dance'.

DON TAYLOR

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Blue Tit eating nylon filaments On 1st December 1975, in my garden at Brentry, Bristol, my wife and I saw a Blue Tit *Parus caeruleus* pulling at nylon filaments from the frayed end of a stranded string tied round a branch. The string suspended a coconut, from which the tit had been feeding. While perched on the branch, it succeeded in tugging out several portions of filament, each 1-2 cm long, either from the end of the string or from the adjacent knot. Each time that the Blue Tit obtained a piece of nylon, it swallowed it. This behaviour, during a rain storm, continued for ten minutes.

A. P. RADFORD

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J. A. G. Barnes has commented: 'Pecking and pulling at frayed ends of strings and cords is quite a common feature of Blue Tit behaviour in gardens, especially in the late autumn period of restless activity and destructiveness, but I have never seen or heard of a tit actually swallowing the threads. If one made a regular habit of it, I imagine the results would be fatal, but I think the actual ingestion of thread must be exceptional. I wonder if by any chance this tit had been driven off the coconut by a more dominant bird and the thread-swallowing was an expression of frustration?' EDS

Blue Tits taking nectar Over many years, I have watched Blue Tits *Parus caeruleus* which, during sunny summer days, regularly visit the clumps of red hot poker *Kniphofia uvaria* 'Royal Standard' in my garden at Truro, Cornwall. Clinging at all angles, they insert their beaks deeply and rather gently into each individual flower, working their way up and down the flower heads. I had assumed that they were hunting insects, but one day, following a great burst of this activity by the tits, I shook a flower spike and found my hand and arm covered with droplets of nectar.

Early one morning, on a very cold day at the end of March 1975, after pouring rain, I saw a Blue Tit fly straight at the vertical face of a single pink *Camellia* full of blossom. It performed the same movement of delving deeply and gently several times into the flower before flying off. With a camel-hair brush, I dipped into the flower and tasted the brush tip. I repeated this with several other flowers on the same bush, washing the brush in the rain-soaked grass between each dip. In every case there was a touch of nectar. There was no question of the tit sipping water, as every blade of every plant in the garden was studded with droplets of rain.

PEGGY VISICK

Trendain, Perranwell Station, Truro, Cornwall

J. A. G. Barnes has commented that tits do seem to have a 'sweet beak', experiments with captive Great Tits *P. major* having shown that they consistently preferred sugar solution to plain water, while it has also been found that Blue Tits will take crystallised honey. He added that C. K. Mylne had watched Blue and other tits repeatedly drinking sap from a birch branch, even though water was available nearby. This liking for sweetness is surprising, as tests on Blue and Great Tits had shown that they were remarkably indiscriminating in their sense of taste (1975, *Titmice of the British Isles*, pages 177-180). In Mr Barnes's experience, however, Blue Tits are extraordinarily adaptable and show many local and individual differences in behaviour. Eds

Bearded Tits at artificial feeding stations Between 30th January and 25th March 1976, Bearded Tits *Panurus biarmicus* regularly visited a feeding station at the Royal Society for the Protection of Birds reserve at Blacktoft Sands, North Humberside. From my notes, it became apparent that many more than the maximum seen together (15) were visiting the seed pile: sometimes several were carrying rings, and the proportion of males to females varied. It seems likely that parties were coming to feed as they passed along the reed-beds close by. The seed was placed on a 1-m high earth bank. The tits would collect in a patch of reeds about 2 m from the bank, before flying directly to the seed; when disturbed, they would fly directly back to the same reed patch. They did not feed in a group, but spread out in all directions among the 100 or so assorted finches (Fringillidae) and buntings (Emberizidae), often chasing other species. They obtained food by making two or three consecutive jumps backwards, scratching with both feet together, then pecking at the exposed seed. G. Thomas, senior research biologist of the RSPB, identified the food as knotgrass *Polygonum aviculare*, black-bindweed *P. convolvulus* and redshank *P. persicaria*, the last the most numerous, but with high quantities of each.

Seeds are a normal part of the winter diet of Bearded Tits (*J. Orn.* 113: 241-275) and it is possible that the provision of such food at artificial feeding stations in reed-beds may help the species to survive severe winters in the future.

A. GRIEVE

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Olive-backed Thrush in Kent After a spell of southwesterly and westerly winds, 27th October 1976 was mostly overcast and completely calm at Sandwich Bay, Kent. When checking the mist-nets at about 11.30 GMT, I noticed a small thrush in the bottom panel. Having had some very small Song Thrushes *Turdus philomelos* in the previous week, I initially ignored it in order to deal with a Blackbird *T. merula* that seemed about to escape. I could not, however, take my eyes off this



extraordinary small creature. When extracting it, I opened out the wing to look for the rufous tips to the wing-coverts and the orangey underwing-coverts of a Song Thrush; it was at this point that I realised that it was indeed something different. On examination at the observatory, it was identified as an Olive-backed Thrush *Hylocichla ustulata*. The following details were noted:

MEASUREMENTS Wing 96.5 mm; tail 65.0 mm; tarsus 28.0 mm; bill (to skull) 16.0 mm; total length about 160 mm; weight 25.4 g.

BARE PARTS Eye: pupil black and iris dark brown, almost black. Bill: upper mandible horn-coloured; lower mandible yellow-pink at base and horn-coloured from half-way to tip; black rectal bristles. Leg: tarsus pinkish-grey at front and yellowish-grey at back; feet pinkish-grey

on top and yellowish-grey on soles.

HEAD Forehead, crown and nape dark greyish-olive; darker centres to the feathers, which, on close inspection, made the top of the head look slightly speckled. Checks and ear-coverts buffish-olive, with no grey tinge. Lores greyish-olive. Prominent buff eye-ring. Supercilium faint buff, reaching from the top of the eye to the bill.

UPPERPARTS Neck, back, rump, uppertail-

coverts and tail all uniformly olive with a tinge of grey. Closed wings fawny-brown. **OPEN WING** Lesser coverts and median coverts with olive-grey edges to feathers and greyer centres, giving a scalloped effect. Bastard wing, primary coverts and greater coverts with outer edges to feathers fawny-brown and inner edges grey-brown. Primaries with tawny-brown outer edges and brownish-grey inner edges. Secondaries and tertials with fawny-brown outer edges and brownish-grey inner edges. All except the first two or three primaries and all the secondaries had a white rectangular patch on the inner side of the shaft, starting at the edge of the primary coverts and extending on average for about one third of the feather. This feature could be seen only with the wing fully extended, and made a type of wing-bar, but this would not have been noticed in the field, as on the Mistle Thrush *T. viscivorus*, where it is obvious only in the hand or possibly when flying overhead. These patches became longer and fainter towards the outer primaries. Marked emargination on the 3rd and 4th primaries: extending for 23 mm on 3rd and 15 mm on 4th.

UNDERWING The white wing-bar started at the tips of the underwing-coverts. Underwing-coverts dusky-white with light

brown-grey tips and some edges also; some had buff-yellow tips; over the secondaries, the basal halves of the feathers were light grey and the rest buff-white; over the primaries they were light grey all over. Bend of wing: small mottling of white, yellowish and grey.

UNDERPARTS Chin buff-white, with grey moustachial streak on each side. Throat and breast yellowy-buff with dark grey spots, heavier and more marked on throat than breast. Lower breast and belly silvery-white, lower breast marked with large, faint olive-grey spots, becoming more spaced out towards the belly. Flanks spotted like lower breast, fading to uniform olive-grey towards the tail. Undertail-coverts silvery-white. Tail narrow and very square-ended.

BRIEF FIELD NOTES Size half-way between a Robin *Erithacus rubecula* and a Song Thrush. Hopping gait similar to a Wheatear *Oenanthe oenanthe*, but feeding behaviour more thrush-like. Although it was slender in the hand, when perched it fluffed out its feathers, which made it look very plump—the one seen on Cape Clear Island, Co. Cork, in 1968 was described by Dr J. T. R. Sharrock (1969, *Cape Clear Bird Obs. Rep.* 10: 39) as 'very rotund, with the shape of



155. Olive-backed Thrush *Hylocichla ustulata*, Kent, October 1976 (J. H. van der Dol)

such popular subjects as identification and migration are so scantily dealt with. I realise the former would be difficult to tackle in such a work, but a review of the literature—pointing the reader towards the best books—would have been helpful. After all, identification is fundamental to biology and ecology. In the case of migration, the author has missed several important papers that have appeared during the last ten years, particularly some dealing with the Eurasian/African flyway. The book has numerous well-chosen colour and black-and-white photographs, and fine line-drawings by the master of the subject, Ian Willis.

Eagles of the World covers many of the same topics as *Birds of Prey*. As with the latter, it is packed with information, but, again, one must regret that the identification and migration sections are not fuller. The former would have given the book a lot more appeal and, with only 59 species of eagles in the world, would have been quite possible. The book is shorter than *Birds of Prey* by some 30 pages and has many fewer, much poorer photographs (and only black-and-white); the line-drawings are also not as good.

In both books, one has to suffer over 7 cm of margin, thus wasting much paper, and this is no doubt reflected in the prices, although by today's standards neither is expensive. Finally, I feel there is a considerable amount of information in both works that has appeared in other publications by the same author, and there is repetition within the books under review. The two could have been married into a single volume, thus saving us raptor enthusiasts a few pounds. Still, I suppose that this is something that we have come to expect in ornithology in the last few years—there are some publishers eager to jump on the band-wagon of a popular subject or exploit a well-known author. RICHARD PORTER

A Natural History of Owls. By Michael Everett. Hamlyn, London, 1977. 156 pages; 40 colour and 130 black-and-white photographs. £3.50.

This is yet another of the large-format, glossy, picture-filled volumes that are currently appearing on the ornithological book market. The text is of a general nature, ranging widely across the 130 or so species of owls in the world, and covering such aspects as their origins and evolution, anatomy, feeding habits, breeding biology and interactions with man. The author has followed the nomenclature listed in another recent book of similar type on owls, namely, *Owls of the World: their evolution, structure and ecology* (edited by John A. Burton, 1973), which was itself based on that of J. L. Peters in volume iv of his *Check-list of Birds of the World* (1940). This book following so closely on the heels of the 1973 production, and overlapping in a number of ways, one is bound to question the motive of the publishers, other than financial.

The content of the book under review is necessarily very selective; as the author concludes in his final paragraph, 'In this book we have glimpsed a number of these fascinating birds and learnt a little of how they live.' Nevertheless, it is written in a lucid and clear manner and, like its fore-runner, will appeal primarily to the layman who may be seeking a basic

grounding in the range of owls to be found in the world and their various ways of life.

Like so many large-format books of this type, one wonders seriously if the text is not essentially a vehicle for the photographs. On the whole, these are of a particularly high standard and include a range of subjects from around the world. A good number are pin-sharp, eye-catching studies (e.g. Saw-whet Owl *Aegolius acadicus*, Boobook Owl *Ninox novaeseelandiae*); a few are of lesser quality due to over-enlargement of transparencies (e.g. Hawk Owl *Surnia ulula*) and poor composition in studio conditions (e.g. Ferruginous Pygmy Owl *Glaucidium brasilianum*).

For these days, the book is very reasonably priced and will form a useful addition to the layman's library and a colourful one for the serious birdwatcher.

DAVID GLUE

Recording Natural History Sounds. By Richard Margoschis. Print and Press Services Ltd, Barnet, 1977. 109 pages; 13 black-and-white drawings and 34 photographs. £2.75 (paperback), £4.00 (hardback).

This book deals with the basics of wildlife sound recording. Few people who watch or listen to nature programmes on television and radio probably give much thought to the processes involved in recording the wildlife sounds they hear; Richard Margoschis, who is one of the most experienced recordists in this field, sets out how it is done. This book is not only for those about to take a tape-recorder out into the field for the first time, but also for those who know something about the subject already: few will fail to gain new ideas or relearn forgotten points.

Although the book is not strictly a technical volume, it touches on the technical field from time to time—just sufficiently to encourage those who have the flair for electronics and audio-physics to delve much deeper. The controversial subjects of stereo sound and the uses of the parabolic reflector are well dealt with: the facts are given and the reader can draw his own conclusions according to his particular requirements.

This is a useful book on a much neglected subject. As the author points out, much work remains to be done—there are so many birds and mammals, as well as insects and fishes, whose vocabularies we simply do not know.

T. C. WHITE

The Birds of Gwent. Compiled and published by the Gwent Ornithological Society, 1977. 152 pages; 11 photographs; several figures, tables and maps. £3.50.

Written by leading members of the Gwent Ornithological Society, this book reflects the fact that, until the early 1960s, Gwent was rather neglected ornithologically. This situation has now been remedied, primarily as a result of the energies of the GOS, which was founded in 1962. The first half of the book comprises seven chapters on various aspects of the county and its birds, and the second half a systematic list. This division in itself renders the book more readable than so many modern county avifaunas, which are little more than one long systematic list. The

first seven chapters cover topography, summaries of the Gwent results of the Atlas Project, Sites Register, Estuaries Enquiry and Common Birds Census, as well as articles on nestbox colonies and migration. The chapter on migration concentrates on those aspects which have been well studied in Gwent—diurnal movements of passerines and seabirds and ringing studies of Sand Martins and waders. The species-accounts in the systematic list are rather brief—237 species are covered in only 70 pages. They are reasonably adequate, bearing in mind the lack of past records, but it is a pity they contain so little information on habitat.

The shortcomings of the book appear to stem from a simple lack of historical information. This means that many of the modern data cannot be put into context. For example, details of wader counts for a few recent winters are presented with little to indicate which figures are abnormal or which follow established trends. Conversely, many national and regional data are given for comparison and this is very helpful in assessing the importance of Gwent for particular species. On the whole, however, this is a comprehensive and readable county ornithology at what, by today's standards, is a reasonable price. H. P. SITTERS

The Winter Birds. By M. A. Ogilvie. Michael Joseph, London, 1976. 224 pages; 32 colour and 100 black-and-white photographs. £5.75.

Despite its inappropriate title, this book is about arctic breeding birds which winter in areas to the south on both sides of the Atlantic and Pacific Oceans. It deals with those breeding wholly or largely north of the Arctic Circle: of a total of 123 species, waterbirds comprise 37, waders and shorebirds 35, seabirds 29, and landbirds 31. There are useful notes on migration and breeding biology, and the range distribution maps are helpful, but, owing to reduction of the plates, the differences in shading between 'breeding' and 'winter' areas are in some cases rather ill-defined.

There are notes on the various 'refugia' areas in the High Arctic which were unaffected by the last Ice Age, where certain species such as the Arctic Redpoll were able to retain a footing. With perpetual daylight during the summer, arctic birds are able to feed around the clock, but the short summer necessitates a much compressed nesting season. Ross's Geese, for instance, require at least 80 days to complete their breeding cycle, but where they breed in the Perry River region the average frost-free period is only 93 days. In a late spring or shorter than usual summer, weather conditions may preclude breeding for a season altogether for some species. There are excellent chapters on 'The nature and extent of the Arctic' and 'The adaptation of birds to the Arctic', and an important one on 'The conservation of arctic birds'. I do not, however, take such a sanguine view of the state of Guillemot populations in west Greenland (see *Polar Record* (1976) 18, 114: 283-293). The text might have mentioned that, although the Little Auk breeds in prodigious numbers on the Greenland coast of Smith Sound, it has never been recorded doing so just across the Sound in Ellesmere or, indeed, anywhere in the Canadian Arctic.

Of the landbirds, descriptions are given of five raptors, two owls, three game-birds and cranes, and 21 passerines. It seems rather surprising that the Merlin and the Short-eared Owl should be included; although both breed in Iceland, that country lies south of the Arctic Circle, as does the bulk of these species' breeding ranges.

Although there are innumerable scientific papers in a large range of journals, surprisingly few attempts have been made to synthesise these data in book form. Several important recent books are, however, not listed in Mr Ogilvie's bibliography. The colour plates are good, but not outstanding. It seems a pity that the male Lapland Bunting is not depicted in colour—it is beautiful in its breeding plumage.

Despite some of these minor criticisms, this is a splendid book for all ornithologists, whether or not they have been lucky enough to get to the far north. It is full of information not readily obtainable elsewhere.

GEORGE WATERSTON

Wildfowl of Europe. By Myrfin Owen, with illustrations by Hilary Burn and Joe Blossom. Macmillan, London, 1977. 256 pages; 55 colour plates. £12.00 until 31st December 1977, £15.00 from 1st January 1978.

This large book deals with both the wild and the escaped swans, geese and ducks of Europe. Thus, a total of 55 species is covered in a style that, as Sir Peter Scott argues in a glowing foreword, fills the uncomfortable vacuum between the simple mechanical field guide and the complicated technical textbook.

The first quarter of the book deals with general aspects of wildfowl: their variety and ecology, their population cycles and migrations, their behaviour, and man's economic, scientific and aesthetic reactions to them; the treatment is essentially that of an introductory essay. The rest of the book is a systematic account of European wildfowl. The length of each section is clearly related to either the current sum of specific knowledge or specific rarity. Thus, the Mute Swan commands seven and a half pages, two colour plates, a line-drawing and a map; the Hooded Merganser, on the other hand, is despatched in half a page and one-third of a colour plate. The treatment remains in essay form, but appearance (including plumage variations), ecology, range and migration, population size, breeding biology and behaviour, and protective regimes are usually discussed or mentioned for all the common species. For the rare ones, most of the short texts discuss appearance and range, with a few teasing remarks on population size or vagrancy and ecology. The book ends with four appendices which summarise some facts of the breeding biology, the winter biometrics, the winter foods and the captive breeding requirements of up to 45 species or races.

Clearly, the authority of the various doyens of Slimbridge is distilled on to many pages. Accordingly, I do not quarrel with the book's purpose or achievement. It provides ready access to some little-seen and unpublished data and will be useful to more than the general reader. Such a person, however, will be especially attracted by the illustrations: Hilary

Burn's colour plates are all good, and those of the swans and geese are superb; Joe Blossom's line-drawings cope well with what must have been testing instructions. The maps are quite large (for once) and most are easy to understand. The only two aspects of the book that irritated me were the regrettably small number of photographs of a truly photogenic family, and the erratic page-appearance: frequently as much as one-third of a text page is left empty and the eye has to leap over considerable and uneconomic distances. I suspect that, in some homes, this book will shift uncertainly from desk to lap and back to the coffee table, but it is worth more than the last habitat, even at its huge and escalating price.

D. I. M. WALLACE

The Birds and Flowers of the Saltee Islands. By Kenneth W. Perry and Stephen W. Warburton. Published by the authors, Belfast, 1977. viii + 170 pages; 86 black-and-white plates; 26 line-drawings. £4.00 (hardback), £3.25 (paperback).

Islands, particularly uninhabited ones with rich seabird populations, exercise a tremendous fascination. The Salties are two such islands off Co. Wexford, Ireland, where access lies within the capabilities of determined and self-sufficient ornithologists. This book gives details of bird species and numbers, and, in addition, a detailed (if in places complex) guide to the plants, and cameos of the islands' geological and sociological past.

Following the introductory chapters, most of the information is presented as a species list, with the breeding birds receiving large, clear distribution maps—a feature helpful now and in the future. As a regular visitor to the islands from the mid 1950s to the late 1960s, I have been fascinated to assess the degree of change since then, especially in the seabird numbers but also in the vegetation. The impact of myxomatosis and the unruly surge of vegetation that followed the near-extinction of the rabbit in the early 1960s was remarkable, acting on plants and birds; it deserved, I feel, greater comment from the authors. Equally, the mysterious seabird deaths in the 'Irish Sea disaster' of 1969, not mentioned in the book, had a marked impact on Saltee birds, as testified by numerous ringing recoveries, and certainly will have exerted more influence than the 'Torrey Canyon' oil spillage, which seemed mercifully to involve few Saltee birds.

The observatory on Great Saltee profoundly influenced ornithology there (and probably in Ireland as a whole), and it, and the data accumulated, deserve to my mind a far more substantial memorial than the occasional mentions in the text. We learn little of the importance of the island as a ringing and migration-watching station, and a wealth of immensely readable daily documentation lies unexposed in the annual observatory logs. Perhaps some of the space and cost devoted to a (normally most welcome) multitude of photographs could have been better used for additional text: certainly many illustrations have suffered severely in reproduction and some (e.g. Hoopoe, Ortolan Bunting, Blackcap, Redstart) did not merit inclusion.

Although disappointing to me in some ways, this remains an excellent guide to the islands as they now are. It even gives the day visitor suggestions for suitable walks—although far more benefit, and spectacle, would be gained from a longer visit to these delightful islands. JIM FLEGG

East Anglia and its Birds. By Peter Tate. H. F. & G. Witherby Ltd, London, 1977. 288 pages; 56 photographs and 24 drawings. £6.50.

Extending the boundaries of East Anglia to include parts of Lincolnshire in addition to Norfolk, Suffolk, Cambridgeshire (the old boundary) and Essex (apart from the Metropolitan area), this handsome volume covers a wide variety of landscapes. Annual reports, combined with the activities of local trusts, observatories, the Royal Society for the Protection of Birds' presence and the publication of county bird books in recent years, have resulted in a great wealth of material. Coverage has been comprehensive in the coastal belt and in Breckland.

Of the introductory chapters which occupy the first hundred or so pages, I enjoyed especially the well-documented section covering 'Some naturalists of the past'. The greater part of the book is arranged by habitat—coasts, fens, Breckland, Broads and farmlands. These essays contain frequent historical references; for example, early agricultural methods at Holkham and the loss of land at Dunwih. Cley Bird Observatory, which functioned for 14 years until 1963 and has now been re-opened, receives a special mention and one is reminded of the former wildness of Breckland by the description of a sandstorm blocking the Little Ouse at Santon Downham. Cetti's Warbler, a new Broadland colonist, receives special attention, while a description of Black-tailed Godwit display makes fascinating reading.

Some errors are perhaps to be expected when so many records are being handled. In 1975, a Greater (not Lesser) Yellowlegs visited Breydon Water, where as many as 116 Short-eared Owls have appeared in winter (16 is indicated as a good number); a Breckland Stone Curlew population of 20 pairs is an underestimate (a survey in 1976 produced a total of over 60 pairs); Savi's Warblers were not proved to nest in Broadland until 1977 (not 1973); and Dartford Warblers last bred in Suffolk in 1925 (not in the 1930s).

The final section containing a systematic list gives ample evidence of the magnitude of the task undertaken. I suspect that most readers will find much that is new to them. The drawings by John Last are very attractive. Some of the habitat photographs, however, are below the general standard and could have been omitted without loss. Every ornithologist with any interest in East Anglia will wish to possess this volume and will be grateful to Mr Tate for writing it. MICHAEL J. SEAGO

Peregrine: the private life of the Peregrine Falcon. By R. B. Treleaven. Headland Publications, Penzance, 1977. 152 pages; many black-and-white illustrations; three appendices. £1.60.

Mr Treleaven watched Cornish Peregrines return after wartime persecution, their restoration to former numbers followed by their decline and

extinction by the early 1960s and the slow, precarious return in the 1970s. Few people, and in Britain only Derek Ratcliffe, have watched and recorded such a sequence of changes in the fortunes of one region's Peregrines. The author clearly states that this book is an appreciation, not a monograph, but there will be some who hoped for a history of Peregrines in Cornwall, like D. C. Hagar's for New England or R. A. and K. G. S. Herbert's for New York.

He writes simply and directly of the charisma of the Peregrine, summarises its history in Cornwall and Devon, takes us stage by stage through the breeding cycle, describes hunting and prey, decline and extinction, and ends with anecdotes, opinions and notes on Peregrine watching. The structure of the book is sometimes formless, the writing flags and some of the comments on Peregrine biology are debatable. The real point, however, is that the writing can and often does come vividly alive: the descriptions of Peregrines hunting are exciting to read and are distilled from great field experience; the author's own intense enjoyment and his personal involvement with the birds come across wonderfully well. The book is profusely illustrated with his woodcuts and reproductions of his paintings; those of flying birds seem to be the most successful. The first appendix reproduces his important 1961 paper in *British Birds* on Cornish Peregrines, the first to draw attention to the decline.

Britain's 450 or more pairs of Peregrines may now be the only thriving northern population left, but their survival may involve conservationists in conflict with national upland land-use policies, with central and local government planners and with other interests besides. There could be concern about arousing more interest in watching Peregrines after recent protection problems, but in reality they are outstandingly tolerant of watchers if common-sense rules, like Mr Treleaven's, are followed. The 'suburban' Aviemore Peregrines have fledged 37 young in the last 17 years; perhaps 20,000 people a year, largely unsupervised, now enjoy seeing them there. Without the backing of many enthusiasts, Cornell's \$500,000 programme of Peregrine restoration in the eastern United States could not take place; without enthusiasts, British conservationists cannot win the coming battles to keep our Peregrines. Hopefully, not fearfully, this book will help to create more dedicated Peregrine watchers.

DOUGLAS WEIR

Letters

Black-headed Gulls foot-paddling on grassland Joh. J. Frieswijk's letter (*Brit. Birds* 70: 266), recording frequent observations of Black-headed Gulls *Larus ridibundus* foot-paddling on grassland in the Netherlands, contrasted with my note drawing attention to the lack of British observations (*Brit. Birds* 69: 180-181). I have now received confirmatory information of the behaviour in West Germany and in this country.

H. Rittinghaus has filmed Herring *L. argentatus*, Common *L. canus* and Black-headed Gulls foot-paddling on a marshy meadow at Jeverland, West Germany (*Encyclopaedia Cinematographica* 305, film E1267/19: 'Larus argentatus—feeding methods', by H. Rittinghaus, text by F. Goethe). In Britain, T. J. S. Pinfield (*in litt.*) observed an adult Black-headed Gull on grassland at Stithians Reservoir, Cornwall, on 27th February 1977, vigorously shifting from one foot to another while maintaining an upright stance for three periods of ten to 15 seconds. It departed soon after, however, apparently without obtaining earthworms. I have watched many thousands of Black-headed Gulls in winter in southwest England feeding over grassland, but have yet to see any foot-paddling.

I wish to thank Michael Wilson for translating the German literature for me.

BERNARD KING

Gull Cry, 9 Park Road, Newlyn, Cornwall

It is puzzling that foot-paddling by Black-headed Gulls seems to be normal in the Netherlands and West Germany but is rarely recorded in Britain. Until a numerical study has been made, however, this correspondence is closed. EDS

Cuckoo parasitising Twite R. W. Robson's record (*Brit. Birds* 70: 340) was not unprecedented: Irvine Whittaker found a four- or five-day-old Cuckoo *Cuculus canorus* in the nest of a pair of Twites *Acanthis flavirostris* in Lancashire in June 1936, but it was dead three days later (*Brit. Birds* 30: 80-81).

K. G. SPENCER

3 Landseer Close, off Carr Road, Burnley, Lancashire

In his note on 'Observations on the Twite in the Pennines' (*Brit. Birds* 16: 103-104), Fred Taylor reported that, out of about 200 Twites' nests which he had found during 1907-21, two contained Cuckoos' eggs. An editorial comment by Rev. F. C. R. Jourdain noted 'about eleven' further cases, but he was 'not aware of any instances in which the young Cuckoo is known to have been reared'. E. P. Butterfield noted 'several' other records of Cuckoos' eggs in Twites' nests near Wilsden, Yorkshire (*Brit. Birds* 16: 140).

T. BASIL KITCHEN

2 Fairlea Court, Exmouth Road, Budleigh Salterton, Devon EX9 6AF

Ornithological decorum P. J. Grant's concluding paragraph (*Brit. Birds* 70: 308) once again reminds us of the misdemeanours of twitchers. Although I do not condone certain of their activities, it is all too often that they are blamed when acts of trespass and disturbance of rare birds are committed. The muck-spreading incident (*Birds* 6(6): 7), in which a farmer deliberately sprayed a group of about 50 birdwatchers with semi-liquid pig-manure, is now folk-lore among the birdwatching fraternity. One never reads, however, of the 50p each that those present had offered the farmer—a quick £25 was in the making—or that there had been no agricultural damage.

There is another faction that, to my mind, contributes equally to

harassment of tired migrants—ringers. I agree with selective ringing when scientific facts result, but how many times has a rare bird, after settling nicely in an area, disappeared for good after suffering the indignity of having a ring placed on its leg?

One hopes that all twitchers and ringers will behave in a more responsible manner in future, because, surely, we do not want to tarnish any further the name of the most efficient ornithologists in Europe?

B. D. HARDING

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Announcements

Reduced subscription rates By using special forms obtainable through their local organisations, members of the following clubs and societies can now or will soon be able to subscribe to *British Birds* for £6.00 instead of the standard £8.00 per annum:

Aberdeen University Bird Club
 Banbury Ornithological Society
 Bardsey Bird & Field Observatory
 Bedfordshire Natural History Society
 Brecknock Naturalists' Trust
 Bristol Naturalists' Society
 Bristol Ornithological Club
 Cambrian Ornithological Society
 Cambridge Bird Club
 Cardiff Naturalists' Society
 Copeland Bird Observatory
 Devon Bird Watching & Preservation Society
 Durham Bird Club
 East Sutherland Bird Group
 Gower Ornithological Society
 Gwent Ornithological Society
 Herefordshire Ornithological Club
 Huntingdonshire Fauna & Flora Society
 Hyndburn Ornithologists' Club
 Irish Wildbird Conservancy
 Kent Ornithological Society
 Leicestershire & Rutland Orn. Soc.
 Leigh Ornithological Society

Lincolnshire Naturalists' Union
 London Natural History Society
 Manx Ornithological Society
 Merseyside Naturalists' Association
 Norfolk & Norwich Naturalists' Society
 Norfolk Ornithologists' Association
 Northamptonshire Bird Club
 North Down Ringing Group
 Northern Ireland Ornithologists' Club
 Penrith & District NHS
 Perthshire Society of Natural Science
 Portland Bird Observatory
 Reading Ornithological Club
 Sandwich Bay Bird Observatory
 Scottish Ornithologists' Club
 Shetland Bird Club
 Shropshire Ornithological Society
 Somerset Ornithological Society
 Surrey Bird Club
 Sussex Ornithological Society
 Trent Valley Bird Watchers
 Tyneside Bird Club
 West Midland Bird Club
 West Wals Naturalists' Trust

Enquiries from the chairman, secretary or treasurer of any other ornithological club wishing to obtain a similar concession for its members will be welcomed by Dr Roger Woodham, Macmillan Journals Ltd, 4 Little Essex Street, London WC2R 3LF.

Volume numbers on permanent binding The 1977 volume of *British Birds* bound by P. G. Chapman & Co. Ltd, Kent House Lane, Beckenham, Kent BR3 1LD, will have 'VOL. 70' on the spine instead of VOL. LXX'. Past volumes (I-LXIX) sent for binding will continue to be lettered with Roman numerals, but all future volumes will be given Arabic numbers.



Bird Photograph of the Year

Entries for the second of these annual competitions should be submitted before 31st January 1978. The full rules and instructions appeared last month (*Brit. Birds* 70: 506-507). The judges will be I. J. Ferguson-Lees, Eric Hosking, Michael W. Richards and Dr J. T. R. Sharrock. The winning photographer and the runners-up will be invited to a press conference in early April, when the award will be presented by Mrs Joyce Grenfell.

News and comment

Peter Conder and Mike Everett

Soviet-UK meeting A United Kingdom delegation visited the USSR during 19th-30th May 1977, under the Anglo-Soviet Agreement on Environmental Protection, to discuss the conservation of natural areas, ecological systems and various animals and plants. Dr J. Morton Boyd of the Nature Conservancy Council led the delegation, which also included Professor G. V. T. Matthews of the Wildfowl Trust. Work has now started on a total of 20 joint projects covering five schemes, and will be further consolidated by a visit to the UK later this year by five Soviet specialists, which will ensure co-ordination of methods and techniques.

Austrian protection for Capercaillies and kites The regional government of Vorarlberg has given full protection to the Capercaillie *Tetrao urogallus*, the Red Kite *Milvus milvus* and the Black Kite *M. migrans*. Under a previous order, Capercaillies could be shot during 1st to 26th May, and the kites were not protected at all.

'The Scientific Aspects of Nature Conservation in Britain' This book reports on a meeting, held in the rooms of the Royal Society on 10th June 1976, which aimed to give interested scientists and others an opportunity for hearing and

discussing the arguments, largely scientific, for nature conservation in general and for nature reserves in particular. This discussion was deemed to be particularly important at a time when even scientists seemed to be too little aware of the aims of the Nature Conservancy Council and the scientific basis for its policy regarding the use of land for nature reserves. The book may be obtained (price £3.50 in the UK, £3.65 overseas) from the Royal Society, 6 Carlton Terrace, London SW1Y 5AG.

Fair Isle Appeal We hear that the Fair Isle Bird Observatory Trust has a problem—£7,000 is needed to bring the observatory building up to the standard required by new, stringent fire regulations. An appeal has been launched and George Waterston tells us that it has started well, but more money is required urgently and any donation, however small, will be gratefully received by FIBOT, 21 Regent Terrace, Edinburgh EH7 5BT. If *BB* readers sent £1 for every 'lifer' they had seen on the island, a tidy sum would be raised for a start. . . .

Cap Gris Nez Bird Observatory We have received a copy of the report of the Cap Gris Nez Observatory, compiled with the closest collaboration between

members of the Anglo-French committee formed in 1976 (*Brit. Birds* 69: 316-317). Situated at the narrowest point of the Strait of Dover and between the North Sea and the English Channel, Cap Gris Nez is one of the most important observation points in western Europe. The observatory was manned for 101 days in the year and over 200 species were recorded. The report, written chiefly in English, has a brief summary of the events of the year, followed by a long systematic list, and ends with five short papers. It may be obtained (price £1.25) from Philip S. Redman, Redwings, Crowhurst, Battle, Sussex.

Obituary Fred Hunter, secretary/business manager of Shetland's newspaper, *The Shetland Times*, died in Lerwick on 6th May; he was only 43, but had been ill with cancer since the previous December. Fred was not especially well-known outside Shetland, but there he was the ornithological linchpin. He was founder and chairman of the Shetland Bird Club, co-editor of its newsletters, co-author with Bobby Tulloch of *A Guide to Shetland Birds* (1970), contributor of 'Bird notes' to *The New Shetlander* and, from his wide knowledge of the Northern Isles, a conserva-

156. Fred Hunter (1934-1977) (*Dennis Coultis*)



tionist better qualified than most to grasp the complex problems facing Shetland's birds and other wildlife with the development of North Sea oil; he was always ready to help visiting birdwatchers, and his office and his home were regular centres. He was also chairman of the Shetland Council of Social Service and closely involved with the local Tourist Board and the Shetland Civic Society, for which he wrote the section on 'The visual impact' for its *The Shetland Way of Oil* (1976), as well as being a keen bridge player, a guitarist with a wide interest in music, exceptionally well-read and highly intelligent. Although I met Fred on only half-a-dozen occasions, notably at his home and in the field during several weekends in Shetland, I came to know him really well when he joined a tour party that I was leading in southern Morocco in April 1975. He had suffered from considerable physical disabilities since he was 16, a result of polio, which prevented him from walking very far or fast, but he made light of these and was so unselfconscious that one hardly noticed them; indeed, he was the ideal member of such a party—keen, highly competent in the field, infectiously enthusiastic, most amusing with an unfailing sense of humour and, perhaps above all, generous and unselfish to a remarkable degree, always aiming to make himself useful. On an earlier birdwatching tour of Austria, he had met Marion Barker who later became his wife; although they were married for little more than two years before he died, they were an extraordinarily happy couple and everyone's deepest sympathy goes to her in her sad loss. I feel proud to have been able to call such a man a friend; he was an example to us all. (Contributed by IJF-L.)

Perfidious Scotland! When reviewing an issue of the Aberdeen University Bird Club report (*Brit. Birds* 69: 191), one of us commented that the compilers had upgraded the Scottish race of the Crossbill *Loxia curvirostra* to a full species, naming it *Loxia scotica*, and we wondered whether the rest of the scientific world would follow Aberdeen's example. Dr Alan Knox has recently written to direct our attention to Professor Dr K. H. Voous's very important paper, 'List of recent Holarctic bird species. Passerines' (*Ibis* 119: 223-250, 376-406), in which the Scottish Crossbill is

listed as *Loxia scotica*. By the same post, however, we received our copy of *Scottish Birds* and read in the editorial (9: 326) that, in spite of Professor Voous's support, the

Scottish Ornithologists' Club is going to be cautiously conservative and continue to treat the Scottish Crossbill as a race of *L. curvirostra*.

Opinions expressed in this feature are not necessarily those of the editors of British Birds

Recent reports

K. Allsopp and S. C. Madge

These are largely unchecked reports, not authenticated records

Except where otherwise stated, all dates refer to September. The weather in early September was dominated by westerlies, resulting in many records of American waders. Continental migrants become noticeably scarce during such weather, as they wait for more favourable winds. The more obvious hirundines began collecting in east coast areas, with a few thousand being reported daily from Gibraltar Point (Lincolnshire). At Sandwich Bay (Kent), a northward movement of 25,000 **Swallows** *Hirundo rustica* took place on 10th: temperatures had been low on the previous two days and an influx of warmer air probably induced many insects to fly, with the birds taking immediate advantage. Icelandic **White Wagtails** *Motacilla alba alba* moved southwards with the westerlies, and there was a high count of 80 on the Galf of Man on 8th.

Local easterlies

From 12th, an anticyclone developed over the north of the country and the wind turned northeast, but the expected rush of migrants did not occur, since the weather in northern Europe was generally unsettled. A few vagrants did, however, arrive on the east coast. An immature **Citrine Wagtail** *M. citreola* and an **Arctic Warbler** *Phylloscopus borealis* were found on Fair Isle on 16th. Another Arctic Warbler, at Holkham Pines (Norfolk) on 18th, was in immaculate first-winter plumage—a real 'field guide bird'; detection was also made fairly easy, for it betrayed its presence by calling. Other notable arrivals were four **Tawny Pipits** *Anthus campestris* at Gibraltar Point on 12th, followed by three at Portland Bill (Dorset) on 17th. We have received only five records of single **Richard's Pipits** *A. novaeseelandiae*

in Britain and Ireland during this period, but there were also two in Guernsey (Channel Islands) from 25th to 27th. In the west, Cape Clear Island (Co. Cork) had small influxes of common migrants on 12th and 18th, probably of British origin. The northeasterlies became quite strong in the southern North Sea on 17th and 18th, bringing many seabirds close inshore. The high total of 400 **Sooty Shearwaters** *Puffinus griseus* was recorded off Seaton Sluice (Tyneside), 11 at Gibraltar Point, not noted for its sea-watches, and many off the Norfolk coast. Later, there were unprecedented numbers seen from Guernsey, including 332 in 3½ hours on 2nd October. Six **Leach's Petrels** *Oceanodroma leucorhoa* were also noted off Norfolk and one was subsequently found inland at Staines Reservoir (Surrey).

First winter visitors

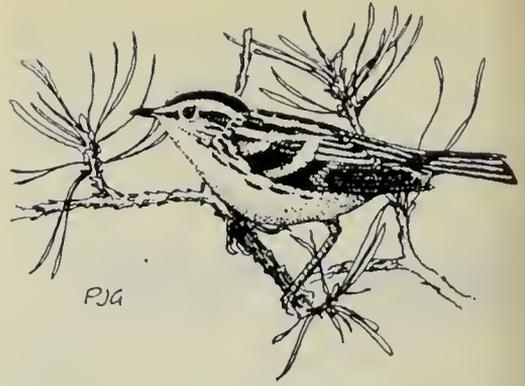
On 22nd, the anticyclone moved eastward into Scandinavia, resulting in southeasterly winds across the North Sea and settled conditions in the Baltic area, which induced many migrants to leave. **Barnacle Geese** *Branta leucopsis* arrived at Fair Isle on 23rd and the same day brought the island's first notable influxes of **Fieldfares** *Turdus pilaris*, **Song Thrushes** *T. philomelos*, **Redwings** *T. iliacus*, **Ring Ouzels** *T. torquatus*, **Robins** *Erithacus rubecula*, **Chaffinches** *Fringilla coelebs* and **Bramblings** *F. montifringilla*. Farther south, the movement included **Redstarts** *Phoenicurus*



phoenicurus and **Blackcaps** *Sylvia atricapilla*, with small falls on the Northumberland coast and also at Gibraltar Point. Cape Clear Island recorded its first **Redwing** of the autumn on 25th. Among the rarer species, five **Yellow-browed Warblers** *Phylloscopus inornatus* were reported from Fair Isle on 23rd, and one or two **Red-breasted Flycatchers** *Ficedula parva* and **Scarlet Rosefinches** *Carpodacus erythrinus* from Northumberland and Cape Clear Island a few days later. The second **Booted Warbler** *Hippolais caligata* of the autumn was found, on Whalsay (Shetland) on 26th. There were few reports of birds of prey during the month; an adult **Osprey** *Pandion haliaetus* on 22nd was, however, a long overdue new species for Cape Clear Bird Observatory, and six **Merlins** *Falco columbarius* on 30th constituted Fair Isle's largest daily total for some years.

The Yanks keep coming

Strong westerly winds returned on 28th, bringing the first Nearetic passerine of the autumn: Britain's third **Black-and-White Warbler** *Mniotilta varia*. The extraordinary



black-and-white striped plumage contrasted strikingly with the more soberly-dressed Palearctic warblers. It was found, as was the second in 1975, on St Mary's (Isles of Scilly), and the dates were only one day apart.

Latest news

Black Kite *Milvus migrans*, Holt, Norfolk; **Spotted Sandpiper** *Tringa macularia*, Sussex; **Franklin's Gull** *Larus pipixcan*, Lowestoft, Suffolk; **Blyth's Reed Warbler** *Acrocephalus dumetorum* and **Alpine Accentor** *Prunella collaris*, Isles of Scilly.

Corrections

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Page

- 482 'Bearded Tits in Britain and Ireland, 1966-74', lines 25 and 26, 'Martin Mere' should read 'Marton Mere'.

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Pages

- 172 'The first field guide?', line 6, delete 'concept'.
- 356-360 'County, regional and bird observatory recorders in Britain and Ireland'.

There are the following changes or corrections to the list:

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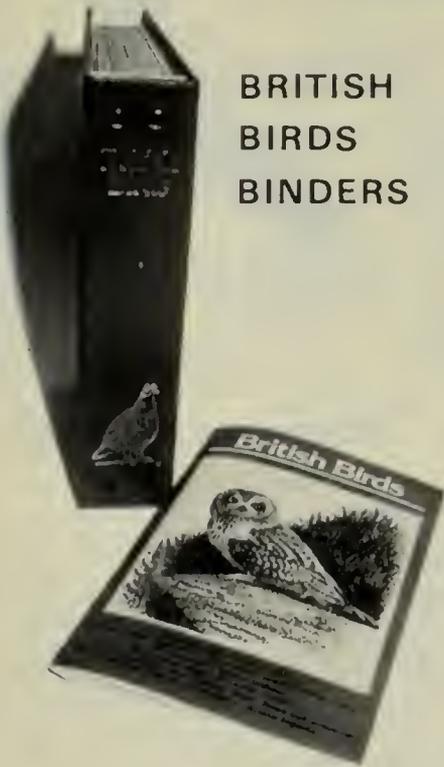
Calf of Man R. Haycock, Calf of Man Bird Observatory, c/o Juan Clague, Kionslicu, Plantation Hill, Port St Mary, Isle of Man

We have been asked by the editor of the *Cambrian Bird Report* to point out that all records for the whole of Gwynedd (Anglesey, as well as Caernarvonshire and Merionethshire) and for the Denbighshire part of Clwyd should be sent to Dr P. J. Dare, Tan-yr-Allt, Trefriw, Gwynedd.

- 362 'Siberian Blue Robin: new to Europe', lines 15 and 16 in right hand column should read 'Wing formula: 4th longest, 1st 4 mm longer than primary coverts, 5th—0.5 mm,'.

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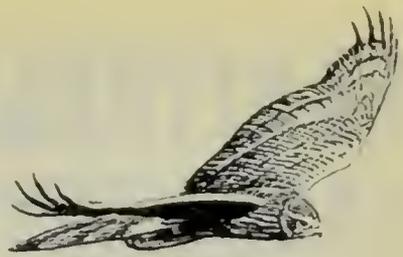
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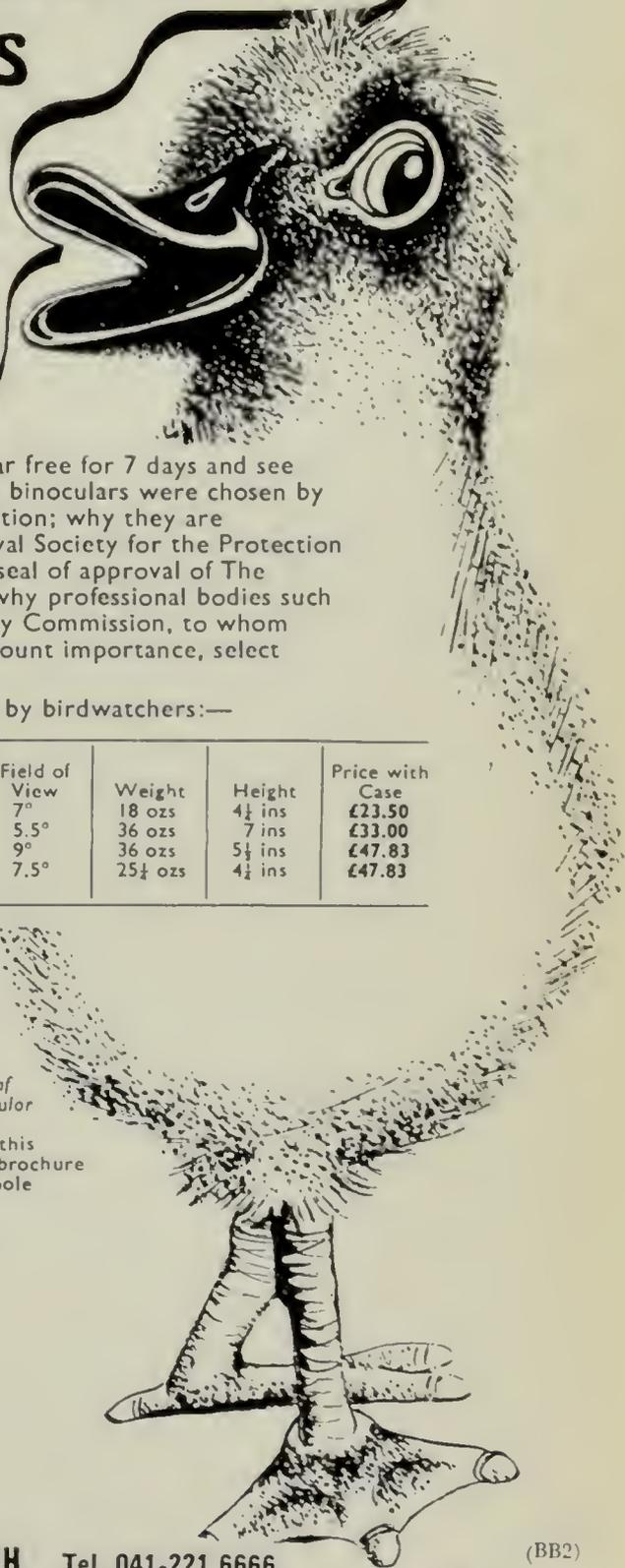
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- 550 Olive-backed Thrush *Hylocichla ustulata* (D. F. Harle)
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- 566 Black-and-White Warbler *Mniotilta varia* (P. J. Grant)



BOOKS—*Handle with Care*

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Address

If undelivered, please return to P. G. Chapman & Co Ltd,
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I enclose cheque/P.O. for for binding
(*The rate for binding is £4.50 per volume*)

*Please fill in your name and address in both spaces
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Failure to do this may cause delay. The lower half of this sheet will be sent back to you
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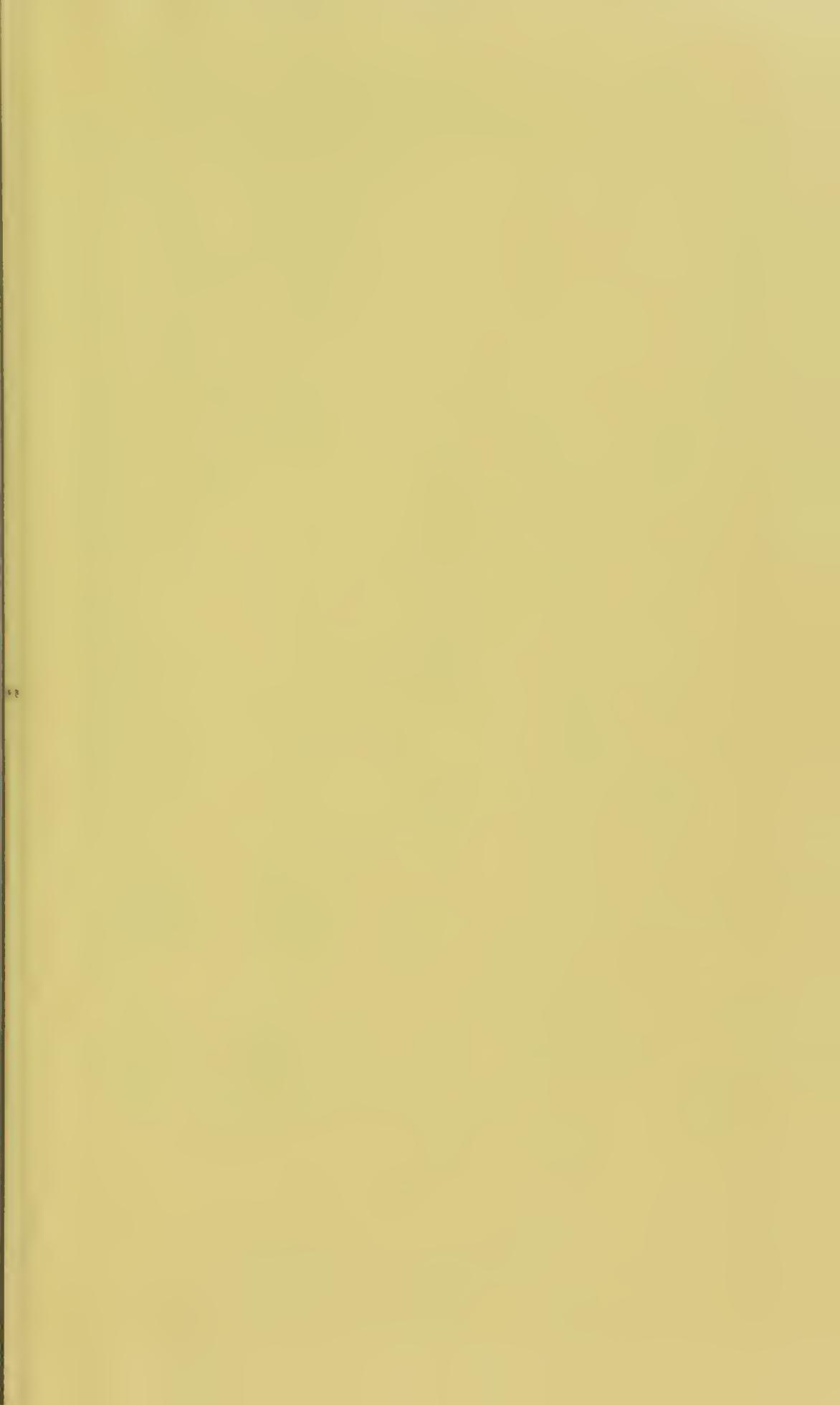
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