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British Birds

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British Birds

Editorial

International Congress at The Hague

Apart from their obvious function in bringing together many ornithologists from different countries, the International Ornithological Congresses give expression to current trends, feelings and problems and help us to judge how ornithology is shaping. It is with this in mind that we offer these reflections on the XV I.O.C. held at The Hague, Netherlands, from 30th August to 5th September 1970. They form a sequel to the special review on 'The Helsinki Congress and the future' in 1960 (*Brit. Birds*, 53: 447-452) and to the more general review entitled 'The International Ornithological Congresses' in 1966 (*Brit. Birds*, 59: 257-261).

Oxford 1966 inevitably recalled its predecessor of 1934. The span of recollection and comparison was stretched further between Amsterdam 1930 and this return to the Netherlands 40 years later, symbolised by an emblem of two Spoonbills in place of the earlier one. It was sad that ill-health prevented the president-elect, Professor Niko Tinbergen, from going through with it, but Dr Finn Salomonsen stepped ably in the breach. The arrangements made by the Netherlands Executive Committee under the secretary-general, Professor Dr K. H. Voous, proved highly successful. In particular, no earlier I.O.C. has been so spaciouly and excellently accommodated as was this one at the new Netherlands Congress Centre. The ample facilities for simultaneous specialist meetings and informal groups were especially valuable for that important part of the work which, as ever, went on outside the formal sessions.

Basically the timing and structure of the Congress conformed to the revised principles arising from discussions after Helsinki 1958. Opportunities for watching breeding birds were foregone in the interests of those with field studies in progress, and of discouraging the unserious. Five mornings were devoted to plenary sessions on

'Population dynamics and ecology in Tetraonids', 'Environmental Physiology', 'Development and behaviour', 'Evolution of pairing behaviour' and 'The mounting threat of chemical pollution'. Each was introduced and summed up by a specialist chairman and included some half-dozen invited contributions, followed after lunch by a panel discussion. The many simultaneous sectional sessions were concentrated during the afternoons, permitting 40 to 60 contributions to be presented and briefly discussed daily.

In theory this organisation appeared admirable, especially since the Congress Centre enabled rapid switches to be made between sections to hear particular papers of interest. In practice there were serious snags. As usual, two or more items one particularly wanted to attend would happen to clash. As usual, too many of the volunteered contributions for the sectional meetings were not sufficiently significant or well worked out to be worthy of a place on an international programme, and some of the more interesting were at least partial repetitions of something already published. Certain sessions where the homework had been done properly, such as Dr Ernst Mayr's 'Symposium on causal zoogeography', showed up the scrappy character of some others.

Even the big set-piece symposia were very uneven. Success in these demands choosing well in advance a topic in which there is keen and fairly wide interest, where several original and articulate research workers from different countries can offer something which either contributes to a fresh synthesis or throws into focus new issues and further topics for research. Nor must the need for a capable specialist chairman be overlooked. Perhaps 'The mounting threat of chemical pollution' commanded the greatest interest, and the contribution by I. Prestt and Dr D. A. Ratcliffe was a model presentation of a broad sector of the problem based on what the chairman, Dr J. J. Hickey, rightly commended as an important breakthrough in ornithological knowledge. Some of the other papers, however, were of narrow and non-ornithological specialist interest, detracting seriously from the success of what should have been an outstanding session. The symposium on the Tetraonids was an embarrassing reminder that in ornithology, as in physics and chemistry, an apparently well-conceived and admirably executed series of researches, confidently expected to resolve a range of fundamental problems, may perversely fail to do so for reasons by no means easily traced. Perhaps no other I.O.C. except Uppsala 1950 had tried so hard to bring a few of the most exciting themes of current work into focus, yet somehow it proved to yield only limited success. Was it that the themes chosen were not the most suitable, or that too many of the contributors failed to rise fully to the occasion, or that we are going through a period when there are fewer first-rate researchers developing new fields of exciting

significance? Perhaps all three of these factors and others besides may have accounted for a distinct sense of disappointment that our science and art, of which we are accustomed to expect so much, could yield so little to such a carefully planned and vigorously pursued programming effort.

Although the I.O.C. has come to assume that the whole world knows and speaks English, this is of course still far from true and there is a price to be paid for it. Of 41 listed contributors to the five plenary sessions, 17 were from the U.S.A., nine from the United Kingdom, five from English-speaking Canada, five from the Netherlands, two from the Federal Republic of Germany, one from Norway, one from Sweden and one from the U.S.S.R. Not a single contributor was from a French- or Spanish-speaking country, and barely 10% were attributable to nations where English is not widely familiar. Comparing this with the composition of the governing 'Committee of One Hundred' which is roughly only two-fifths English-speaking, and bearing in mind that the next I.O.C. will be the second in 16 years to have a French president, some doubt must be felt whether the congress may not be depriving itself on linguistic grounds of some badly-needed additional talent. Helsinki may have gone too far in catering for differing linguistic groups, but some more serious effort on their behalf may prove essential in future.

Also, although a fair number of participants happened to be, in addition, general zoologists or even botanists, and of course conservationists, there are some disturbing indications that the fuller integration of ornithology in modern biology is losing steam at just the time when it should be building up more pressure. Historically ornithology has suffered from a built-in parochialism which fits badly with the capability it has proved, as Sir Landsborough Thomson showed in his presidential address at Basel in 1954, to serve as a growing-point for biological sciences. If windows need opening to let in more light and air, this is surely one of them.

Over and over again, sometimes in very unexpected contexts, the congress found itself facing a situation where more lights on the combined ecological and ethological aspects would have illuminated its discussions. The value of bringing different lines of study to a sharp focus in terms of particular regions or areas also emerged rather backhandedly by reason of the handicaps which were so frequently encountered through want of such an approach, with the notable exception of Dr Mayr's symposium already mentioned.

The decision to hold the next I.O.C. in Australia in 1974, with Professor Dr Jean Dorst as president and Dr H. J. Frith as secretary-general, opens new opportunities but also poses new problems. Effectively, Australia will be little more remote from central Europe in 1974 than was Ithaca in 1962, but for British participants it will

mean a good deal more than simply driving on to the night ferry or flying for only as many minutes as it takes to get out to the airport. As the plans for the 1972 Pacific Science Congress show, Australia is firmly in favour of the concept of more selective thematic discussions, as against the dropical free-for-all which seems to be the destined end of international gatherings where leadership is at a discount. In extending to the new president and secretary-general our best wishes and assurances of support, let us hope that they will be able to provide in 1974 an occasion when new growing points can be stimulated and when, above all, the opportunities for giving deeper and broader focus to the results of recent ornithological progress can be fully seized.

Birds in Ireland during 1966-69

J. J. M. Flegg

The two previous summaries of observations of Irish birds, each covering three years (Andrew 1964, Wallace 1967), outlined the purpose of the series and established both standards and methods of treatment. Broadly, the more significant records in the period are summarised seasonally. Naturally, most space is devoted to rarities of an international standard, for it is these that generate the widest interest. There are those, however—and I count myself amongst them—who feel that this interest may be overstressed. Thus where the published data allow it, I have attempted in this four-year summary to include, as did my predecessors, assessments of status changes in more regular species.

The information used has been obtained largely from the relevant *Irish Bird Reports** which continue to be produced by the doyen of report editors, Major R. F. Ruttledge. The same author's book *Ireland's Birds* (Ruttledge 1966) also forms an ideal baseline, particularly as it covers records to the end of 1965 and thus immediately precedes the period of the present summary. Little comment is necessary on the acceptance standards of records published in the *Irish Bird Reports*: the editor follows the quite exemplary technique of submitting records to referees from a wide variety of countries whose common factor is an

*Vol. 2, No. 2, 1966 (56 pages); No. 3, 1967 (46 pages); No. 4, 1968 (48 pages); No. 5, 1969 (56 pages). Edited by Major R. F. Ruttledge. Published by the Irish Ornithologists' Club (1966, 1967) and the Irish Wildbird Conservancy (1968, 1969). Obtainable from David Scott, Granite Cottage, Ulverton Road, Dalkey, Co. Dublin. (25p each 1966 20p) plus postage.

international standing in the field identification of the species concerned. The relatively small number of reports from Northern Ireland in recent years does, however, give some cause for concern.

In the nature of things, a national report of unusual occurrences or observations cannot do justice to continuing full-time research. It would, however, be wrong to make no reference to the work by Brian Stronach on the populations and breeding biology of Mallard *Anas platyrhynchos* at Loch Carra, Co. Mayo, or to the equally important work by P. J. O'Hare, also of the Agricultural Institute, on the management of heather to increase numbers of Red Grouse *Lagopus lagopus*. At the same time, a valuable survey of the feeding ecology and habitats of wintering Greenland White-fronted Geese *Anser albifrons flavirostris* on the Wexford Slobbs is being carried out by the research officer of the Irish Wildbird Conservancy there, Oscar J. Merne, while a potentially very interesting study has begun on pesticides in Irish birds with reference to the prey species of Peregrines *Falco peregrinus*.

Voous (1961) pointed out that endemic races in Ireland and Britain are more worthy of research and conservation than rare vagrants. Ireland has its own subspecies, all appropriately named *hibernicus*, of Red Grouse (now rather mixed), Coal Tit *Parus ater*, Dipper *Cinclus cinclus* and Jay *Garrulus glandarius* and it is to be hoped that some Irish ornithologists will decide to investigate the habitats and ecology of these birds. Another feature of the Irish avifauna would also repay serious research: there are a number of species, such as the Coal Tit, which in Britain co-exist with others that are closely related or have similar habitats, but which in Ireland occur alone; further examples can be drawn from the warblers (Sylviinae), and from the Treecreeper *Certhia familiaris* which breeds in Ireland though woodpeckers (Picidae) do not. Lack (1969) suggested that in such circumstances the single species may occupy an ecological niche wider than that which it occupies where the others occur, and this would be a subject for very rewarding study in Ireland where the range of habitats is broadly similar to that in Britain.

Another aspect relevant to Lack's theory is the number of species which have relatively seldom been recorded in Ireland but have nevertheless bred there. Examples are certain ducks (Anatidae) and the Avocet *Recurvirostra avosetta*, Short-eared Owl *Asio flammeus*, Redstart *Phoenicurus phoenicurus*, Wood Warbler *Phylloscopus sibilatrix* and Yellow Wagtail *Motacilla flava*. This suggests that Ireland has areas which are ecologically suitable for the species concerned (or at least not so unsuitable as to make nesting impossible) and that it is only geography which prevents these birds from occurring and presumably breeding regularly. It is perhaps understandable that official research has so far concentrated so much on game species: it is to be hoped that ornithologists will tackle some of the other problems in the near future.

BREEDING AND SUMMERING BIRDS

Unquestionably, the author of the next summary in this series will have the enviable task of presenting information based on the tremendous effort put by the Irish Wildbird Conservancy and others into Operation Seafarer for seabirds and into the Ornithological Atlas for all breeding species. The response to these surveys in Ireland has been so good that it would be misleading here to draw many inferences from the interim results, and so most comments apply to limited or specially surveyed populations.

In at least three of the years under consideration, successful breeding was reported for the minute population of Red-throated Divers *Gavia stellata* in Co. Donegal; low water levels may have interfered in 1969. Great Crested Grebes *Podiceps cristatus* were proved to have nested successfully for the first time in Co. Cork in 1967 and have continued to do so since. There were no reports of breeding Black-necked Grebes *P. nigricollis*. Another 'first' was the nesting of Gadwall *Anas strepera* in Co. Kerry in 1969.

As seems generally to be the rule, more detailed studies of island colonies of petrels and Manx Shearwaters *Puffinus puffinus*, using mist-nets and capture/recapture techniques with ringed birds, indicated that an uprating of previous estimates of colony size was needed. Thus two colonies of Storm Petrels *Hydrobates pelagicus* on Great Skellig and Tearaght, Co. Kerry, were thought to exceed 10,000 pairs in 1967, while Inishglora, Co. Mayo, was estimated at about 5,000 pairs in 1966. Similar increases are taking place in colonies of Gannets *Sula bassana*: Little Skellig, Co. Kerry, which, it is most pleasing to read, is now an Irish Wildbird Conservancy reserve, held between 18,000 and 20,000 pairs in 1969. At the other end of the scale, one of the newest colonies, Great Saltee, Co. Wexford, had about 200 nests in 1967 and continues to increase steadily.

The small population of breeding Buzzards *Buteo buteo* returned to Co. Antrim after a few years' absence, and in 1969 records of attempted nesting were submitted from some other areas; these retain their anonymity for the reasons necessary to protect many birds in Ireland, especially raptors since the threat of falconry has joined that of egg-collecting. The results of a thorough survey of breeding Peregrines in Ireland (Temple Lang 1969) indicate a decline of comparable speed and magnitude to those reported elsewhere in Europe. As elsewhere, an assessment of the circumstantial evidence and limited information on residue levels indicates that chlorinated hydrocarbon pesticides are the most likely cause of the decline. Breeding success remains low, and the 1969 *Irish Bird Report* mentions a further marked decline since 1967. In 1968 no less than 123 of the 210 traditional eyries were visited: of these, more than half were unoccupied, about a quarter had non-breeding pairs or individuals, and less than a quarter had successful or

probably successful breeding pairs. On the credit side, it seems sound to predict from the fragmentary evidence available that the next few years will reveal the considerable size of the breeding population of Hen Harriers *Circus cyaneus*.

Quail *Coturnix coturnix* appear to breed regularly in small numbers in Co. Kildare, and the same is true of Red-necked Phalaropes *Phalaropus lobatus* in Co. Mayo. Here there was a sudden increase in 1967 and up to 20 were then present each year, but only a few actually nested; similar gatherings were reported from several other localities in most summers, but with no proof of breeding. No atlas surveys were necessary to discover the swamping westerly range extensions of the Collared Dove *Streptopelia decaocto*, now colonising islands off the west coast, and there were reports of flocks of several hundreds in Co. Kerry. A much more surprising westward extension took place in 1967, when a pair of Black Terns *Chlidonias niger* nested in an undisclosed locality—the first recorded instance in Ireland.

A combination of a special survey (Rutledge 1968) and atlas work has produced heartening information on the status of the Kingfisher *Alcedo atthis*, with breeding pairs present in almost all of the counties surveyed and numerous in many—a situation in marked contrast to that in much of the remainder of western Europe even in 1970. While many of the reports of increasing numbers of Carrion Crows *Corvus corone* were of migrants or overwinterers, successful breeding was established in Co. Donegal in 1969. The Chough *Pyrrhocorax pyrrhocorax* continues to thrive as a resident on the west coast and was reported as nesting widely inland in Co. Kerry, where a single flock of 231 was counted in 1968.

Turning briefly to the smaller passerines, the chequered breeding history of the Redstart continued during the four years, with two pairs nesting in Co. Donegal in 1968 but apparently only one individual present in 1969. An increase in the breeding population of the Blackcap *Sylvia atricapilla* in north-eastern Ireland has been reported since 1966 and is apparently a genuine one; fresh breeding areas also continue to be discovered elsewhere, especially in the south and south-west. The huge decline in Whitethroats *Sylvia communis* in 1969 over much of western Europe, well documented at about 70% in Britain, seems to have occurred with equal severity over most of Ireland; only a few pockets of undiminished populations were reported from central areas. The Yellow Wagtail *Motacilla flava flavissima* maintained its tenuous footholds in Co. Cork and Co. Wicklow until 1968 and may also have bred in Co. Derry. Tree Sparrows *Passer montanus* had by about 1950 fallen to a similarly low level, but the recolonisation noted first in the early 1960's continued apace and each of the four years saw a further expansion and increase in numbers; breeding can now be described as widely reported in coastal areas.

WINTER VISITORS

Among records of Spoonbills *Platalea leucorodia*, one individual apparently wintered regularly in Co. Cork. The increased sea-watching effort, while directed mainly at species considered in the next section, has led to more detailed assessment of the occurrences of regular overwinterers. There was the usual scattering of winter records of Black-throated Divers *Gavia arctica*, while reports of grebes included a few Red-necked *Podiceps griseigena*, Slavonian *P. auritus* and Black-necked, although the last was not recorded annually. Well documented over the period are decreases in Scaup *Aythya marila* and Common Scoters *Melanitta nigra*. In Wexford Harbour alone, a total of well under 1,000 Scaup was recorded in late 1969, against over 3,000 in the winter 1966/67; and for Common Scoters the indications were even more striking, especially in Dundrum Bay, where 4,300 were present in October 1967 and below 400 in October 1969. It is suggested that considerable reductions in available food in favoured areas may have been responsible for the declines. Velvet Scoters *M. fusca*, however, were more frequently recorded and in larger numbers than in previous years, and the winter 1967/68 produced considerably more Long-tailed Ducks *Clangula hyemalis* than usual, as it did in Britain: probably over 50 individuals were involved at widely scattered localities. Yet in the following winter, in December 1968, there was a single flock of 70 in Co. Donegal, the largest ever recorded in Ireland. Changes in other ducks included steadily increasing numbers of Gadwall reported over a wider range, although breeding records remained sparse (but see page 6). Eiders *Somateria mollissima* now seem to be wintering regularly off Co. Cork, a situation not out of keeping with that elsewhere.

Over the period there were indications of a steady upward trend in numbers of Grey Lag Geese *Anser anser*, and each year produced the usual scattered records of Pink-footed Geese *A. fabalis brachyrhynchus* in parties of less than ten. Only one Bean Goose *A. f. fabalis* was seen, on the North Slob, Co. Wexford, on 7th February 1969. Numbers of wintering Greenland White-fronted Geese, centred principally on the Wexford Slobs (part of which is now a reserve), fluctuated between 6,000 and 8,000, with occasional records of one or two Eurasian Whitefronts *A. a. albifrons*. An astonishingly early arrival of Whitefronts was noted in mid-July 1969, when two or three parties made landfall in Cos. Fermanagh and Cork. The winter peak of Pale-bellied Brent Geese *Branta bernicla brota* was about 8,000 each year from 1966 to 1968, but over 12,000 were present during the winter 1969/70, with ample evidence of a successful breeding season in the high proportion of young birds. (This situation was paralleled elsewhere by Dark-bellied Brent Geese *B. b. bernicla*.) Regrettably, equivalent figures for the Barnacle Goose *B. leucopsis* are not given.

Grey Plovers *Pluvialis squatarola* were unusually numerous and

widespread in 1966, and a flock of 700 on the North Bull, Co. Dublin, was quite unprecedented. Subsequently, flocks of 100 or more were increasingly frequently recorded. Whimbrel *Numenius phaeopus*, Greenshanks *Tringa nebularia*, Spotted Redshanks *T. erythropus* and Ruffs *Philomachus pugnax* continued to overwinter more or less regularly, besides being passage migrants. Despite unusually large numbers on migration, however, there was no further evidence to support the suggestion quoted by Wallace (1967) that Curlew Sandpipers *Calidris ferruginea* may occasionally do the same. A Little Stint *C. minuta* remained at Akeragh Lough, Co. Kerry, until the end of 1969. Bar-tailed Godwits *Limosa lapponica* winter increasingly in well-watched areas in Co. Cork, and the occasional reports from west coast estuaries are tantalising indicators of the possible numbers.

The marked westward influx of Great Spotted Woodpeckers *Dendrocopos major* seen across Britain in autumn 1968 penetrated well into Ireland, although naturally the majority of reports were from eastern coastal counties. One trapped and another shot were found on examination to be of the Northern race *D. m. major*, as probably were the remainder.

Only two or three Shore Larks *Eremophila alpestris* were seen in the whole period, all at the North Bull between 23rd October and 9th November 1966; this remains a strangely little recorded winter bird in Ireland. There were two strikingly early reports of Fieldfares *Turdus pilaris*: a party of 14 in Co. Clare on 22nd July 1968—a year in which there were several early flocks in Britain—and one at Cope-land, Co. Down, on 7th June 1969. Blackcaps continued to winter regularly, in unusual numbers during 1968; in Britain, too, wintering records are now increasing. Waxwings *Bombycilla garrulus* were frequently and widely reported in most years, with a concentration naturally to the east: large numbers from the autumn 1965 irruption were still present early in 1966, but there were only two reports in 1969 and this is again in accord with the situation in Britain.

PASSAGE MIGRANTS

Intense sea-watching continued to reveal occasional Balearic Shearwaters *Puffinus p. mauretanicus* amongst the Manx; and Great *P. gravis*, Sooty *P. griseus* and Cory's Shearwaters *Calonectris diomedea* remained a feature of the seabird passage of August and September, especially off the south-west coast. Daily counts occasionally exceeded the 100, and two rafts totalling over 300 Cory's Shearwaters close offshore at Cape Clear Island, Co. Cork, on 16th June 1968 were particularly interesting; occasional records from elsewhere, especially along the south coast, indicated a possible regularity of occurrence in smaller numbers (see page 13). Such watching, besides revealing some species documented under the heading VAGRANTS, was also responsible for

the scattering of autumn records of Black-throated Divers, although many fewer were noted in spring. Groups of seven (at Dingle Bay, Co. Kerry) in August 1967 and five (at Carnsore Point, Co. Wexford) in September 1967 were unusual.

The three commoner skuas, Great *Stercorarius skua*, Arctic *S. parasiticus*, and Pomarine *S. pomarinus*, were recorded off all coasts. Great Skuas remained considerably more numerous than Arctic, and Pomarines were sighted least frequently; there were occasional inland records, and reports of wintering or summering. The main numbers of Little Gulls *Larus minutus* occurred on passage, the annual totals for 1968 (42) and 1969 (44) eclipsing those of previous years, but there were mid-summer observations of small flocks of immatures. A few Sabine's Gulls *L. sabini* were reported from the south-west each autumn, with a considerable peak in 1967 (see pages 16-17).

A few Garganey *Anas querquedula* were recorded each year on spring and autumn passage, but, despite occasional records of pairs within the breeding season, no breeding was proved. Hobbies *Falco subbuteo* were perhaps recorded more frequently than previously, each year producing occasional ones in May, June, August or September, but in the period there were only four reports of Ospreys *Pandion haliaetus*, a surprising scarcity in view of the recolonisation in progress in Scotland, though they included two records (at different localities) of two together in July 1966 and May 1967. Equally, it is curious that no Rough-legged Buzzards *Buteo lagopus* penetrated as far west as Ireland in the invasion of 1966/67.

For most of the regular passage migrant waders, little change in status was apparent from that described by Rutledge (1966), but over the period spring records of Spotted Redshank increased, as did the numbers apparently summering. Ruffs also increased steadily, with flocks of 20-30 in spring and 40-50 in autumn. Unusually large numbers of Curlew Sandpipers were present right across to the west coast in autumn 1969, widespread reports of flocks of 50-100 being 'eclipsed by 212 at Tivoli (Co. Cork) on 11th [September]'. This was parallel with events at the time in England and Scotland, but the numbers involved were strikingly substantial. Only three Dotterel *Eudromias morinellus* were reported, one in 1966 and two in 1967.

Hoopoes *Upupa epops* were seen in several areas each year, and between 1966 and 1969 there were five records of Wrynecks *Jynx torquilla* on passage (one spring, four autumn) and four of Golden Orioles *Oriolus oriolus*, though none suggestive of breeding. Black Redstarts *Phoenicurus ochruros* continued to be scarce in winter, but spring 1969 saw what can only be described as an influx in Co. Cork, with five at Ballycotton, 14 near Roches Point and seven on Cape Clear. Bluethroats *Luscinia svecica* were, as ever, sparse, but one on Saltee in spring 1966 and another on Cape Clear in autumn 1967 at

last brought the grand total of Irish records into double figures.

An annual trickle of Reed Warblers *Acrocephalus scirpaceus*, or other 'unstreaked *Acrocephalus*', continued to pass through the observatories. In contrast, Icterine *Hippolais icterina* and Melodious Warblers *H. polyglotta* now occur with sufficient regularity to command the status of passage migrant rather than vagrant. Each autumn recently has seen several, usually on Cape Clear (and previously also on Saltee), though as numbers have fluctuated in the past, the approximate total of 20 *Hippolais* there in autumn 1969 can only be considered as a transient, but nonetheless striking, event. There were regular, but less frequent, records of Barred Warbler *Sylvia nisoria* and Lesser White-throat *S. curruca*; surprisingly, all the latter were rather late, falling in September or October. Both Yellow-browed Warblers *Phylloscopus inornatus* and Firecrests *Regulus ignicapillus* can now be considered regular on Cape Clear in late autumn. In the period there were 16 reports of Yellow-browed Warblers on Cape Clear, including ten between 5th and 16th October 1967, and only one from elsewhere. A conspicuous increase, this, and probably an actual change rather than an improvement in observer acuity, as it cannot be considered a difficult species either to observe or to identify. There were about 25 October records of Firecrests, contrasting with very few in spring and only a scattering of midwinter ones. One on Saltee in spring 1966 and two at Ballycotton, Co. Cork, in autumn were the only records other than from Cape Clear. This notable increase was, by inference, accurately predicted by Wallace (1967).

The scarcity of the Yellow Wagtail during either passage remained unaltered, with only occasional records in most years. On Cape Clear, however, on 18th June 1967, a pair of the Blue-headed race *M. f. flava* was reported, of which there are probably still less than ten Irish records. There were the usual late autumn Red-breasted Flycatchers *Ficedula parva*, at least seven in 1968, but on Cape Clear only now that Great Saltee is so distressingly rarely visited, and it may be that this factor accounts for the much reduced frequency of Woodchat Shrikes *Lanius senator*. Certainly this species was recorded annually on Saltee in the 1950's and early 1960's, while in the period under review there are only three reports (see page 18), that of an adult in June being unusual. Red-backed Shrikes *L. collurio* were reported in very small numbers each autumn, the majority from Cape Clear in October.

Parties of Crossbills *Loxia curvirostra* occurred widely from mid-summer 1966 until midsummer 1967 as part of a large-scale irruption. Breeding evidence was lacking, however, and with the extraordinarily variable breeding season of this species, no indications can be gathered from the numerous reports of juveniles. Several records of Red-headed Buntings *Emberiza bruniceps* show that the species now occurs more or less regularly, but all carry the familiar caveat concerning escaped

cage-birds. The Ortolan *E. hortulana* is also annual, with one or two reports each autumn from Cape Clear. Strangely less regular is the Lapland Bunting *Calcarius lapponicus*: Ruttledge (1966) indicated the magnitude of the fluctuations and the period under review represents something of a nadir with only a few scattered autumn and winter records in 1966-68 and none at all in 1969.

VAGRANTS

A remarkable feature of Irish ornithology over the past few years has been the falls of American birds—largely waders—on the western seaboard. Frequently these have accompanied vigorous cyclonic conditions in the North Atlantic—spent hurricanes producing the high tail winds that enable such birds to survive the long sea crossing. Considering waders alone, Wallace (1967) was able to cite at least 44 individuals of nine species for the three years 1963-65, whereas listed below for 1966-69, admittedly a four-year period, are at least 126 individuals of 15 species (pages 15-16)—three of them first Irish records. Considering the available observer force, these numbers are staggering not only in their size, but in what they suggest the real totals must be. To the European, the *Irish Bird Report* remains a most valuable source of concise field information on these species, and it is to be hoped that the increasing familiarity in Ireland with American birds in general does not lead to a reduction in the publication of field details. Turning to other American species, I must pick out for special mention the extraordinary arrival of American Wigeon *Anas americana* at Akeragh Lough, Co. Kerry, in October 1968, which ultimately built up to a flock of 13; one subsequently shot near-by had been ringed in New Brunswick, Canada, on 29th August 1968 (Hudson 1970). American passerines did not feature so large during the period, but the first Irish records of American Redstart *Setophaga ruticilla* and White-throated Sparrow *Zonotrichia albicollis* and the second of Olive-backed Thrush *Catharus ustulatus* and Red-eyed Vireo *Vireo olivaceus* are worth particular note.

While American birds were so well represented, southern and eastern vagrants made up in quality what they lacked in quantity, particularly with such warblers as Cetti's *Cettia cetti*, Blyth's Reed *Acrocephalus dumetorum*, Subalpine *Sylvia cantillans*, Dartford *S. undata* and Pallas's *Phylloscopus proregulus*. The first two and the last of these were first Irish records, the Pallas's Warbler being one of many which occurred in western Europe in the second half of October 1968 in conditions that generated a col stretching right across the Palearctic and producing a situation ideal for such an unusual arrival of this far eastern species. For good measure the 1969 report includes the belated acceptance of a Fan-tailed Warbler *Cisticola juncidis* on Cape Clear in April 1962. This record, the first for Ireland (or Britain), was recon-

sidered after the production of additional evidence regarding movements (assisted and otherwise) of this seemingly unlikely vagrant.

All the rarities are set out or summarised below in one list (without distinction between Palearctic and Nearctic species), though this will not in future be necessary as it has now been agreed that the Irish records of species covered by the Rarities Committee should be mentioned with the annual 'Report on rare birds in Great Britain'. Indeed, this has already been done for 1968 and 1969, but it seemed sensible to repeat these here rather than just list those for 1966 and 1967 on their own.

Black-browed Albatross *Diomedea melanophris*. All but one of ten sightings of albatrosses in the four years, including two together, were off the coast of Co. Cork (five in 1967 and four in 1968); the exception was an immature off Malin Head, Co. Donegal, on 19th September 1966. A majority, including the last, were not specifically identified, but an immature off Cape Clear on 1st and 5th June 1967, adults there on 2nd September and 1st October 1967 and an adult off Mizen Head on 13th August 1968 were accepted as Black-browed. It is pointed out that several of the observations, even in different years, could refer to the same individuals.

Wilson's Petrel *Oceanites oceanicus*. Cape Clear, Co. Cork, 3rd August 1969: the third Irish record.

Little Shearwater *Puffinus assimilis*. A number of records from south-west Ireland, all off Cos. Cork and Kerry and, with the exception of singles on 18th April 1968 and 2nd June 1967, all between 7th August and 3rd October. Five records (eight birds) in 1966, three (five birds) in 1967 and eight in 1968—including one off Co. Kerry identified as *P. a. baroli*, which was described with the meticulousness characteristic of the observer—but none in 1969. In 1967 and 1968 there were also a few reports of small shearwaters not accepted as this species.

Cory's Shearwater *Calonectris diomedea*. Usually rather commoner off west and south Ireland than in British waters. In 1966 the species was seen as far east as Hook Head, Co. Wexford, on 17th July and 31st August, but it was generally rather scarce and not recorded at all at Cape Clear, Co. Cork. In 1967 a total of 28 was reported off Cos. Kerry, Cork and Wexford between 12th July and 1st October. In 1968, when all the records came from Cape Clear, there was one on 16th April and another on 7th September and, between those dates, the remarkable total of 374 in two dense rafts on 16th June. In 1969 a total of 116 were identified off Cos. Cork, Kerry, Mayo, and Donegal between 22nd July and 29th September.

Little Egret *Egretta garzetta*. In 1966 one at Killala Bay, Co. Mayo, on 25th June; and one at Ballycotton, Co. Cork, on 29th June, which had moved by the following day but was then found near-by on Shanagarry Marsh from 6th July to 3rd September. In 1967 one near Castletownbere, Co. Cork, on 7th July was reported locally to have been in the area since the end of the previous year. In 1968 one found dead at Lough Ree, near Athlone, Co. Westmeath, about 7th February; and one at Strangford Lough, Co. Down, from 31st July to at least 3rd December. In 1969 one by Rosscarbery estuary, Co. Cork, from September to 26th December.

Squacco Heron *Ardeola ralloides*. Juvenile, dying, Trinity College, Dublin, 2nd October 1967.

Little Bittern *Ixobrychus minutus*. Three in 1966, all males and all on 1st May, were the only ones in the period: these were at Clifden, Co. Galway, and two at Cape Clear, Co. Cork, one of the latter dying and the other being caught by a cat.

Night Heron *Nycticorax nycticorax*. Near Caragh Lake, Co. Kerry, March and April 1967 and March to August 1968.

Black Duck *Anas rubripes*. Female, shot, near Bridgetown, Co. Wexford, 27th November 1966: the third Irish record.

Green-winged Teal *Anas crecca carolinensis*. One or more males in most winters between 18th October and 13th April (one in 1966, four in 1968 and four or five in 1969), the wide distribution of reports indicating the likely presence of others.

Blue-winged Teal *Anas discors*. Three autumn records. Adult male in eclipse plumage, shot, near Banagher, Co. Offaly, 28th October 1967. One (sex?), shot, near Shannon Airport, Co. Clare, 7th September 1969. Male coming out of eclipse plumage, South Slob Channel, Co. Wexford, 6th November 1969.

Baikal Teal *Anas formosa*. Male, shot, Crom, Co. Fermanagh, 13th January 1967: the record is presented with the usual caveats concerning escapes from collections.

American Wigeon *Anas americana*. Male, Akeragh Lough, Co. Kerry, 23rd to 31st March 1968. Others present there from 6th October 1968 (four) to 12th October (seven)—maximum count 13 together on 10th—and single males remaining on 28th December 1968 and 19th January 1969 (see also page 12). Pair near Ballyferriter, Co. Kerry, 21st June 1969. Female at Akeragh Lough, 25th August 1969, and male coming out of eclipse plumage, 4th September.

Red-crested Pochard *Netta rufina*. Male, Loch Beg, Co. Derry, 1st January and 13th March 1966. Male, Lough Ennell, Co. Westmeath, 11th July 1969.

Ring-necked Duck *Aythya collaris*. Two wintering each year except 1969 at Lurgan, Co. Down, and Lough Neagh, sometimes both at one locality and sometimes one at each.

Surf Scoter *Melanitta perspicillata*. Presumed first-winter, between Kilcoole and Newcastle, Co. Down, 4th to about 18th November 1967. First-winter male, Toormore Bay, Co. Cork, 12th January 1969.

Lesser White-fronted Goose *Anser erythropus*. North Slob, Co. Wexford, 23rd and 30th March 1969: the first Irish record.

Lesser Snow Goose *Anser caerulescens caerulescens*. Blue-phase adults, North Slob, Co. Wexford, early November 1966 to at least 22nd January 1967, and 25th October to 2nd December 1968.

Canada Goose *Branta canadensis*. Some 75 occurrences of the attractive truly wild forms seen since 1954 accompanying Greenland White-fronts are summarised by Merne (1970); apparently several of the smaller races are involved. In the four-year period all but one (at Lissadell, Co. Sligo) of the 17 individuals recorded were on the Wexford Slobs.

Honey Buzzard *Pernis apivorus*. Adult male, shot, Castle Caulfield, Co. Tyrone, 15th April 1965: this record was not published until the 1967 report and so was not included by Wallace (1967).

Goshawk *Accipiter gentilis*. Near Gortin, Co. Tyrone, 19th February 1968. One showing plumage characters of the American race *atricapillus*, North Slob, Co. Wexford, 13th November 1969.

Kite *Milvus milvus*. Ballycotton, Co. Cork, 9th November 1968: the first since 1951.

Montagu's Harrier *Circus pygargus*. Immature, Cape Clear, Co. Cork, 1st November 1969: the only published record for the period.

Gyr Falcon *Falco rusticolus*. An apparently splendid bird of the white 'candicans' type, Glenlara, near Erris Head, Co. Mayo, on 30th March 1967: the first record of the species since 1956.

Red-footed Falcon *Falco vespertinus*. Male, near Maam Cross, Connemara, Co. Galway, 18th September 1966 and separately 'within two days . . . about 5 miles away'.

Spotted Crake *Porzana porzana*. Six records in the period, three in 1969 and one in each of the other years, all between 15th August and 4th October; all in south-west Ireland, four at Akeragh Lough, Co. Kerry, and the other two in Cos. Cork and Limerick.

Little Crake *Porzana parva*. Adult male, Cape Clear, Co. Cork, 29th September 1966. Adult male and female or juvenile, Cape Clear, 23rd August to 3rd September 1968.

Little Ringed Plover *Charadrius dubius*. Only one record in the period: Ballycotton, Co. Cork, 22nd to 28th September 1968.

Killdeer *Charadrius vociferus*. Strangford Lough, near Comber, Co. Down, 13th February to 24th March 1967.

Lesser Golden Plover *Pluvialis dominica*. As there had been only three previous records, a total of six in two of the four years was remarkable; all were between 7th September and 16th October, except for one particularly interesting occurrence in June. In 1966, Lissagriffin Lake, near Barley Cove, Co. Cork, 7th to 21st September; Shanagarry, Co. Cork, 18th September; Douglas estuary, Co. Cork, 30th September to 8th October; and Keenagh Turlough, Co. Roscommon, 15th and 16th October. In 1969, full summer plumage, Ballyferriter, Co. Kerry, 25th June; and near Akeragh Lough, Co. Kerry, 13th September.

Dowitcher *Limnodromus griseus* or *scolopaceus*. Ten records in the period compared with a previous total of 13 (17 birds), but 'All . . . must now be considered as Dowitcher sp. only'. In 1966, Kilcoole, Co. Wicklow, 25th or 29th September to 8th October; Tacumshane Lake, Co. Wexford, 2nd October; and Ballymona, Co. Cork, 8th and 9th October. In 1967, near Drumlosh, Co. Roscommon, 3rd and 4th October; and Cape Clear, Co. Cork, 4th October. In 1968, Akeragh Lough, Co. Kerry, 7th October; Ballycotton, Co. Cork, 13th October to 1st November; and North Slob, Co. Wexford, 2nd November. In 1969, Swords estuary, Co. Dublin, 3rd October to 7th December; and Ballymona, Co. Cork, 9th to 15th November.

Great Snipe *Gallinago media*. Benderg Bay, Ballyhorgan, Co. Down, 11th December 1967.

Upland Sandpiper *Bartramia longicauda*. Hook Head, Co. Wexford, 10th and 11th October 1967.

Solitary Sandpiper *Tringa solitaria*. Akeragh Lough, Co. Kerry, 21st and 22nd September 1968: the first Irish record.

Greater Yellowlegs *Tringa melanoleuca*. Ballycotton, Co. Cork, 23rd and 24th August 1968.

Lesser Yellowlegs *Tringa flavipes*. Ten records (eleven birds) in the period compared with a previous total of only eight. In 1966, Lady's Island Lake, Co. Wexford, 2nd to 12th November. In 1967, Shanagarry, Co. Cork, 17th September; and Clonakilty, Co. Cork, 18th October. In 1968, Rogerstown estuary, Co. Dublin, 21st to at least 27th July; Akeragh Lough, Co. Kerry, 27th and 28th August; two, North Slob, Co. Wexford, 9th September; and Kilcoole, Co. Wicklow, 6th and 13th October. In 1969, adult with traces of summer plumage, Akeragh Lough, Co. Kerry, 30th August to 8th September; Lissagriffin Lake, Co. Cork, 26th September to at least 19th October; and Tivoli, Co. Cork, 21st to at least 27th December.

Least Sandpiper *Calidris minutilla*. Clonakilty Bay, Co. Cork, 13th September 1966; Inchydoney, near Clonakilty, Co. Cork, 9th and 11th September 1967: the third and fourth Irish records.

Baird's Sandpiper *Calidris bairdii*. Five records in two of the four years compared with only one previously. In 1966, Ballymona Lough, Co. Cork, 24th September; Akeragh Lough, Co. Kerry, 26th September and another, 4th to 16th October. In 1968, Ballycotton, Co. Cork, 31st August and 1st September, and another, 7th and 8th September.

White-rumped Sandpiper *Calidris fuscicollis*. Fourteen records (15 birds) in the period exactly equalled the previous total. In 1966, Akeragh Lough, Co. Kerry, 8th September; Cape Clear, Co. Cork, 8th and 9th September; Ballyheigue, Co. Kerry, 27th September; Tivoli, Co. Cork, 28th and 29th September; Shanagarry, Co. Cork, 1st and 9th October; Ballymona, Co. Cork, 9th October; and Akeragh Lough, Co. Kerry, 29th October to 2nd November. In 1967, Kinnegar, Holywood, Co. Down, 12th and 13th September; and Cape Clear, Co. Cork, 4th October. In 1968, Ballycotton, Co. Cork, 11th to 18th August, and another, 31st August; and Akeragh Lough, Co. Kerry, 10th November. In 1969, two near Shannon Airport, Co. Clare, 30th August; and Rosscarbery, Co. Cork, 10th September.

Pectoral Sandpiper *Calidris melanotos*. A total of at least 43 in the period. In 1966, ten or eleven, 11th August to 8th October. In 1967, at least 13, 17th September to 10th October. In 1968, at least twelve, 8th July to 1st November. In 1969, eight, 28th June to 1st November.

Semipalmated Sandpiper *Calidris pusilla*. Four records involving six birds, these being the first Irish. In 1966, Akeragh Lough, Co. Kerry, 10th September; and Ballymona, Co. Cork, 16th October; the latter description includes an impression, as interesting as the technique used was unusual (allowing the bird to walk through a pool of beer on a bar counter!), of the pattern of webbing between the toes. In 1968, Lissagriffin Lake, Co. Cork, 27th August to 1st September; and one to three, Akeragh Lough, Co. Kerry, 4th to 12th October. In 1969, immature, Akeragh Lough, 26th and 27th August.

Buff-breasted Sandpiper *Tryngites subruficollis*. Eleven records involving at least 17 birds in three of the four years, all 24th August to 5th October, compared with a previous total of eleven records and 13 birds. In 1966, Annagh, Co. Mayo, 9th to 15th September; Lady's Island Lake, Co. Wexford, 24th September to at least 5th October, joined by a second from 1st October, both trapped; two, North Bull, Co. Dublin, 25th September to at least 2nd October; and Kilcoole, Co. Wicklow, 1st October 1966. In 1967, Cape Clear, Co. Cork, 16th to 24th September; and Lough Beg, Co. Derry, 8th October. In 1968, Ballycotton, Co. Cork, 24th August, and also 8th to 21st September, with two on 13th; North Bull, Co. Dublin, 8th September, four on 11th and 12th, and at least three to 29th; and Lissagriffin Lake, Co. Cork, 16th September, and another, 5th October. None in 1969.

Stilt Sandpiper *Micropalama bimantopus*. Akeragh Lough, Co. Kerry, 6th and 7th October 1968: the first Irish record.

Wilson's Phalarope *Phalaropus tricolor*. Only two previous records, but now five (six birds) in three of the four years. In 1967, two, Akeragh Lough, Co. Kerry, 9th September, at least one remaining to 12th; and Ballycotton, Co. Cork, 10th and 11th September. In 1968, Ballycotton, Co. Cork, 2nd and 3rd September. In 1969, Lady's Island Lake, Co. Wexford, 31st August; and Kinnegar, Co. Down, 22nd September.

Long-tailed Skua *Stercorarius longicaudus*. River Lagan, Belfast, 22nd August 1967. Adult, off Rathmullan, Lough Swilly, Co. Donegal, 10th August 1968. Ballycotton, Co. Cork, 24th May 1969.

Ivory Gull *Pagophila eburnea*. Ballycotton, Co. Cork, 16th October 1969.

Mediterranean Gull *Larus melanocephalus*. Adult, Cape Clear, Co. Cork, 29th September 1967. Adult, Cork Harbour, 21st December 1969.

Laughing Gull *Larus atricilla*. One-year-old, Tivoli, Co. Cork, 12th August 1968: the first Irish record.

Sabine's Gull *Larus sabini*. Variable numbers, mostly in Cos. Cork and Kerry. In 1966, three, Cos. Cork and Wexford, 22nd August to 14th September. In 1967, 21 or 22, Cos. Cork, Kerry and Donegal, 6th August to 4th November. In 1968,

seven, Cos. Cork and Kerry, 11th August to 8th October. In 1969, six, Cos. Kerry and Galway, 23rd September to 16th November.

Ross's Gull *Rhodostethia rosea*. Adult winter, Cape Clear, Co. Cork, 3rd September 1967: the first Irish record.

White-winged Black Tern *Chlidonias leucopterus*. Six records in the period, all August to October. In 1967, first-winter, Kinnegar, Holywood, Co. Down, 7th to 19th October. In 1968, immature, Ballycotton, Co. Cork, 10th to at least 24th August; and Akeragh Lough, Co. Kerry, on 22nd and 23rd September, joined by a second on 24th and 25th. In 1969, adult, Blennerville, Co. Kerry, 13th and 14th September; and immature, Fermoy Point, Brendon Bay, Co. Kerry, 20th September.

Whiskered Tern *Chlidonias hybrida*. Adult summer, Shanagarry, Co. Cork, 18th and 19th May 1968: the third Irish record.

Gull-billed Tern *Gelochelidon nilotica*. Ballyconneely Bay, Co. Galway, 1st July 1969: the second Irish record.

Snowy Owl *Nyctea scandiaca*. Near Ballygar, Co. Roscommon, 10th November 1968: only the second Irish record since 1950.

Yellow-billed Cuckoo *Coccyzus americanus*. One, dead about a week, Cape Clear, Co. Cork, 13th October 1969.

Little Swift *Apus affinis*. Cape Clear, Co. Cork, 12th June 1967: the first Irish record.

Alpine Swift *Apus melba*. Cape Clear, Co. Cork, 21st April 1968.

Short-toed Lark *Calandrella cinerea*. Increasingly less frequently reported since 1960, possibly due to less systematic observations at Great Saltee. The only record in the period was at Cape Clear, Co. Cork, on 10th October 1967.

Bearded Tit *Panurus biarmicus*. A pair, Co. Louth, 3rd January 1966: the first Irish record.

Olive-backed Thrush *Catbarus ustulatus*. Cape Clear, Co. Cork, 14th and 16th October 1968: the second Irish record.

Nightingale *Luscinia megarhynchos*. Only one record in the period: Cape Clear, Co. Cork, 16th and 20th April 1968, trapped on latter date.

Rufous Bush Chat *Cercotrichas galactotes*. Cape Clear, Co. Cork, 20th April 1968: the third Irish record.

Cetti's Warbler *Cettia cetti*. Cape Clear, Co. Cork, 24th August 1968: the first Irish record.

Blyth's Reed Warbler *Acrocephalus dumetorum*. Cape Clear, Co. Cork, 13th to 19th October 1969: the first Irish record.

Melodious Warbler *Hippolais polyglotta*. At least 18 in the period, 7th August to 5th October, all on Cape Clear, Co. Cork, except two at Hook Head, Co. Wexford, in 1967.

Icterine Warbler *Hippolais icterina*. At least 17 in the period, one 8th June and the rest 7th August to 26th October, all on Cape Clear, Co. Cork, except two at Hook Head, Co. Wexford, in 1967 and one at Ballycotton, Co. Cork, in 1969.

Subalpine Warbler *Sylvia cantillans*. Adult male, trapped, Copeland Island, Co. Down, 28th May 1967: the fifth Irish record.

Dartford Warbler *Sylvia undata*. Cape Clear, Co. Cork, 27th and 28th October 1968: the second Irish record, the first having been in 1912.

Fan-tailed Warbler *Cisticola juncidis*. Cape Clear, Co. Cork, 23rd April 1962: the first Irish record, only now finally accepted.

Greenish Warbler *Phylloscopus trochiloides*. With only nine previous records, a total of at least ten in the four years is striking. There were singles on Cape Clear, Co.

Cork, in October 1967 and 1969, but the other eight were all in 1968, including five on Cape Clear between 1st and 28th October, one there on 5th December and two at Lissagriffin, Co. Cork, on 29th December. The December records are interesting as there have been two previous cases of wintering in Britain, in Middlesex in 1960/61 and in the Isles of Scilly in 1964/65.

Bonelli's Warbler *Phylloscopus bonelli*. Cape Clear, Co. Cork, 28th August 1968, and another, trapped, 6th October: the third and fourth Irish records.

Arctic Warbler *Phylloscopus borealis*. Cape Clear, Co. Cork, 8th to 10th September 1968: the third Irish record.

Yellow-browed Warbler *Phylloscopus inornatus*. A total of 18 (three in 1966, ten in 1967, three in 1968 and two in 1969), 5th October to 5th November, all on Cape Clear, Co. Cork, except one at Ballycotton, Co. Cork, in 1969.

Pallas's Warbler *Phylloscopus proregulus*. Cape Clear, Co. Cork, 23rd October 1968: the first Irish record. This was the most westerly of the astonishing series of reports of this species in Europe at that time. Unusual weather conditions from Asia across central Europe, giving an extended period of easterly winds, are thought to have caused the fall.

Richard's Pipit *Anthus novaeseelandiae*. Seen singly, Cape Clear, Co. Cork, 24th and 26th September and 4th October 1966; 2nd and 4th October 1967; and 13th September 1968.

Tawny Pipit *Anthus campestris*. Immature, Cape Clear, Co. Cork, 4th September 1966. Ballycotton, Co. Cork, 20th September 1968. Immature, Cape Clear, 5th October 1969, and adult, 10th October.

Great Grey Shrike *Lanius excubitor*. Only two reports in the period, both March: one, dying, Ahoghill, Co. Antrim, 20th March 1967, and the other, Swords estuary, Co. Dublin, 12th March 1968.

Woodchat Shrike *Lanius senator*. Only three records in the period, all adults on Cape Clear, Co. Cork: 23rd to 28th June 1968, 24th May 1969, and 8th to 11th October 1969.

Rose-coloured Starling *Sturnus roseus*. Adult, Mullet, Co. Mayo, 16th July 1967.

Red-eyed Vireo *Vireo olivaceus*. Cape Clear, Co. Cork, 6th and 7th October 1967: the second Irish record.

American Redstart *Setophaga ruticilla*. Male, Cape Clear, Co. Cork, 13th and 14th October 1968: the first Irish record.

Hawfinch *Coccothraustes coccothraustes*. Only two reports in the period: near Manor Kilbride, Co. Wicklow, 14th December 1966 and subsequently; and Cape Clear, Co. Cork, 9th October 1969.

White-throated Sparrow *Zonotrichia albicollis*. Cape Clear, Co. Cork, 3rd April 1967: the first Irish record, published with an indication of the intensity of the investigations undertaken to eliminate the escape possibility.

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Further notes on the 'portlandica' plumage phase of terns

P. J. Grant, R. E. Scott and D. I. M. Wallace

INTRODUCTION

A previous paper (Scott and Grant 1969) discussed the plumages of the Common Tern *Sterna hirundo* and the Roseate Tern *S. dougallii* that are equivalent to the so-called 'portlandica' phase of the Arctic Tern *S. paradisaea*. Field differences between Common and Arctic Terns in this plumage were described and sketches of two different 'portlandica' Common Terns were included (plate 23a). The possible causes of this plumage were discussed, but no definite conclusions could be drawn because of lack of relevant data. The present paper discusses the results of further investigations; in brief, these show that a 'portlandica' type of plumage also occurs not only in some other species of *Sterna* but in at least one of the marsh terns *Chlidonias*. More important, this plumage phase is probably the normal dress of these terns during their period of immaturity and is thus broadly comparable with the well-known immature plumages of gulls (*Larinae*).

FIELD OBSERVATIONS

Regular weekly observations by D.I.M.W. of a population of mainly Palearctic terns at the mouth of the lagoon system at Lagos, Nigeria, from November 1968 to December 1970, revealed the presence throughout the year of many birds in juvenile, first-autumn or 'portlandica' plumage. They comprised the great majority of the Common and Arctic Terns, Royal Terns *S. maxima* and Black Terns *C. niger*, most of the Sandwich Terns *S. sandvicensis*, much smaller proportions of the Roseate Terns and South African Damara Terns *S. balaenura*, and

Table 1. Proportions in non-adult plumages of six common species of tern at Lagos, Nigeria, between November 1968 and April 1970

Species	Bird/days giving data	Percentage showing juvenile, first-autumn or 'portlandica' plumage, and comments on these
Black Tern <i>Cblidonias niger</i>	c. 23,500	94% Astonishingly variable, most with trace of 'portlandica' plumage and many showing bleaching of secondary coverts
Common Tern <i>Sterna hirundo</i>	570	90% Very variable; detailed observations from November 1969 showed that 50% of all birds were in 'portlandica' plumage
Arctic Tern <i>S. paradisaea</i>	153	85% Variable; from November 1969 23% of all birds were in 'portlandica' plumage
Roseate Tern <i>S. dougallii</i>	473	17% Mostly in mid-winter among flocks of adult terns; no obvious 'portlandica' types seen
Sandwich Tern <i>S. sandvicensis</i>	1,654	60% Somewhat variable, but no striking 'portlandica' types seen
Royal Tern <i>S. maxima</i>	577	80% Somewhat variable; only a few 'portlandica' types seen

possibly some of the Little Terns *S. albigrons* and White-winged Black Terns *C. leucopterus*. Overall, about 90% were in non-adult plumages, and during the northern summer this proportion rose to 99%. The age structure varied greatly from one species to another, and data for six common ones over the period from November 1968 to April 1970 are given in table 1.

Haverschmidt (1957) described a 'great flock' of summering Nearctic terns near Coronie, Surinam (Dutch Guiana), on 22nd July 1953. These included Royal, Sandwich, Common and Little Terns: 'none of them were in breeding dress'. One Common Tern which he shot there that day had been ringed as a juvenile in Massachusetts, U.S.A., on 28th June 1951 and was therefore in its second summer. He described it as having a wholly black bill and its plumage as 'similar to that depicted . . . on plate 129 (Witherby et al. 1941) as 1st winter female', thus resembling the 'portlandica' type of plumage. A total of four other Common Terns taken at the same locality on 28th June 1951, 18th June 1954 and 30th July 1954 were in similar plumage. Two Common Terns retrapped in their second summer at Dungeness, Kent, in 1969, however, were both in apparently normal adult plumage and a 'portlandica' plumage at this age is therefore not a consistent character.

DISCUSSION

The observations of D.I.M.W. and Haverschmidt clearly show that the 'portlandica' type of plumage can no longer be regarded as in any way abnormal or rare, as was first suggested by records at Dungeness.

Also, it seems possible that terns other than those species mentioned above have equivalent '*portlandica*' plumage phases, but these have yet to be described. More important, these observations give strong support to the suggestions in previous literature (summarised in Scott and Grant 1969) that '*portlandica*' is simply the normal dress of terns during their period of immaturity. During this time, the birds involved normally remain in the wintering areas (for example, Nigeria) throughout the year, and do not return with the adults to the northern breeding-grounds in the summer, hence their rarity in the latter (for example, Britain). If this is the case, as now seems most likely, it is perhaps rather surprising that this important fact about the life-cycle of terns has not been more widely known in the past, although this is clearly a result of the lack of sustained field-studies in the countries in which they winter.

Ringed data confirm that the majority of terns remain in their winter quarters during their first summer. Up to the end of 1969 at least, there were no recoveries in Britain of British-ringed Common Terns in their first summer. There were, however, eleven recoveries in African countries during June of their first summer, three in July and two in August. One ringed as a nestling in 1964 was recovered in Portugal in November 1965, indicating that at least some move further north in their first year (J. N. Dymond *in litt.*). Austin (1938, 1942) and Austin and Austin (1956) showed that the vast majority of Common Terns in the Cape Cod tern colonies in Massachusetts were in their *third* summer or older. It is presumably during the earlier years of immaturity that the '*portlandica*' plumage is worn.

The striking '*portlandica*' type of plumage, characterised by marked variegation of the upper-parts, particularly the wings, is commonly worn by immature Common, Arctic and Black Terns at Lagos. Its extreme variability was referred to by Scott and Grant (1969) and confirmed by D.I.M.W. in Nigeria. The variations are apparently due to the differing extent of feather renewal before the moult is arrested, which is possibly directly affected by the bird's age; some *second*-summer birds retain a '*portlandica*' plumage, while others acquire the fully adult dress. Even now, D.I.M.W. is not fully certain as to the real cause in all species, but critical observations in autumn 1970 showed clearly that variegated '*portlandica*' plumage was less a product of moult, at least in any complete sense, than a result of colour loss in old and worn feathers. The greatest variegation of plumage was exhibited by the Common and Black Terns, in which there is a marked contrast between light and dark areas in the fresh juvenile dress. Variegation was much less marked in the Arctic Terns, not because bleaching does not occur but because the juvenile plumage of this species is itself of a less contrasting pattern. In all species the feathers most liable to bleaching are the secondary coverts; colour loss in this area also occurs

frequently in immature gulls, at Lagos notably in Lesser Black-backed Gulls *Larus fuscus* and Little Gulls *L. minutus*.

Terns of at least two genera, therefore, show a similar plumage development to gulls of at least one genus, and both groups can also exhibit 'false' plumage patterns that do not stem exclusively from moult. 'Portlandica' is thus best regarded at the moment as a term for the highly variable immature plumages (or phases of such) of any terns. These are retained for an unknown period between juvenile (or first-autumn) and adult plumage. Later research may show whether it is possible to recognise in terns the annual progression of plumage so well documented for gulls. The term '*portlandica*' might then be relegated simply to describe the plumage of some individuals which show a particularly variegated pattern, thus freeing it of the complications still surrounding it.

ACKNOWLEDGEMENTS

Robert Spencer and the staff of the Ringing Office, British Trust for Ornithology, provided useful information and criticism during the compiling of this paper.

SUMMARY

Recent investigations and new evidence have shown that several species of *Sterna* terns and at least one of the marsh terns *Chlidonias* have plumage phases equivalent to the '*portlandica*' phase of the Arctic Tern *S. paradisaea*. It seems possible that other terns may have similar plumage phases, but these have yet to be described. This evidence also strongly suggests that '*portlandica*' plumages are in fact the *normal* dress of terns during their period of breeding immaturity, when the vast majority remain on or near the wintering grounds at least during their first summer. They are thus broadly comparable with the well-known immature plumages of gulls (Larinae), and it is suggested that future research may show that it is possible to recognise in terns the annual progression of plumage so well documented for gulls, although at present the extreme variability of the appearance in the field of these plumages within each species presents a confusing picture.

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Obituary

Edwin Cohen (1894-1970)

Edwin Cohen, who died on 28th July 1970 at the age of 76, was a modest man who preferred to do good by stealth and, in an age which tends more and more to accept people at their own valuation, he seldom had occasion to blush to find it fame. For many years he played an important but unobtrusive part in various ornithological societies, as a member of council (1946-60) and honorary treasurer (1962-67) of the Royal Society for the Protection of Birds, as treasurer (1957-70) of the British section of the International Council for Bird Preservation—'It was because of my name,' he said to me not long before he died, 'not because I was any good at the job'—and as honorary secretary (1947-52) and a member of council (1962-67) of the British Trust for Ornithology. Also, by a very generous covenant, it was he who first made it possible for the B.T.O. to appoint a full-time secretary. He was chairman of the ornithological section of the Hampshire Field Club and for some years editor of its annual bird report. He contributed to *British Birds* and other ornithological journals over many years; he wrote the B.T.O. pamphlet on *Nest-Boxes*; he wrote an account of the birds of the New Forest in *The New Forest* (1960) and in 1963 he published *The Birds of Hampshire and the Isle of Wight*, which he was in the process of revising for a new edition at the time of his death. Latterly he had been appointed a verderer of the New Forest with especial concern for amenity.

As those who saw the film 'Birds of a Hampshire Garden', made in his garden at Sway, could see for themselves, his gentleness and care for the birds to which he devoted so much time were exemplary. His first concern, always, was for their well-being, though he was far from being a sentimentalist: he was much too intelligent for that. He began ringing in the 1920's, and in the 1930's (when I first knew him) was always among the half-dozen ringers with the largest annual totals of birds ringed; of these, nestlings always constituted the majority. He had a regular circuit round the farms in Cheshire where he then lived in order to ring the broods of Swallows: some of the farmers were afraid that he might disturb the Swallows from the shippons with the result (they believed) that the cows would give blood in their milk; but his tactful and patient explanations always overcame their suspicions, and he was made welcome on his visits. It was characteristic of him that, when mist-nets were introduced, he gave them up after a brief experiment, for he thought that his hands were not deft enough to remove the birds without the risk of damage to their plumage, and so he contented himself with pull-traps, cage-

traps, Potters, Chardonnerets and other similar devices.

He had a passionate hatred of cruelty and because of the B.T.O.'s refusal to condemn the American 'water deprivation experiments' he decided to resign from the Trust to which he had contributed so much. His friends will remember how, if they were about to visit southern Europe or the Middle East, he would urge them to report any instances of cruelty to animals which came to their notice. His work for the I.C.B.P. was especially important to him: he attended all its conferences, whether European or international, visiting Africa and North America, and took a special interest in combatting the traffic in wild birds.

After leaving Rugby he went into his father's business of merchant shipping, and this led to visits to South America. These were interrupted by the 1914-18 war, in which he served (and rose to the rank of Captain) in the Royal Marines, first at Gallipoli and later in France where he was severely wounded. After the war he returned to work with his father, but his interests were always elsewhere, in the countryside. He delighted in fast cars, and between the wars learnt to fly his own light aircraft; when the 1939-45 war came he could not keep out of the services—'Uniform is the only proper dress when there is a war on,' he said—and for a time trained pilots on a Link trainer. When he was invalided out he joined James Fisher in the Rook Enquiry. He had moved to Hampshire from Cheshire at the beginning of the second war, and in the drives and woods about his house there he had a large number of nest-boxes, the fortunes of whose systematically colour-ringed inhabitants he recorded day by day. He delighted to see 'new' birds away from home, but his especial pleasure was always in the birds of his garden whom he could know as individuals.

He travelled widely in Europe, where he was helped by a good knowledge of several languages: he was a frequent visitor to Corsica and, more recently, had several times been in Greece and Cyprus. He was in Corfu again a few weeks before he died and wrote to say that he had seen several birds 'which aren't supposed to be here'. He was always ready to help with information about the birds of countries which he had visited, or to introduce one by letter to the local experts, and he properly expected others to share their knowledge likewise or to communicate it to those who might be preparing a local or national avifauna. He sincerely believed that the more men knew about birds the better it would be for the birds—that was the main point—but also he was too generous to have considered retaining for his own exclusive use information that came to his hands.

He was an excellent naturalist and a delightful companion on all occasions, whether in the field or at home, vivacious and witty, tolerant of opinions which he could not share, and with a stimulating independence of mind. Few of those who knew him realised that he had to contend with constant pain and discomfort from the wounds

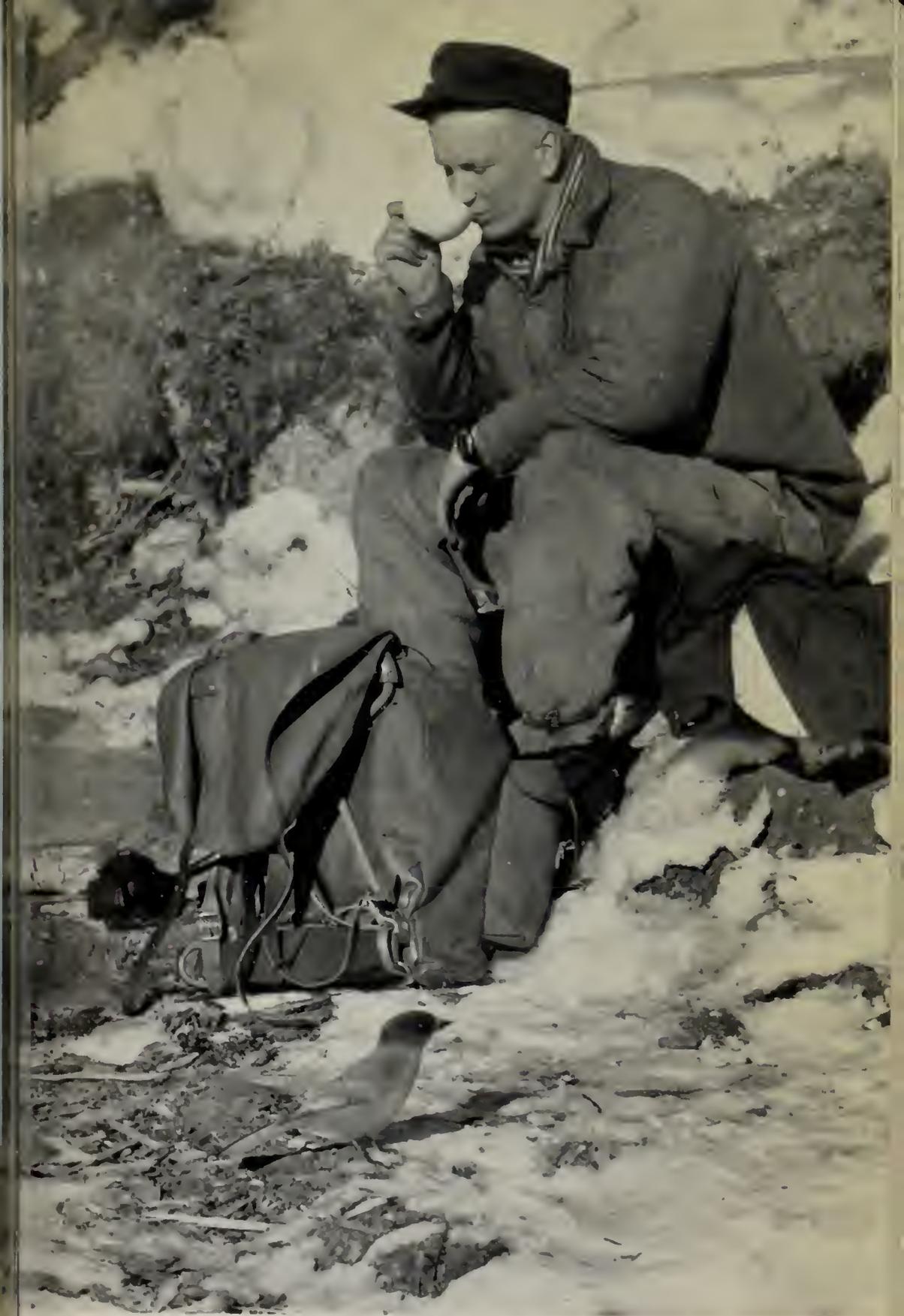


PLATE I. Siberian Jay *Perisoreus infaustus* looking for scraps by a lunch fire in Sweden. This species sometimes turns up at casual picnic sites, but individuals may become regular visitors, tame enough to take food from the hand, at places where foresters eat their lunches every day (pages 25-28) (photo: Arne Blomgren)



PLATE 2. Siberian Jay *Perisoreus infaustus* at nest in spruce, Sweden. Grey-brown with a darker head, it is inconspicuous until it flies and shows rusty primary-coverts, bases to the primaries, and rump, and brighter red outer tail-feathers otherwise mainly concealed by grey central ones (page 25) (photo: Arne Blomgren)

PLATE 3. Typical Swedish habitat in which there was a nest in the central spruce. Being sedentary in the northern pine and spruce forests, Siberian Jays often hold the same territory for life. Nests average about four metres above the ground in spruces, but may be as high as 13 metres in pines (page 27) (*photo: Arne Blomgren*)







PLATE 5. Incubating female Siberian Jay *Perisoreus infaustus* begging for food from male, Sweden. Though both sexes collect material, she alone builds the nest and covers the four rather Magpie-like eggs. She sits tightly for 19 days, being fed by the male and not moving even for human intruders or heavy snow (page 28)

PLATE 4. Two nests under construction, Sweden. They are quite bulky, about 20 cm diameter, and close to the main trunk. The framework is a loose cup of twigs taken off by the birds and made more solid by flakes of bark before being lined with beard lichen, reindeer hair and feathers (page 27) (photos: Arne Blomgren)



PLATES 6 and 7. Siberian Jays *Perisoreus infaustus* (two ringed) at three Swedish nests. Above, eating hatched shell and, below, pair feeding five-day young. For the first week the female broods and the male supplies most food—largely regurgitated insect larvae (note saliva threads, lower right) (photos: Arne Blomgren)







PLATE 8. Siberian Jay *Perisoreus infaustus* eating cheese put out as photographic bait, Finland, June 1970, again illustrating the readiness to take food provided by Man. The species nests in April and this bird is in post-nuptial moult, showing a mixture of old, new and half-grown feathers (photo: J. B. and S. Bottomley)

he received in the first war. (He never, of course, spoke about such things.) He was undaunted by anything except the prospect of becoming an invalid in old age: happily he was spared that and he remained active till the day of his death. It will never be possible to think of him as other than a young man, one of the enviable company of 'the gallant and the gay'.

E. J. M. BUXTON

Studies of less familiar birds

162 Siberian Jay

Arne Blomgren

Photographs by Arne Blomgren and J. B. and S. Bottomley

Plates 1-8

The Siberian Jay *Perisoreus infaustus* is a bird of the great belt of coniferous forest which stretches from Scandinavia east through northern Russia and right across Siberia. It breeds in Norway, Sweden and Finland from Lapland south roughly to 61°N (Lovenskiold 1947, Curry-Lindahl 1963, Merikallio 1958) with only occasional wanderings south of this line to the level of southern Norway, but in the Soviet Union it follows the more southerly spread of the conifers (Dementiev and Gladkov 1951-54). In European Russia it extends down to the region of Moscow and the southern Urals, and in Asia it breeds south to the Altai, northern Mongolia and probably north-east Manchuria, east to Anadyr, the Sea of Okhotsk, Sakhalin and Ussuriland (Vaurie 1959). In the north it nests up to the conifer limit and also occurs in areas of mountain birch *Betula tortuosa* where Ekmau (1944) said that it was not known to breed, though Blair (1936) found it 'nesting in both birch woods and pine forests' in the Syd Varanger. Most records from the birch are probably casual visitors from the conifers near-by. It is replaced in the mountains of China from central Sinkiang to northern Szechwan by the related Szechwan Grey Jay *P. internigrans* (Vaurie 1959), while a third species, the Canada Jay *P. canadensis*, occupies similar conifer habitats in North America from Alaska, Mackenzie and Labrador south to Oregon, Arizona, New Mexico, Minnesota and northern New York (Bent 1946).

In size, the Siberian Jay is rather smaller than the Jay *Garrulus glandarius*, a dusky, grey-brown bird with a darker head (clearly shown in these plates), generally blending well with the gloom of the forest and very difficult to pick out when at rest. The primary coverts and the bases of the primaries are more brightly coloured in rusty red, the

outer tail-feathers redder still and softened by the grey central pair. When it takes flight or spreads its tail there is a vivid flash of colour. Without luck, one may spend a lot of time in suitable forest and never catch so much as a glimpse of a Siberian Jay, but when eventually seen it makes off through the trees with a silent, gliding flight and shows no sign of fear. It will, in fact, often approach an intruder to perch and watch inquisitively from a few metres' distance before moving on quite unconcernedly in its search for food. Usually it is family parties which are met in this way. Their short flights can often be followed without disturbing the party, but it is also quite easy to lose touch with them in thick forest where they tend to disappear quickly.

Siberian Jays are markedly sedentary and, once paired, hold the same territory for life. In my 20 years' study of the species (Blomgren 1964) I have been able to prove this several times, and one ringed female was controlled for twelve years at all seasons in the same territory. The size of the territory is about $1\frac{1}{2}$ square kilometres, the same basic area tending to be slightly enlarged in autumn and winter. It is still not known how far the young birds move away from their parents' territory. The forest is the true home of the Siberian Jay, and it is rarely seen in more open country. It flies hurriedly through clearings but will at times hunt for insects in tussocks on marshy ground, though always close to the forest edge. In Scandinavia the territory normally includes several small areas of different species of conifer from pure Scots pine *Pinus sylvestris* to the dense dwarf Norway spruce *Picea abies* on wettish ground. In certain cases the habitat may be less varied in character, and when occupying sparse pines on open heath the birds are much easier to observe than in spruce forest.

At one time, forestry workers used regular daily lunch places out in the winter woods; Siberian Jays would visit these spots several times in a day to eat the scraps often left freely for them. In this way, individuals may become tame enough to take food from the hand, though this is far from common. Even casual visitors to the forest can meet the birds in similar circumstances round a lunch fire, but contact is more certain at an established place where food may be had every day. Food scraps are picked up quite without fear a metre away from a forester (plate 1) and anything not eaten on the spot is carried away and hidden in trees. There is less dependence on man in summer, when natural food in the form of insects is more easily available. In autumn and winter berries of several sorts, mainly bilberry *Vaccinium myrtillus* and cowberry *V. vitis-idaea*, are important. Occasionally eggs of small birds, snails, slugs, small rodents and other small animals are also eaten.

The commonest calls of the Siberian Jay are a loud scream and a mewling resembling that of a buzzard *Buteo sp.*, both notes which are very like those of the Jay, but various other sounds are also uttered. These are mostly quiet contact calls between the sexes, and when

feeding at the nest. Imitations of bird neighbours are often heard. In the main, though, Siberian Jays are rather silent and seldom attract attention by their calls. The song is also quiet, consisting of a series of varied notes, and the tendency to imitate other birds gives an air of improvisation. As the birds pair for life and pairs are widely separated in the forest, territorial disputes are rare. Song thus serves no purpose in holding territory and is primarily used to synchronise the breeding condition of the pair.

Like the Raven *Corvus corax* and the Crossbill *Loxia curvirostra*, the Siberian Jay is a very early breeder, and nest building begins in winter. Signs of display may be seen anywhere in the territory by February, but normally it first takes place in March in connection with building. The display is very active, the male making a series of excited hops, bows and turns in front of the female. The whole performance takes place in the canopy and ends with the male flying away with a peculiar swooping flight.

Nest building starts in earnest late in March, and so in the depth of winter. The nest may be in pine or spruce (plate 3), though the latter is the favourite site and, of the 55 nests I have found, 47 were in spruces and eight in pines. A pair may use both types of tree in different years. The height above ground varies with the tree selected, as high as 13 metres in pine but averaging about four metres in spruce. The framework of the nest is a loose cup of dry twigs, broken off trees by the birds. The interstices are partly filled with flakes of birch bark, and sometimes pine bark. The lining is of beard lichen, and finally feathers (plate 4a), some of which are collected and hidden in trees before building begins. Reindeer hair is also used if available. The lichen and feathers or hair combine to form the thick layer of insulation so necessary in view of the low temperatures experienced during the incubation period. The nest is about 20 cm in diameter, with some twigs projecting further, and in spite of its size is surprisingly well hidden in the branches and lichens. The time taken to build may vary considerably, but on average is about three weeks. Both sexes collect material, but only the female does the actual building work.

Four eggs are normally laid, in mid-April; clutches of three occur and, rarely, five. The eggs are rather similar in colour to those of Magpies *Pica pica*, but a little smaller. They are laid at intervals of 24 hours, covered from the first by the female and incubation proper beginning with the third.

The female sits very tightly from the start of incubation, and it is possible to climb up to the nest and stroke her back. Some will allow themselves to be lifted off the nest and replaced after the eggs have been counted. This close contact with an incubating bird must be one of the most surprising and charming experiences an ornithologist can have. Incubation is solely by the female and she is fed on or near t

the male (plate 5). The male is rather retiring at this, the quietest period of the yearly cycle, and when not searching for food he spends much of his time perching motionless in a tree. It may well snow during the incubation period, and I have known a heavy snowfall on the days the eggs were due to hatch. When I went to check, both female and nest were covered with snow, but in spite of this the eggs hatched successfully. The incubation period is 19 days, but the female must cover the delicate, naked young for a long time after hatching. The male provides almost all of the food for the first week, the female taking an increasing share of the work as the young become feathered. Towards the end of the fledging period the young are not covered at all, even at night, since the May temperatures are much more favourable, even in the arctic spruce forests.

The young are fed mainly on insect larvae collected and stored in the throat pouch by the adults during hour-long forays within the territory; the food is brought up at the nest in a semi-digested state (plate 7b). The young stay in the nest for 21-24 days and leave its immediate vicinity a few days later. The adults continue to feed them, and they remain as a family through the summer, autumn and winter. In late winter many young move to new areas, but some may stay in the family territory far into the following breeding season. The adults tolerate their presence there, but drive them away from the nest site itself. They eventually disappear, but nothing is known of how far they move away.

In the autumn, Siberian Jays are busy collecting and storing food for the winter. This consists largely of berries which are hidden behind loose bark and in the hanging fronds of beard lichen in the trees. These small food-hoards are well scattered throughout the territory, and this behaviour is undoubtedly the reason for the birds' sedentary habits.

In conclusion, I am grateful to Henry Bunce for translating this text from my Swedish.

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Notes

Male Pheasant accompanying female and brood On 8th June 1970, on the Airthrey Estate (University of Stirling), I came upon a pair of Pheasants *Phasianus colchicus* with small young. As I approached, the chicks hid, while the cock ran directly towards me from about ten feet, as if to attack, but veered off with wings drooped in a conspicuous distraction display. Failing to lead me away, he edged back several times, standing with drooping wings and repeating the display (particularly if I stepped towards him) while persistently calling. The female, who had followed two chicks that had been flushed, gave a similar display when approached.

The male's behaviour suggested that he was actively tending the chicks and not merely present by chance.

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Derek Goodwin comments: 'It is certainly not usual for male Pheasants to tend chicks but, in view of the number of species of phasianids in which the males do care for their young, an occasional aberration or "throw-back" on these lines seems not very surprising. It is not, however, certain that the behaviour described proves that this male Pheasant was caring for the chicks in any other way. Nest-site selection and apparent paternal defence seem the last two items from the parental repertoire to be retained when, in the course of evolution, the males of a species have lost or are losing parental responses. Both are seen in the Domestic Cock *Gallus gallus*. In the Golden Pheasant *Chrysolophus pictus*, in my limited experience, only the defensive behaviour is evident (similar to that described above if the bird is not very tame, but including attack on the human intruder in tame individuals). Dr K. Lorenz, in "Der Kumpan in der Umwelt des Vogels" (*J. Orn.*, 83: 137-213, 289-413), wrote that in some male gallinaceous birds defence is often the only paternal response shown. As both male Golden Pheasants and Domestic Cocks often rush up in the same manner if one picks up an adult female and she cries in fear, it occurs to me that in a natural state this behaviour *might* function with reference to the female rather than to chicks. There seems little evidence to suggest that in a wild state the male is likely to be near enough to the chicks to help them in an emergency, though not much is known about the behaviour of such species in the wild. In Britain the deliberately-contrived excess of females in most Pheasant populations may possibly affect behaviour patterns.' EDS

Grey Phalarope on autumn passage plunging into waves On 17th September 1950 I visited Cheddar Reservoir, Somerset; a south-

westerly gale was blowing and it was raining heavily, making much of the surface water turbulent with white-crested waves everywhere. Two Grey Phalaropes *Phalaropus fulicarius* were present on the reservoir; one stayed in the more sheltered parts while the other sought the roughest water which was rich in edible matter. Apparently to avoid the waves breaking over it, the latter was making short flights just above the wave crests and alighting beyond them, or, with head and neck outstretched, it would plunge through the oncoming wave and reappear seconds later. During about an hour and a half I saw the phalarope dive some 30 times in this way. Sometimes it joined its companion in the quieter waters or squatted on a floating raft of vegetable material to preen. Then, on returning to the rough water, it would begin the plunging behaviour again.

Although waders of most species will dive of necessity, or perhaps when many others are displaying or themselves plunging into water, purposeful diving by Grey and Red-necked Phalaropes *P. lobatus* is mentioned neither in *The Handbook* (vol 4, 1940) nor in *The Birds of the British Isles* by Dr D. A. Bannerman (vol 9, 1961). Nevertheless, during the last 25 years I have seen well over 200 Grey Phalaropes in autumn on the sea between Cornwall and the Isles of Scilly, and have occasionally seen a few momentarily dive on the near approach of the R.M.V. *Scillonian*; usually they fly a short distance or stay on the water apparently undisturbed.

BERNARD KING

Mayfield, 9 Uplands Road, Saltford, Bristol

Cannibalistic Great Black-backed Gull During 1969 I was puzzled by the appearance of several corpses of Great Black-backed Gulls *Larus marinus* in the immediate vicinity of the North Pond on Skomer Island, Pembrokeshire. In March I found the remains of seven—two first-winter, three second-winter and two third-winter—all of which had been eaten until little was left but the skeleton and wings. In May I caught another immature hiding in the waterside vegetation; it had suffered severe head injuries and was blinded in both eyes. This bird was humanely destroyed, and I could only assume that the injuries were the result of a vicious fight with another Great Black-backed Gull. The other avian predators on Skomer, namely Buzzards *Buteo buteo*, Kestrels *Falco tinnunculus*, Ravens *Corvus corax* and the occasional Peregrine *F. peregrinus*, normally give these large and voracious gulls a wide berth.

On 14th April 1970 I found a dead adult, still very warm, with severe injuries to the head and eyes. On the pond some 40 yards away sat a large, heavy-beaked, adult male Great Black-back, its bill and face liberally splattered with blood, though there was no evidence that the corpse had been eaten. The gull on the pond was watching me closely, and I had gone not 100 yards when it flew over to the

dead bird and started to feed. Later I found that the corpse had been dismembered in the same way as those discovered in 1969; although there is no proof that they, too, were killed by one or more Great Black-backs, I believe this to have been the case because of the strikingly similar injuries and pattern of dismemberment.

Great Black-backed Gulls are common on Skomer, and the breeding population (some 120 pairs at present) has been subjected to various controls over the last eleven years to reduce predation on Manx Shearwaters *Puffinus puffinus* and Puffins *Fratercula arctica*. I am therefore familiar with all the nest sites in this part of the island; for the last three seasons no Great Black-backs have attempted to nest within 400 yards of the pond. For this reason, and also because all the 1969 victims were immatures, it seems highly improbable that fighting could have started in defence of a breeding territory, indicating that the bird or birds in question deliberately killed members of the same species for food. Several pairs use the pond as a feeding area, as indicated by the presence of dismembered Manx Shearwater corpses, and small numbers of juvenile Lesser Black-backed Gulls *L. fuscus* are also killed and eaten when abandoned by their parents at the end of the breeding season. There is no evidence, however, that the dead Great Black-backs were in a weakened condition before being killed; out of a total of nine, only two were in their first-winter, the time when high mortality usually takes place.

Although Great Black-backed Gulls have been recorded killing birds up to the size of an adult Shag *Phalacrocorax aristotelis* for food, and have no scruples about eating gull chicks, I do not know of another instance of the deliberate killing of an adult of the same species for food. Professor N. Tinbergen, in *The Herring Gull's World* (1953), described the occurrence of super-aggressive males among Herring Gulls *L. argentatus*. I have little doubt that all the corpses were the work of the same individual, with more than his fair share of the aggressive instinct.

PETER CORKHILL

Skomer Island, Marloes, Haverfordwest, Pembrokeshire

We showed this note to Professor Tinbergen, who commented that he had 'personally seen a Great Black-back attack and kill a perfectly healthy adult Sandwich Tern *Sterna sandvicensis*, and another rob a female Peregrine of a Teal *Anas crecca* she had just caught; the gull finished off the still very mobile Teal'. He agreed that the dead Great Black-back in 1970, and probably those in 1969 too, had evidently been killed by one or more individuals of the same species, but doubted very much whether feeding had been the primary motivation, certainly in the case of the 1970 adult which had 'most likely been a territorial intruder who was too inexperienced to avoid being injured. Once faced with an injured bird, the territory owner will probably have

been moved to switch to feeding—this would be entirely in line with what we know of the Great Black-back.’ EDs

Unusual ‘rain-bathing’ behaviour of an immature Black-headed Gull On 4th September 1955, at Litton Reservoir, Somerset, during a period of very hot sunny weather, I came across a Black-headed Gull *Larus ridibundus* whose plumage was in transition from juvenile to first-winter. I was particularly interested in the manner in which it bathed: standing on a large flat stone buttress, it allowed a strong spray of water issuing from a sluice about 15 feet above its head to fall directly on to its back. Finding it difficult to keep its balance, it then squatted with its breast pressed against the stonework, wings partially opened, neck and head fully stretched along the ground and legs spreadeagled on either side: thus in this prostrate position it received the water on its fully exposed upper-parts. Eventually I saw it fly to a grassy bank near-by where it stood and preened in the normal way. About ten minutes later the gull finally departed from the reservoir. Despite an extensive perusal of the literature, I have been unable to find any records of similar behaviour by gulls.

BERNARD KING

Mayfield, 9 Uplands Road, Saltford, Bristol

Black Terns feeding over dry land In view of the recent notes by Dr A. D. Brewer and Dr F. Goethe (*Brit. Birds*, 62: 282; 63: 34), the following may be of interest. On 5th September 1964 I saw two Black Terns *Chlidonias niger* making their way south across arid sandy semi-desert in Libya, 30 km south of the coast. During the few minutes they were in view, they frequently dipped in typical fashion to the ground, appearing to pick up insects in a way similar to Gull-billed Terns *Gelochelidon nilotica*. They continued south until lost from sight. To the north, there was no water nearer than the sea, and south of the area there was a wide expanse of dry semi-desert steppe, merging into the vast Libyan desert.

On 15th September 1969, near Zahara in southern Spain, I watched 20 Black Terns hawking over a ploughed field. On this occasion there was an abundance of ‘normal’ habitat (marshes and lagoons) in the vicinity, but they were still feeding over the field at 11.00 hours on the following day when I left the area.

GRAHAM BUNDY

c/o 111 Porchester Road, Woolston, Southampton

On 23rd August 1970 I observed 20 Black Terns feeding low over a field of lucerne three miles from the coast near Rosas, north-east Spain. They were flying some three feet above the lucerne, dipping momentarily down every so often to pick up what I considered to be insects from the crop. No other Black Terns were noted inland during a ten-day stay in this area, but migrant Black Terns were in evidence

on the coast, flying over the sea or feeding over lagoons at Rosas, La Escala and Estartit.

Dr A. D. Brewer and Dr F. Goethe have recently drawn attention to the feeding behaviour of Black Terns over corn, fallow and ploughed fields, taking mainly worms or insects; other recorded habitats have been grassland (R. Angles, *Brit. Birds*, 50: 538) and exposed estuarine mud-flats (M. J. Wotton, *Brit. Birds*, 43: 258-259). Perhaps this feeding behaviour over non-aquatic habitats is commoner than the records indicate.

J. D. R. VERNON

55 Wolfridge Ride, Alveston, Bristol

Pigeons and doves calling at night I was interested in the notes and editorial comments (*Brit. Birds*, 62: 76-77, 200) on Woodpigeons *Columba palumbus* and certain other doves occasionally calling at night. Derek Goodwin suggested (page 77) that such calling might be a result of some slight disturbance, but I do not think this is always so. I have found that the Cape Turtle Dove *Streptopelia capicola* frequently calls at night in Zambia; this species has a simple three-syllable note which I have heard repeated after dark up to about ten times, but usually less, though by day it may continue for longer than this. I have never heard more than one dove at a time. Calling occurs mainly on bright moonlit nights, but quite often when there is no moon at all, and at any time of the year. Sometimes the dove may well have been disturbed and induced to call by me or some other animal. On other occasions, however, when I have been lying awake in the open in the bush, I have been able to satisfy myself, by searching the area carefully for any bird, mammal or snake, that a calling dove had not apparently been disturbed.

Most of my recent observations have been made on the Kafue Flats in southern Zambia, where Cape Turtle Doves are numerous, roosting in small groups in tall trees. Five other species of dove are commonly found in the same area—Laughing Dove *S. senegalensis*, African Mourning Dove *S. decipiens*, Red-eyed Turtle Dove *S. semitorquata*, Namaqua Dove *Oena capensis* and Emerald-spotted Wood Dove *Turtur chalcospilos*—but the last is the only other I have heard call at night, and that on just one occasion in bright moonlight. I cannot explain why only a single Cape Turtle Dove should call at any one time, or why none of these other species calls at night. I consider, however, that not all nocturnal calling of pigeons and doves is prompted by disturbance.

R. J. DOWSETT

Game Department, P.O. Box 12, Monze, Zambia

Dr C. H. Fry comments that the Vinaceous Dove *S. vinacea* commonly calls at night in West Africa; his own observations on this species closely resemble Mr Dowsett's on the Cape Turtle Dove except that

he has noted several calling simultaneously. Apart from the above note, which merits publication in full, we have received four others on this topic, all concerning Woodpigeons. These were from Wiltshire, the Northamptonshire/Buckinghamshire border, Suffolk and north-west Denmark. On the evidence of these and previous notes already published, nocturnal cooing by Woodpigeons may occur at any time of night and in any month, but most commonly in fairly mild, calm weather in March and April. In nearly all cases the sky was clear and the moon full or nearly so, but cooing was occasionally heard on dark nights and once in Co. Mayo in December fog (*Brit. Birds*, 62: 200). 'There were eight observations of single birds, four of two and a few of 'several' or 'several pairs'. Unfortunately there is insufficient evidence to deduce the extent to which disturbance prompts nocturnal calling. Correspondence on this subject is now closed. EDs

Barn Owl pellets from Co. Galway On 26th August 1970 we collected some 490 grams (dry weight) of pellets, and pellet fragments, of Barn Owls *Tyto alba* from a ruined castle some two miles from the city of Galway, by the River Corrib. There were at least four owls roosting at this site and possibly more. The bones and feathers of a further individual were found with the pellets. On analysis the latter proved to contain the remains of 259 Wood Mice *Apodemus sylvaticus*, 26 House Mice *Mus musculus*, 14 Brown Rats *Rattus norvegicus*, 20 Pygmy Shrews *Sorex minutus* and a small bird. The country around the roost is largely agricultural, consisting of small fields bounded by rough hedges and dry stone walls, but including a few small areas of woodland. There were several houses in the vicinity. As such terrain would be suitable for all the mammals taken, the results deserve no further comment.

A specimen of the scaraboid beetle *Trox scaber*, and a single elytron of a second, were taken with the pellets. This insect is not unusually found in association with owl roosts. It has been recorded only once before in Ireland, by Johnson and Halbert (*Proc. Royal Irish Acad.*, 22: 535-827).

J. S. FAIRLEY and F. L. CLARK

Department of Zoology, University College, Galway, Eire

Reed Warbler singing in mist-net At 08.10 on 1st June 1970 I paid a routine visit to a mist-net erected at the edge of a clump of willows near Tring, Hertfordshire. Beyond the net was a reed-bed in which I could hear several Reed Warblers *Acrocephalus scirpaceus* singing. One song seemed much nearer, however, and I soon realised that it came from one of two Reed Warblers in the net. The singer was suspended at the reed-bed end, about five feet above shallow water, its body inclined downwards at an angle of 30 or 40 degrees to the horizontal. I watched it through binoculars for perhaps a minute, during which

time it struggled intermittently, but continued to sing. Nearer to me, at the landward end of the net, the second Reed Warbler (which was at a similar height) remained silent. The song stopped when I approached the net.

It is not uncommon for ringers to record birds singing in the hand or in a bird-bag; this is generally considered to be a form of displacement activity. Such an explanation might account for this episode, but as I watched I formed a different impression. I found that only the singer was already ringed and that from cloacal examination both were males. Since the colony has been studied intensively for over three years, nearly all the breeding birds are thought to be ringed, and unringed birds are generally new arrivals. Thus I incline to the view that these two Reed Warblers had been so preoccupied with a territorial chase that they had failed to see the net, and that the singing (ringed) bird was continuing to defend his territory from the net. If this explanation is correct, the drive to defend a territory was apparently greater than the urge to escape.

ROBERT SPENCER

British Trust for Ornithology, Beech Grove, Tring, Hertfordshire

Dr C. H. Fry commented: 'I would be happier with the interpretation that the singing drive was embarked upon before the bird netted itself and that the drive was so strong that the trauma of capture was insufficient to terminate it prematurely or lower it below its threshold.' Derek Goodwin pointed out that, as the Reed Warbler struggled intermittently, it is obvious that the urge to escape was not entirely inhibited: 'Inability to indulge in any other outlet for appropriate or alternative behaviour seems to be one of the chief factors eliciting song. A *mild* degree of disquiet is apparently another. In this case both of these could have operated as well as, or instead of, the hypothesised territorial defence.' Dr K. E. L. Simmons doubted whether song was ever performed as a 'displacement activity' and added that, as escape was impossible, there was no proof that the drive to defend the territory was stronger than the urge to escape. EDs

Siskins feeding from nut bags With reference to the note by B. Harrup, and the appended editorial comment, on Siskins *Carduelis spinus* at nut bags (*Brit. Birds*, 63: 344-345), I can elaborate on the notes that I sent to the Cambridge Bird Club. The first three Siskins arrived in my garden, in the centre of Cambridge, on 28th March 1970, after a snow shower the previous evening; on that day I watched a female feeding from the nut bag along with Greenfinches *C. chloris*. Subsequently at least five Siskins were present in the vicinity, birds of both sexes frequently feeding from the bag, and the last was seen on 18th April.

PETER BROWN

Stepaside, Clun, Craven Arms, Shropshire

In the winter of 1968/69 up to three Siskins took peanuts from mesh bags hung about six feet from my house in Woking, Surrey; they were sometimes chased off by Greenfinches which also fed on the nuts. The Siskins stayed until the end of March 1969; I took several photographs of them feeding on the peanuts.

R. M. BALLARD

22 Monument Road, Woking, Surrey

On 5th April 1970 my friend George Baker informed me that a pair of Siskins was feeding on peanuts hanging in a plastic bag in his garden at Southwold, Suffolk. Since I had failed to find the species anywhere in the neighbourhood, I bought a bag of nuts to hang in my garden on the following day. Within three hours a pair of Siskins was visiting this bag. Mr Baker and I confirmed by telephone that it was not the same pair (we live about a mile apart). Both pairs remained until 8th April.

DOUGLAS VAUGHAN

2 Manor Park Road, Southwold, Suffolk

On 24th March 1970 I was invited to see a male Siskin taking peanuts from a plastic mesh bag in a garden at Woodstock, Oxfordshire. A male, presumably this bird, fed there regularly on the peanuts from 12th to 27th March. The dates of this and other records suggest that Siskins may be taking advantage of this new food supply at a time of the year when natural foods are scarce.

J. W. BRUCKER

65 Yarnton Road, Kidlington, Oxfordshire

Despite our earlier statement closing correspondence on garden birds feeding from nut bags, we feel that these further notes on Siskins are of sufficient interest to merit publication. It should be added that March and the first half of April 1970 were unusually cold with frequent snow (see, for example, the introductions to 'Recent reports', *Brit. Birds*, 63: 96, 142). EDS

Reviews

Die Schneehühner. By E. O. Höhn. 84 pages. DM 7.50.

Der Eichelhäher. By András Keve. 128 pages. DM 10.00.

Raben- und Nebelkrähe. By Manfred Melde. 110 pages. DM 8.20.

Strandläufer Eurasiens. By S. M. Uspenski. 78 pages. DM 6.40.

Numbers 408, 410, 414 and 420 in the series Die Neue Brehm-Bucherei, A. Ziemsen Verlag, Wittenberg Lutherstadt, East Germany, 1969. All with photographs, text-figures and maps.

Dozens of small books in this series have appeared since the first was published in 1953, and they continue to appear. Number 408 deals

with the Willow Grouse and Ptarmigan, number 410 with the Jay, number 414 with the Carrion and Hooded Crows and number 420 with Palearctic sandpipers. They are not monographs of 'New Naturalist' scope, but somewhere between this and a species or genus section from a very full and detailed handbook. The editors have evidently tried to ensure that all aspects of the biology of the species or group concerned should be covered, but the result is that many topics are touched on with a dry, factual treatment and others, in which the author is especially interested, are developed at greater length. The many black-and-white photographs are mainly of good quality. The whole series would form a useful reference library covering much of the European avifauna, but single volumes are likely to appeal only to those particularly concerned with the species covered. Of the four under review, numbers 410 and 414 include quite extensive bibliographies of eight pages each, that in number 408 is shorter, and in number 420 only 31 references are cited, of which 16 are taken from the Russian literature.

German ornithologists must have a greater appetite for hard, sometimes perhaps nearly indigestible, facts than their British counterparts. I doubt if a series like this in English would sell enough to survive economically. This is not meant to imply criticism of either nation—the national difference is well-known—but perhaps one could justifiably expect more interpretation than is provided in some of these volumes. Thus most of the volume on the sandpipers consists of species accounts under conventional headings (distribution, habitat, food, and so on); only about ten pages of text are devoted to a general discussion of the group and the relations between the species. Subspecies, even those admitted to be barely recognisable, are dealt with in the volumes on the Jay and crows at a length which seems out of proportion to their general interest. The wide coverage of the literature is useful, but there is a tendency simply to quote a previous author without comment and without integrating what is quoted into the body of the work; and mistakes can creep in when the data of others are repeated without the safeguard of personal familiarity. Thus the figure of a female Jay inviting coition, taken from page 416 of Derek Goodwin's paper (*Ibis*, 93: 414-442), is captioned 'Feindreaktion' (reaction to a predator).

Much in this series is admirable. One should, I think, treat the single volumes as components of a kind of composite handbook rather than as isolated monographs. As such, one can value them for their concise presentation of facts, their references, distribution maps and other details, and one will not complain if, even allowing for the unfamiliar language, they do not achieve the readability of Dr David Lack's *The Life of the Robin* (1943) or Professor Niko Tinbergen's *The Herring Gull's World* (1953).

D. W. SNOW

The Fauna of Ireland. By Fergus J. O'Rourke. Mercier Press, Cork, 1970. 176 pages; frontispiece and 45 black-and-white photographs; 5 etchings; 6 maps and other text-figures. £1.05.

This little book is in paperback form with an attractive cover. There is a preface and a short introduction followed by chapters dealing with the classification of animals, with amphibia, reptiles, birds and mammals, and with conservation. In this short review it is possible to touch on only a fraction of the points which strike one in so wide a field.

For a work dealing with a local fauna it seems a pity to devote 17 pages and several tables to a discourse on the classification of animals. Instead, more could usefully have been written of the distribution and other aspects of Ireland's native species. In his preface, Dr Joseph Raftery deplores the lack of general works on the natural history of Ireland; this, he states, has been somewhat rectified in the fields of geology, geography and botany, but he entirely omits any reference to works on Irish birds. The map on page 99 is wholly misleading with respect to the migration pattern of the Great Shearwater, and the caption of the Great Saltee picture is incorrect. More careful study of *Ireland's Birds* (1966) should dispel the author's doubt as to why the Passenger Pigeon was excluded from the Irish List. The outstanding error, however, is the statement that the famous colony of Gannets (not given in the index) is on Skellig Michael: it is of course on the Little Skellig—nor can either rock, by any stretch of imagination, be said to lie off Dingle Peninsula.

From the wording on page 83, the reader is left with the mistaken impression that the Avocet, Reed Warbler and some other species now breed regularly. More recent information than that quoted is to be found in *Ireland's Birds* where, moreover, it is pointed out that the Hen Harrier never ceased to breed in Ireland, so that reference to its return is erroneous.

The author has taken the risk of going into the often contentious and difficult field of subspecies in birds. He has sailed into particularly rough waters surrounding Chaffinches and has not proved himself a very able navigator. Turning to the chapters on mammals and reptiles, in dealing with the Pine Marten he is advisedly vague; perhaps for this reason he omits mention of a paper on its distribution. Even so, to expand a little more on this rare and attractive animal would be forgivable. Some attempt at investigation should have shown that the Viviparous Lizard is to be found in central Ireland.

Due to the rather chatty style, some difficulty is experienced in quickly finding information about particular species. Consulting the references would have been simplified had the normal practice of giving the surname, followed by initials, been adopted. Excellent photographs of creatures in the wild are so readily available nowadays

that it is disappointing to find so many in this book that are obviously (and indeed some are stated to be) of museum specimens and groups, especially of birds, in unnatural surroundings. On the credit side it is commendable that a chapter is devoted to conservation.

It is hoped that this book will foster an interest in wildlife in the young, for, as the author points out, much remains to be learnt about our land vertebrates.

R. F. RUTTLEDGE

Birds in London. By W. H. Hudson. David and Charles, Newton Abbot, 1969. 239 pages; some photographs and line-drawings. £2.50.

Gilbert White's Journals. Edited by Walter Johnson. David and Charles, Newton Abbot, 1970. 463 pages; some photographs and line-drawings. £5.25.

It is gratifying that an English publisher has at last emulated the famous American series by Dover Publications of straight reprints, using the original type and illustrations, of some important natural history works. The Dover reprints now run to some fifty biological titles, are solidly paper-backed and relatively cheap; David and Charles's series is just beginning, they are cloth-bound and more than twice the price. W. H. Hudson's account of the birds of a large area of the metropolis, based on an extensive series of visits to parks and open spaces in 1896-97 and first published in 1898, shows how radically many aspects have changed in little over a normal life-span. Then the shooting of gulls for sport from the Thames bridges had only just been stopped; Chaffinches, obtained by liming, were used for singing matches in the East End and Greenfinches were sold there at twopence each; while further west, in 1880, the authorities had felled some 700 trees in Kensington Gardens, destroying a thriving rookery. W. H. Hudson did much to ensure the major changes in public and official attitudes during the present century, which have led to a much greater variety of breeding birds in central London, and his plea to over-tidy gardeners to leave some cover for nesting is still timely.

Gilbert White's journals were written between 1768 and 1793, but this selection did not appear until 1931. The editor has chosen, in the main, passages of scientific interest not already used in 'The Natural History of Selborne', or those which shed light on White's social life. Though he occasionally visited London, noting Swifts nesting in the Tower or Sand Martins at Whitechapel, he was mainly concerned with his beloved village and the nearby downs, where Red Kites still nested and Great Bustards roamed. No aspect of local life, animal or human, escaped him; he noted the weights of Timothy the tortoise, the arrival of five gallons of brandy from London, his growing numbers of nephews and nieces and the state of his garden and the local crops. This is a book to browse in and savour.

STANLEY CRAMP

Eagles. By Leslie Brown. Arthur Barker, London, and Arco, New York, 1970. 96 pages, including 16 colour plates and 60 black-and-white photographs; 10 text-figures. £1.25.

This is a very beautiful book by one of the world's great connoisseurs of birds of prey. In seven chapters various aspects of eagles and their lives are elucidated in a short but authoritative and well-disposed text, written in a lively and flowing style. The titles of these chapters illustrate the themes: Define an eagle; Some facts about eagles; An eagle's day; Eagles as hunters; Eagles at home; The young eagle; Eagles and economics. In this last chapter Man's cruelty and short-sightedness towards nature is documented. Only in very few cases has it been possible to prove that any harm has been done to Man's interests; nevertheless, thousands of Golden Eagles in North America and Wedge-tailed Eagles in Australia were slaughtered during a few decades in this century. The new threat from pesticides is briefly mentioned, but the author seems rather optimistic regarding the Golden Eagles in Scotland. His great knowledge of eagles in Europe and Africa is reflected in the text, which is based mainly on studies in these two continents where he has done much original work. He has studied some of the African eagles for more than twenty years near his home in Kenya. It is obvious that many African species are now better known than certain European ones, such as the Spotted Eagle and the Imperial Eagle. For most species, much remains to be done in the fields of ecology, breeding biology, food consumption and so on.

The book is richly illustrated with excellent colour and black-and-white photographs, so many and so beautiful that they must be seen. Perhaps that on page 50 of an African Fish Eagle perched by a lake takes the prize, but I must also mention those of Golden Eagle, Verreaux's Eagle, Wahlberg's Eagle, African Hawk-eagle, Short-toed Eagle and Bateleur, all at the nest which gives one a good idea of the habitat. This book deserves a permanent place on the shelves of thousands of naturalists.

BENT PORS NIELSEN

Owing to a shortage of space, a number of letters have had to be held over to the next issue. EDS.

News and comment *Robert Hudson*

A reprieve for Foulness? By now every interested person must know that the Roskill Commission enquiry into the siting of London's third airport has recommended the choice of Cublington in Buckinghamshire. This decision was not unanimous however; one member, Professor Colin Buchanan, submitted a minority report recommending that the airport should be sited at Foulness in Essex. Pro-

fessor Buchanan gave it as his opinion that it would be an 'environmental disaster' to use an inland site, and that development at Cublington would in due course put an end to open countryside between London and Birmingham. In the majority report, the Roskill Commission commented that there is no ideal site for a new London airport, but defence redeployments and current and operating costs throughout the life of such an airport meant that a site at Cublington would be £100 million cheaper than at Foulness, while Cublington was better situated for communications with London and the Midlands.

Naturalists, of course, had been hoping for the choice of an inland site, for Foulness represents an important (almost unique) estuarine habitat, and is a major wintering ground of the Dark-bellied Brent Goose. But it is too early to rejoice. The Roskill Commission has made its recommendation, but the final choice lies with the Government; and already over 200 Members of Parliament have signed a motion calling for the airport to be built at Foulness. In the villages around Cublington, residents are up in arms (literally), and the public outcry against a new inland airport promises to be as great as the outcry which compelled the Labour Government to drop its original plan to upgrade Stansted Airport. There is going to be very strong pressure on the present Government to overrule the Roskill Commission. The new Department of the Environment will have to choose between human environment and a wilderness area, a decision that any politician would prefer not to be called upon to make at the present time.

It is my view that, while it is unquestionably desirable that Foulness should be conserved, the problem of airport siting should be considered by the Government in relation to the long-term future of Foulness. In projects of this magnitude, environmental aspects are more important than financial ones; it would be unfortunate (to say the least) if the airport was built inland and Foulness was developed subsequently in some other way. The proposals of one consultant engineer (Mr Bernard Clark) to reclaim vast road-linked islands on the Essex and Kent sides of the Thames estuary were outlined in *The Times* for 30th December; such reclamation would, in effect, add another county to England. Mr Clark's proposals include an airport, a deep-water dock, big residential areas and industrial sites. This, and alternative Thames estuary reclamation projects, should be squashed firmly by the Government if it finally decides that London's third airport would be best sited inland.

Without comment Another bird-strike incident, and one which was nearly disastrous, has been given publicity. On 9th November a Buccaneer jet, while practising low-level runs over Aberdeenshire only 300 feet above ground, hit two gulls at 560 m.p.h.; the perspex cockpit canopy was shattered. The aircraft observer heard the explosion, found himself covered in feathers and blood, and (fearing the worst) ejected; he broke a leg and an arm in the parachute landing (low-level ejection being particularly risky). The pilot, who was able to land safely at Lossiemouth after an uncomfortable flight with the cockpit open to the elements, commented 'I suppose you could say it was a fairly lucky escape'. Had the aircraft crashed, well over £1 million would have been written off.

Two dates for future diaries In the terminal proceedings of each International Ornithological Congress, it is customary to reveal the venue of the next I.O.C. At the XV Congress, held in The Hague last September, it was announced that the next would take place in Australia in August 1974. This will be only the second international congress to be held outside Europe (the first being in 1962 at Ithaca, New York).

The British Ornithologists' Union, growing adventurous in its maturity, is considering holding its annual conference abroad every fourth year (alternating with the I.O.C.) jointly with another national ornithological society. The first such

overseas conference, in conjunction with the American Ornithologists' Union, is planned to be held in June 1972 in Iceland, a country which Americans can reach readily. Any member of the B.O.U. is entitled to attend, at an estimated minimum cost of £58 (including air travel from London) for the week.

And talking of the B.O.U. . . . At long last the new edition of the Union's 'British List' (to be entitled, apparently, *The Status of Birds in Great Britain and Ireland*) has gone to press, and is expected to be published this summer. Originally intended to appear in time for the 1966 I.O.C. at Oxford, this edition got bogged down in a mass of controversy over taxonomic matters and listing sequence, but now the draft has been agreed at last. With over 300 pages, it will be a much fatter volume than the last edition, which was published in 1952; its appearance is awaited with interest.

Indian Ocean atolls re-enter the news (I am grateful to Dr W. R. P. Bourne for the following summary.) The appearance of Tony Beamish's book *Aldabra Alone* (Allen and Unwin, £2.50), a detailed account of this ultimate development in desert islands and the campaign to keep it so, coincided with further questions in Parliament about bases in the Indian Ocean. A good many people had been waiting suspiciously to see whether the Conservatives would resurrect the project for island 'staging posts', and on 3rd December the Labour defence spokesman, George Thomson, asked the Prime Minister whether it was true that he was now discussing with the United States the creation of a £100 million communications centre on Aldabra. Mr Heath replied that the consultations were confidential, but that a 'marine base' at least had been excluded: this took the heat off Aldabra to some extent. The Prime Minister further resisted a suggestion from Tam Dalyell, whose original barrage of questions formed the climax of the conservation campaign to preserve Aldabra, that he should go to Aldabra himself, and the exchange ended with laughter but little news to allay renewed doubts.

In retrospect, the Government's reticence is understandable, since it is now known that plans were then nearing fruition for a communications base much further east, on Diego Garcia in the Chagos Archipelago, south of the Maldives. Under the Anglo-American agreement revealed on 15th December, the base will be built by United States naval forces and construction will begin in March. Transport facilities will include an airstrip 1,000 feet long and a turning basin for ships capable of providing the base with replenishment, which indicates plans for a small harbour deep enough to accommodate fleet supply ships. Diego Garcia is a low-lying atoll, larger and more fertile than Aldabra, included in the British Indian Ocean Territory set aside some years ago for potential use as bases. The entire Chagos Archipelago was very intensively developed as a coconut plantation in the last century. The larger islands, such as Diego Garcia, are now greatly altered from their original state, with considerable human populations and many introduced animals and plants, so that from a naturalist's viewpoint it seems doubtful whether even the use of atomic devices (suggested in connection with construction on Aldabra) would cause much further damage. Some of the smaller Chagos outliers, however, including the eastern islands of the Peros Banhos group and especially Nelson, the Trois Frères, Eagle and Danger Islands and Egmont Atoll, which apparently have been deserted since their supply ship (the barque 'Diego') was wrecked in 1935, now appear to have become increasingly important as refuges for turtles and seabirds. It is to be hoped that proper measures will be taken to declare these outliers as nature reserves and keep them undisturbed. An account of Chagos Archipelago bird-life is to be published very shortly in the *Atoll Research Bulletin*.

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

Recent reports *P. F. Bonham*

These are largely unchecked reports, not authenticated records

This summary covers October 1970, to which all dates refer unless otherwise stated. From 1st to 4th an anticyclone off Iberia and lows 'S' and 'U' moving rapidly across from Newfoundland brought strong winds between west and north-west, with gales on 2nd; between 5th and 9th the high quickly dispersed while one of the depressions moved down over Scotland and filled. The wind then dropped and backed to south-east as an anticyclone formed over southern Scandinavia; this eventually drifted east about 17th and allowed a deep low ('J') to move across from Iceland to Norway bringing a further spell of strong to gale-force north-westerlies from 19th to 22nd. The rest of October was very unsettled with winds mainly from the south-west. Apart from the relative scarcity of American waders, the month was much more interesting than September, with massive movements of seabirds and skuas on 2nd and 3rd and from 19th to 22nd, and large arrivals of winter wildfowl, Scandinavian thrushes and Waxwings during 21st-25th. At least four American land-birds, all of different species and two of them not previously recorded in Europe, arrived during the periods of north-westerly winds.

MARINE SPECIES

A total of 21 **Leach's Petrels** *Oceanodroma leucorhoa* was noted close inshore off Hilbre (Cheshire) from 16.00 hours on 2nd and 134 flew west there during a continuous eleven-hour watch on 3rd. On the latter date 21 passed Meols, Holyake (Cheshire), ten were seen at St Ives (Cornwall) and singles at Cley (Norfolk) and inland at Colemere (Shropshire). On 4th just one was seen at Hilbre and another far up the River Clyde at Erskine Bridge (Renfrewshire). During the following fortnight only five were reported; then on 19th two were picked up exhausted at Salthouse (Norfolk), three were seen at St Ives and others appeared in the west to be followed by a scattering of coastal reports until 24th. Small numbers of **Storm Petrels** *Hydrobates pelagicus* also took part in these movements: on 3rd one came in from the sea on the southern shore of the Wash (Lincolnshire/Norfolk), landing on a ploughed field, and singles appeared at Hilbre and St Ives; on 10th one was seen at Dungeness (Kent) and there were scattered reports during 19th-24th. Across the English Channel at Cap Gris Nez, France, there were six Leach's and a Storm on 20th, nine and eleven respectively on 21st, and two and 13 on 22nd. **Sooty Shearwaters** *Puffinus griseus* also figured prominently at Cap Gris Nez: 34 on 2nd, 21 on 3rd, 133 on 13th (a movement not reflected in Britain or Ireland at all), and five on 20th. On 3rd eleven Sooty Shearwaters were seen at Hauxley (Northumberland), four or five at Cley and a number of singles; and various ones, twos and threes were recorded at seawatching stations from 19th onwards. There were six off Cape Clear Island (Co. Cork) on 30th and 14 on 31st, and this was also the peak time there for passage of **Great Shearwaters** *P. gravis*: four on 29th, 67 on 30th and 728 in 2½ hours on 31st. (There were also 42 of this species or **Cory's Shearwater** *Calonectris diomedea* seen on 26th, four on 29th, nine on 30th and 270 during the same watch on 31st, and on the latter date **Gannets** *Sula bassana* were passing the island at a rate of 2,000 an hour.) Two Cory's Shearwaters were identified at Cley in early October, and singles were seen between Cornwall and the Isles of Scilly on 9th and 19th; a Great Shearwater passed St Ives on 23rd; a **Little Shearwater** *P. assimilis* was reported from Godrevy Point (also Cornwall) during the first week of October and a **Wilson's Petrel** *Oceanites oceanicus* from St Ives on 20th.

Phalaropes, skuas, Kittiwakes *Rissa tridactyla* and **Little Auks** *Plautus alle* were

also involved in the seabird movements. About ten **Grey Phalaropes** *Phalaropus fulicarius* were reported from the east and west coasts early in the month, and inland there was a Grey Phalarope at Stanford Reservoir (Leicestershire/Northamptonshire) and a **Red-necked Phalarope** *P. lobatus* at Bardney (Lincolnshire) on 4th. Some 25 Grey Phalaropes appeared on the east coast from 19th, including seven together at Donna Nook (Lincolnshire) on 24th, and a Red-necked was seen at Eye Brook Reservoir (Leicestershire/Rutland) on 23rd. Reports from Norfolk of large movements of skuas on 3rd included 120 **Arctic Skuas** *Stercorarius parasiticus* and 100 **Great Skuas** *S. skua* in the south of the Wash, 150 Arctics, 100 Great Skuas, at least five **Pomarine Skuas** *S. pomarinus* and a **Long-tailed Skua** *S. longicaudus* off Holme, and 100 Arctics, 250 Great Skuas and a Pomarine off Cley. Three Pomerines were seen at St Ives on 3rd and there were several singles during this period, but much more unusual was a **Long-tailed Skua** inland at Pennington Flash, Leigh (Lancashire) from 6th to 11th. Between 19th and 21st a total of at least 200 Great Skuas was noted at Hunstanton (Norfolk), including parties of up to 23; on 20th a continuous easterly passage of Pomarine Skuas was observed at Weybourne (Norfolk); and on 21st there were some 400 Arctic Skuas, 40 Great Skuas and 20,000 Kittiwakes in the southern part of the Wash, about 60 Pomarine Skuas were counted at Holme and at least 30 Great Skuas flew north past Gibraltar Point (Lincolnshire). (We note that big *departures* of Great Skuas from Shetland took place about 20th.) The many other reports of Pomarine Skuas from 19th included a flock of 17 heading north off St Mary's (Northumberland) on 22nd and singles inland at Belvide Reservoir (Staffordshire) on 21st—captured and fed for two days but dying on 23rd—and at Barn Elms Reservoir (Surrey) on 25th. Numbers of Pomarine Skuas seen off Cap Gris Nez, fitting in very well with the British picture, were as follows: three on 2nd and 13th, 58 on 3rd, 165 on 20th, 46 on 21st, six on 22nd and one on 23rd. Lastly, three **Little Auks** were seen off St Ives on 3rd and there were seven reports south of the Scottish border during 18th-23rd, including one found dying inland near Brinton (Norfolk) on 19th and eleven on the coast at Spurn (Yorkshire) on 21st.

AMERICAN WADERS, GULLS AND LAND-BIRDS

Several **Pectoral Sandpipers** *Calidris melanotos* and **Buff-breasted Sandpipers** *Tryngites subruficollis* remained from September, but despite the prevailing westerly weather there were only about 15 apparent new arrivals in October compared with 70 in the previous month. Up to eight Pectoral Sandpipers were present at Stithians Reservoir (Cornwall) in early October, dropping to two by 25th, and the four on Tresco (Isles of Scilly) in late September were down to three on 7th and two on 8th; a different individual arrived there on 10th. Other 'new' Pectoral Sandpipers occurred at Lynemouth (Northumberland) on 2nd, Hams Hall (Warwickshire) on 3rd, Clonakilty (Co. Cork) on 9th and Weir Wood Reservoir (Sussex) at a later date. The seven **Buff-breasted Sandpipers** on St Mary's (Isles of Scilly) from about 19th to 26th September were reduced to one by 5th October, but others were found on North Bull Island (Co. Dublin) and at Salthouse on 3rd, on Tresco on 6th, at Steart (Somerset) on 7th, on Holy Island (Northumberland) on 9th and at Cheddar Reservoir (Somerset) on 17th. One at Frodsham (Cheshire) from 10th to 17th may have been the same as the bird that was present there on 25th and 26th September.

Lesser Yellowlegs *Tringa flavipes* and **White-rumped Sandpipers** *Calidris fuscicollis* were better represented in October than in the previous month. The former were reported at Stanton Harcourt gravel pits (Oxfordshire) from 1st to 17th and at Killingholme (Lincolnshire) from 3rd into November, at Ballycotton (Co. Cork) from 5th, at Walland Marsh reservoir (Kent) from 11th to 18th and at Cley on 15th. The one at Ballycotton was a different individual from the bird that had been present there since 23rd September, and one of these stayed until at least 2nd

December. **White-rumped Sandpipers** appeared at Tivoli (Co. Cork) on 4th, in the Isles of Scilly on St Mary's on 6th and on Bryher from 7th to 9th, at Tankerness (Orkney) on 11th and 12th, and at Frodsham from 18th to at least 12th November. Other Nearctic waders during the first week were an **Upland Sandpiper** *Bartramia longicauda* on Fair Isle (Shetland) on 5th—the first for the island and the second for Scotland—and a **Wilson's Phalarope** *Phalaropus tricolor* at Looe (Cornwall) from 6th to 8th; and later in October a **Semipalmated Sandpiper** *Calidris pusilla* was seen at Clifton sewage-farm (Lancashire) from 24th and a **dowitcher** *Limnodromus* sp at Steart on 25th. We have also heard of a **Greater Yellowlegs** *Tringa melanoleuca* in Orkney.

These last reports, in particular, indicate the correlation between arrivals of Nearctic waders and periods of strong west to north-west winds caused by depressions moving rapidly across the North Atlantic, a connection even more obvious in the case of **Sabine's Gulls** *Larus sabini*. On 2nd four were seen off Meols and two off Portrush (Co. Antrim); on 3rd one appeared at St Ives, one at Penzance (also Cornwall) and two at Cap Gris Nez, and two were seen at Penzance on 5th; singles were reported at St Ives, Hilbre and Swanage (Dorset) on 19th and two again at Penzance on 24th. (A few also remained at other localities from September.) These may, of course, have been birds already in British waters blown inshore by the gales, rather than new arrivals from the north-west Atlantic.

No such reservations apply to the four American land-birds, all in south-west Cornwall and the Isles of Scilly: a male **Scarlet Tanager** *Piranga olivacea* at Porthellick, St Mary's, on 3rd and 4th, a **Yellow-billed Cuckoo** *Coccyzus americanus* also on St Mary's on 4th, a **Veery** *Catharus fuscescens* at Porthgwarra (Cornwall) on 6th and a **Blackpoll Warbler** *Dendroica striata* on St Agnes from 20th to 26th (trapped on 21st). The **tananger** apparently arrived just ahead of the extensive front connecting low 'S' with low 'U' (this front left Newfoundland on 30th September) and the cuckoo probably came in with the frontal system of low 'U' itself, which left Nova Scotia on the night of 1st/2nd; the **Veery** seems likely to have arrived with the same weather system on 4th or 5th and remained undetected until 6th. Another very rapidly moving front associated with the deep depression 'J' left the coast of Newfoundland on 16th/17th and passed across the south coast of England just before midday on 19th; this may well have been responsible for the appearance of the **Blackpoll Warbler**. The **Scarlet Tanager** and **Veery** have not previously been recorded in Europe, though there is one record of the **Summer Tanager** *P. rubra* in Wales and one of either **Summer** or **Scarlet** in Ireland, and the **Hermit Thrush** *C. guttatus*, **Grey-cheeked Thrush** *C. minimus* and **Olive-backed Thrush** *C. ustulatus* (all closely related to the **Veery**) have each occurred more than once in Europe. While on the subject of American passerines, we have recently received a belated report of a **White-throated Sparrow** *Zonotrichia albicollis* at Sordale, Thurso (Caithness), for two months from early May: note the coincidence with the **Baltimore Oriole** *Icterus galbula* and **Song Sparrow** *Melospiza melodia* (*Brit. Birds*, 63: 264).

HERONS, WILDFOWL AND RAPTORS

There was an immature **Purple Heron** *Ardea purpurea* on St Agnes on 13th and single **Spoonbills** *Platalea leucorodia* in the Hayle estuary (Cornwall) from 3rd to 6th and at Wisbech sewage-farm (Lincolnshire/Norfolk) at the end of October. A **Blue-winged Teal** *Anas discors* arrived during the influx of American species and sea-birds at Lady's Island Lake (Co. Wexford) on 2nd. The few other notable reports of ducks mainly concerned **Long-tailed Ducks** *Clangula hyemalis*: 60 in Gosford Bay and ten in Gullane Bay (both East Lothian) on 25th were unusual for the time of year, while about 50 others (including at least six inland) in England and Wales, mainly from 22nd, were undoubtedly connected with the stormy conditions at that time, as were the 350 and 500 **Velvet Scoters** *Melanitta fusca* on 22nd and 23rd

respectively at Cap Gris Nez. A few dozen other Velvet Scoters, two late Garganey *Anas querquedula* (Cornwall and Warwickshire) and two Red-crested Pochards *Netta rufina* (Berkshire and Staffordshire) should also be mentioned.

At Loch Leven (Kinross) there were about 9,000 Pink-footed Geese *Anser fabalis brachyrhynchus* on 3rd and 10,000 on 11th and 16th, but only 6,000 remaining by 31st; the main arrival there of Grey Lag Geese *A. anser*, however, did not begin until about 20th and then reached 600 by the end of the month, when 60-70 were also present on the Northumberland coast as well as several flocks of unidentified grey geese. Six Greenland White-fronted Geese *A. albifrons flavirostris* at Drift Reservoir (Cornwall) from 24th and a Bean Goose *A. fabalis fabalis* at Sandwich Bay (Kent) on 27th were unexpected, as was the presence of a total of about 40 Barnacle Geese *Branta leucopsis* at various points along the north Norfolk coast for much of October. About a dozen parties of up to 40 Barnacle Geese were seen elsewhere on the east coast during 2nd-4th and from 18th, there were several hundred in Shetland, including one flock of 140 at Sumburgh on 14th, and one flew north off the Calf of Man on 20th. Many reports of Brent Geese *B. bernicla*, especially during 21st-24th, included three or four hundred in Kent between those dates, a total of 670 at Cap Gris Nez on 21st and 23rd and three flying over Potters Bar (Hertfordshire) on 22nd. By 31st there were 61 Whooper Swans *Cygnus cygnus* at Holywell (Northumberland) and 365 at Loch Leven. The first Bewick's Swans *C. bewickii* were reported from Whalsay (Shetland) on 1st and from Durleigh Reservoir (Somerset) on 10th, but these were two isolated individuals and the next were not until 21st (eight at Sandwich Bay) and 22nd (several reports, including the first at Slimbridge), corresponding closely with their arrival date in 1969 (*Brit. Birds*, 63: 44). The largest party to our knowledge was 34 flying south at Ogston Reservoir (Derbyshire) on 28th; numbers were still below this figure both at Slimbridge and on the Ouse Washes (Cambridgeshire/Norfolk) by the end of October.

The few reports of the more unusual raptors were as follows: single Rough-legged Buzzards *Buteo lagopus* in the Virkie area (Shetland) on 18th and 20th and on Salthouse Heath on 31st, a Honey Buzzard *Pernis apivorus* on St Agnes on 8th, Hobbies *Falco subbuteo* at Upton Warren (Worcestershire) on 3rd and Hayley Wood (Cambridgeshire) on 18th, a female Red-footed Falcon *F. vespertinus* near Tintagel (Cornwall) on 14th, and a small falcon reported to be a Lesser Kestrel *F. naumanni* found freshly dead at Neston (Cheshire) on 21st.

PALEARCTIC WADERS TO TERNS

Curlew Sandpipers *Calidris ferruginea* and Little Stints *C. minuta* were each reported at about 30 localities, with totals of some 125 and 100 respectively; 20 Little Stints at Ballycotton on 3rd, 21 Curlew Sandpipers there on 11th and 20 of the latter in Budle Bay (Northumberland) on 10th deserve mention. The other Palearctic waders may be summarised briefly, the rarer species being two Dotterel *Eudromias morinellus* on Lundy (Devon) on 2nd, a Great Snipe *Gallinago media* on St Mary's from 6th to 8th, a probable Temminck's Stint *Calidris temminckii* at Swallow Ponds (Northumberland) on 25th and an immature Pratincole *Glareola pratincola* in the Bann estuary (Co. Derry) on 13th and 14th. Other notable records included 17 Jack Snipe *Lymnocyptes minimus* at Leighton Moss (Lancashire) on 15th and 24th; over 350 Black-tailed Godwits *Limosa limosa* at Berrow (Somerset) on 11th and 200 at Steart on 18th; half a dozen late Wood Sandpipers *Tringa glareola* in Kent and the Midlands; and several Avocets *Recurvirostra avosetta* in Somerset and on the south coast, plus one in the Kent estuary (Westmorland) on 3rd (this species is rare in the north-west).

Coastal reports of eleven Glaucous Gulls *Larus hyperboreus* (and several gatherings of up to twelve in Shetland), three or four Iceland Gulls *L. glaucoides*, three Mediterranean Gulls *L. melanocephalus* and about 70 Little Gulls *L. minutus* (plus seven of the latter inland) mainly coincided with the north-westerly gales. These totals

are probably well below their true strength, as these gulls tend to be under-reported when there are more exciting species offshore. Little Gulls were a prominent feature of the sea passage from 19th to 22nd at several places: for example, at Weybourne there were 30 on 21st and at Cap Gris Nez 800 were counted on 20th, 350 on 21st and 263 on 22nd. As well as about a dozen reports of single late Black Terns *Chlidonias niger*, there were small concentrations at Mullagmore (Co. Sligo) (eight on 18th) and Castle Caldwell (Co. Fermanagh) (three on 20th, five on 21st), and single White-winged Black Terns *C. leucopterus* were present at Dungeness from 4th to 9th and at Shotton (Flintshire) from 4th to 17th.

WAXWINGS AND WINTER VISITORS

The first Waxwings *Bombycilla garrulus* reported were 50 on Unst (Shetland) on 17th. The next were on 21st—singles at Spurn, Gibraltar Point and Sandwich Bay, two at Wiveton (Norfolk) and 26 at Cap Gris Nez—but the main arrival took place next day when a total of about 300 was seen at a dozen localities on the east coast from Dungeness to Shetland plus one in Northamptonshire. Several flocks of 50-200 were present in north Norfolk during 22nd-31st, and other concentrations were noted at Aberlady Bay (East Lothian) (175 by 2nd November), in Northumberland (about 100 in all), and in Cambridgeshire and Derbyshire (flocks of 50). Smaller numbers appeared in October in the Central Lowlands of Scotland, Co. Durham, Yorkshire, Lincolnshire, the west Midlands, Suffolk, Kent, Gloucestershire and Co. Cork. Many of the large flocks had dispersed inland by the end of the month and during November there were reports from many other counties and evidence of further arrivals from Scandinavia.

With the Waxwings came tens of thousands of Fieldfares *Turdus pilaris*, but the peak passage of Redwings *T. iliacus* had occurred in calmer weather eight to twelve days earlier, though there were smaller arrivals during 22nd-24th. The other winter visitors were not unusually numerous: small parties of up to twelve Shore Larks *Eremophila alpestris* at about 15 localities on the east coast, and one at Portland (Dorset) on 26th; about 45 Great Grey Shrikes *Lanius excubitor* in 17 counties; up to 100 Twites *Acanthis flavirostris* at Salthouse, 90 at Breydon (also Norfolk), 80 at Minsmere (Suffolk) and similar numbers in Lincolnshire and Kent, plus small parties elsewhere; and generally few Snow Buntings *Plectrophenax nivalis*, the largest flock in England being 41 at Donna Nook on 27th. Singles of the last species occurred inland at Blithfield Reservoir (Staffordshire) on 24th and at Barbrook (Derbyshire) on 31st, and one reached Cape Clear Island on 6th. Very few Bramblings *Fringilla montifringilla* were reported, except for a flock of 500 in Shetland and a total of 300 flying south at Sand Bay (Somerset) on 28th; this scarcity is made even more remarkable by the fact that the annual westward passage at Cap Gris Nez reached a peak of no fewer than 15,000 on 22nd.

OTHER NEAR-PASSERINES AND PASSERINES

The rarer warblers included three Pallas's Warblers *Phylloscopus proregulus* at Beachy Head (Sussex) between 11th and 13th, single Arctic Warblers *P. borealis* on Fair Isle on 12th (the sixth there this autumn), on Whalsay on 14th and at Beachy Head on 18th, a Bonelli's Warbler of the eastern race from the Balkans and Asia Minor *P. bonelli orientalis* trapped at Spurn on 15th and a Greenish Warbler *P. trochiloides* on Cape Clear Island from 15th to 23rd. Pallas's Warbler is a highly irregular and decidedly late vagrant from eastern Asia; there were 21 records up to 1962, then six, one, four, three, none, 18 and none respectively during 1963-69. The big influx of 1968 was confined to 18th-30th October, so the three at Beachy Head in 1970 (one of which was trapped) were rather early. Incidentally, the Bonelli's Warbler at Spurn was the first to be identified as the eastern race; most or all of those reaching Britain and Ireland are probably of the nominate form breeding in north-west Africa and in Europe east to Czechoslovakia and Italy. Other rarities

during October included two **Red-throated Pipits** *Anthus cervinus*, on Skokholm (Pembrokeshire) on 13th and at Arlington Reservoir (Sussex) from 13th to 15th, two **Little Buntings** *Emberiza pusilla*, on Fair Isle from 3rd to 10th and near Lerwick (Shetland) from 21st to 25th, and a **Rustic Bunting** *E. rustica* at Sumburgh on 6th. Except for the buntings in Shetland, all these rarities arrived between 11th and 18th, a period of mainly south to south-east winds with an anticyclone over the Baltic.

The peak time for arrivals of **Richard's Pipits** *Anthus novaeseelandiae* was from 8th to 12th, though much smaller influxes apparently occurred from 1st to about 5th, 14th to 17th and 23rd to 26th. The number newly reported in October was about 55 in 25 localities, the same total as in September. Most appeared in south-west England and on the south and east coasts; Welsh reports came from Bardsey (Caernarvonshire), Ynys-hir (Cardiganshire) and Skokholm, and inland there were two at Beddington sewage-farm (Surrey) and one at Wisbech sewage-farm. A dozen **Yellow-browed Warblers** *Phylloscopus inornatus* were rather similarly distributed in time and place: there were two or three on Cape Clear Island, three in Scilly, one at Porthgwarra, one found dead at Reculver (Kent) and the rest on the east coast from Norfolk to Fair Isle.

Migrants with a probable Scandinavian or eastern European origin were **Wry-necks** *Jynx torquilla* on St Agnes on 1st and at Clumber (Nottinghamshire) on 25th; an **Icterine Warbler** *Hippolais icterina* trapped at Dungeness on 8th (the 100,000th bird to be ringed at the observatory); **Barred Warblers** *Sylvia nisoria* on St Agnes and St Mary's on 2nd, at Spurn on 9th, at Fleam (Cambridgeshire) on 11th and at Cley from 22nd into November; and up to three **Scarlet Rosefinches** *Carpodacus erythrinus* on Fair Isle, making an autumn total there of about 14. There were also at least 16 **Red-breasted Flycatchers** *Ficedula parva*: three or four in Scilly, singles on Skokholm and at Portland, and the rest scattered up the east coast from Kent to Shetland. Southern species included **Melodious Warblers** *Hippolais polyglotta* in Scilly on 1st, 6th and 8th and on Cape Clear Island on the last date, a **Lesser Grey Shrike** *Lanius minor* at Lerwick on 6th, and **Woodchat Shrikes** *L. senator* on Bryher on 9th, at Hengistbury Head (Hampshire) on 14th and at Seaton Delaval (Northumberland) on 24th. Compared with these, the similar pattern of dates and to some extent of localities indicates that the **Bluethroats** *Luscinia svecica* on Cape Clear Island on 3rd, on Fair Isle from 5th to 7th, on Bryher on 8th, at Portland on 10th, and at Virkie and on Fetlar (both Shetland) on 13th, an **Ortolan Bunting** *Emberiza hortulana* at Portland from 1st to 5th and two there on 6th, and a **Short-toed Lark** *Calandrella cinerea* on St Mary's from 5th to 10th, were also of southern rather than eastern origin (but see the discussion on autumn records of Bluethroat and Ortolan Bunting in the south-west in *Brit. Birds*, 63: 313-324).

Certain other species may have originated from eastern or southern populations: **Tawny Pipits** *Anthus campestris* at Beachy Head and Portland on 11th and on St Mary's on 12th, a few **Red-backed Shrikes** *Lanius collurio*, and three **Serins** *Serinus serinus* between 11th and 18th (Kent, Sussex and Devon). Other odds and ends were **Nightjars** *Caprimulgus europaeus* found dead at Market Rasen (Lincolnshire) on 1st and seen at Spurn on 13th and 14th (two on the latter date), about ten late **Swifts** *Apus apus*, the last on 18th, a **Woodlark** *Lullula arborea* at Donna Nook on 25th and eight **Bearded Tits** *Panurus biarmicus* at Kenfig Pool (Glamorgan) on 18th. A few other Bearded Tits occurred away from their breeding areas on the east coast, and it is worth mentioning here that the species had an excellent breeding season at Minsmere in 1970, with about 1,000 juveniles by September; some large eruptions occurred in October and only a small population remained by the end of that month. Finally, passage of **Lapland Buntings** *Calcarius lapponicus* was noted at about 15 localities, nearly all on the east coast and largely between 9th and 12th, but the total of some 35 birds was surely far less than the true strength, since this species is very often overlooked.

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British Birds

The Golden Eagle survey in Scotland in 1964-68

M. J. Everett

Lockie and Ratcliffe (1964) showed that the breeding success of Golden Eagles *Aquila chrysaetos* had greatly declined in western Scotland in 1961-63 compared with 1937-60, and gave evidence of a connection with the amounts of organo-chlorine residues in eggs. (This was in contrast to eastern Scotland where dieldrin levels remained low and breeding success was consistently high throughout the period from 1945.) Following this disturbing report, the Royal Society for the Protection of Birds, along with the Nature Conservancy, began a survey to investigate eagle populations in selected areas of Scotland. The aims were to monitor trends and breeding success and to assess causes of failure. Unhatched eggs from successful and unsuccessful eyries were collected under licence and sent for chemical analysis. The survey is still continuing, but this paper discusses the results of its first five years from 1964 to 1968.

SURVEY AREAS AND KINDS OF DATA

The location of survey areas largely depended on the availability of experienced observers to provide the data required, but even so the seven areas where regular samples were obtained during the five years 1964-68 were not entirely arbitrary and represented all the habitat types defined by Brown and Watson (1964) with the exception of the north-west corner of Sutherland. In addition to the main survey information, data received irregularly from Sutherland, Morvern, Mull and elsewhere are also summarised here.

The Speyside sample area lies in the Spey and Findhorn watersheds north of Loch Ericht and is almost adjoined by the small Monadh Liath one to the west. Deeside covers a region on the eastern side of the

Grampians south from the Dee itself into Kincardineshire and the Angus glens. These three samples are eastern ones typical of the type I habitat of Brown and Watson, comprising deer forest with few sheep and many Red Deer *Cervus elaphus*, on fairly gentle slopes in a relatively dry climate and with an abundant wild food supply. In Perthshire the sample is mostly within a region bounded by Rannoch Moor and Loch Rannoch in the west and north and by Glen Dochart and Loch Tay in the south, an area which more or less grades from type I in the east to type II (see below) in the west.

South Argyll lies west of Loch Long and south of Glen Fyne to Knapdale, Cowal and Kintyre, and is type II habitat where there are many sheep but only very small numbers of Red Deer, European Hares *Lepus europaeus*, Blue Hares *L. timidus*, Red Grouse *Lagopus lagopus* and Ptarmigan *L. mutus*, with steep slopes and a wet climate. The Wester Ross region falls between Coigach in the north and Loch Carron in the south, and represents type III habitat where sheep are less numerous than in type II but Red Deer more plentiful, and where hares are rare and there are few Red Grouse and Ptarmigan; it is an area of wide, boggy glens and isolated, steep-sided mountains with a wet climate. The rather mixed terrain of Galloway in the Southern Uplands does not conform to any of the Highland habitat types.

As much of the survey work was carried out in observers' spare time, and as terrain and weather were difficult, it was not always possible to follow the detailed history of every territory, though in most instances the basic data were obtained. Nevertheless, results were unknown for 14% of pairs breeding (see table 1) and probably some territories will have been recorded as unoccupied when eagles could have been present and even nesting: all figures quoted for pairs present and for breeding success must therefore be regarded as minima.

Occupied territories were taken as those where adult or immature eagles were present, and pairs breeding as those which laid eggs. Following the reasoning of Brown (1969), territories are defined in this paper as 'home-ranges' rather than territories in the normal sense of the word, being areas in which pairs breed and hunt, but which they do not necessarily defend against other eagles. As the survey concentrated on breeding, it did not produce any detailed information on non-breeding pairs. For reasons which are not well understood, individual pairs of large birds of prey of various species occasionally do not nest; this occurs with Scottish Golden Eagles, but little is known about its causes or frequency.

RESULTS

The results for the seven survey areas are shown in table 1. Table 2 summarises these results for each area over the five-year period and includes composite totals. The irregular data from other regions

Table 1. Results of survey of Golden Eagles *Aquila chrysaetos* in seven selected areas in Scotland in 1964-68

The figures given in brackets are minima, though to some extent this applies to all the entries in the last two columns wherever there is a number in the 'Result unknown' column. In the case of Perthshire 1967 the proportion of 'Result unknown' is so large that these calculations are omitted

		Known occupied territories	Pairs breeding	Pairs failed	Result unknown	Pairs rearing	Young reared	Young/successful pair	Young/breeding pair	Young/occupied territory
Wester Ross	1964	7	6	3	1	2	2	1.00	0.33	0.28
	1965	13	9	3	0	6	6	1.00	0.67	0.46
	1966	11	7	3	0	4	4	1.00	0.57	0.36
	1967	15	13	2	0	11	12	1.09	0.92	0.80
	1968	(13)	13	2	0	11	11	1.00	0.84	0.84
South Argyll	1964	14	8	3	2	3	3	1.00	0.37	0.21
	1965	12	9	5	2	2	2	1.00	0.22	0.16
	1966	10	10	5	1	4	4	1.00	0.40	0.40
	1967	13	8	1	2	5	5	1.00	0.62	0.38
	1968	15	11	2	4	5	5	1.00	0.45	0.33
Monadh Liath	1964	4	3	2	0	1	1	1.00	0.33	0.25
	1965	4	3	2	0	1	1	1.00	0.33	0.25
	1966	4	1	1	0	0	0	—	—	—
	1967	4	3	1	0	2	2	1.00	0.67	0.50
	1968	4	3	1	0	2	3	1.50	1.00	0.75
Perthshire	1964	10	9	3	3	3	5	1.66	0.55	0.50
	1965	7	7	2	2	3	3-4	(1.00)	(0.42)	(0.42)
	1966	8	8	0	1	7	7	1.00	0.87	0.87
	1967	8	6	0	5	1	1	1.00	—	—
	1968	7	5	1	2	2	3	1.50	0.60	0.42
Speyside	1964	9	8	3	1	4	5	1.25	0.62	0.55
	1965	10	6	4	0	2	2-3	(1.00)	(0.33)	(0.20)
	1966	11	7	1	0	6	7-8	(1.16)	(1.00)	(0.63)
	1967	12	8	3	1	4	4-5	(1.00)	(0.50)	(0.33)
	1968	12	9	6	0	3	3	1.00	0.33	0.25
Deeside	1964	15	10	1	2	7	9	1.28	0.90	0.60
	1965	10	7	1	0	6	8	1.33	1.14	0.80
	1966	10	8	3	0	5	6	1.20	0.75	0.60
	1967	12	11	2	3	6	7	1.16	0.63	0.58
	1968	14	10	4	1	5	8	1.60	0.80	0.57
Galloway	1964	3	3	3	0	0	0	—	—	—
	1965	4	4	2	0	2	2	1.00	0.50	0.50
	1966	4	4	3	1	0	0	—	—	—
	1967	3	2	2	0	0	0	—	—	—
	1968	4	3	2	0	1	1	1.00	0.33	0.25

Table 2. Results of survey of Golden Eagles *Aquila chrysaetos* in Scotland in 1964-68
 'Breeding success' is defined below. The figures given in brackets are minima

	Known occupied territories	Pairs breeding	Pairs failed	Result unknown	Pairs rearing	Breeding success	Young reared	Young/successful pair	Young/breeding pair	Young/occupied
Wester Ross	(59)	48	13	1	34	71%	35	1.02	0.75	0.5
South Argyll	64	46	16	11	19	41%	19	1.00	0.41	0.2
Monadh Liath	20	13	7	0	6	46%	7	1.16	0.53	0.3
Perthshire	40	35	6	13	16	46%	(19)	(1.18)	(0.54)	(0.4)
Speyside	54	38	17	2	19	50%	(21)	(1.10)	(0.55)	(0.3)
Deeside	61	46	11	6	29	63%	38	1.31	0.82	0.6
Galloway	18	16	12	1	3	19%	3	1.00	0.19	0.1
TOTALS	316	242	82	34	126	52%	(142)	(1.12)	(0.58)	(0.4)
Miscellaneous	173	153	36	46	71	46%	(89)	(1.25)	(0.58)	(0.5)
GRAND TOTALS	489	395	118	80	197	50%	(231)	(1.17)	(0.58)	(0.4)

are also given in table 2 under the heading 'Miscellaneous'. Breeding success is expressed here as the percentage of breeding pairs which reared young, while the figures for young per pair are based on the actual numbers of young reared by breeding pairs.

The Wester Ross territories formed the main part of the sample used by Lockie and Ratcliffe. The 1964 figure in the present survey shows poor breeding success such as they recorded in 1961-63 in western Scotland, where the number of eyries producing young fell from 72% over the period 1937-60 to a mere 29%. They postulated that this decline was due to increased residues of chlorinated hydrocarbons, especially dieldrin, in the adults and their eggs, the only feasible major source of these chemicals being dip residues in the sheep carrion which forms an important food source for eagles in western Scotland. The figures from 1965 onwards showed an improvement and by 1968 a return to the former higher breeding success was apparent. Over the same period dieldrin levels in eagles' eggs fell by over 60% from 0.86 to 0.34 parts per million (ppm) following the withdrawal of this organo-chlorine compound from sheep dip preparations in 1966. With no other environmental changes relating to improved breeding success, it was concluded that the 1964 hypothesis was correct (Lockie *et al.* 1969).

No similar trend appeared from the South Argyll data, however, which showed a continuing low breeding success. The reasons are not clear, and the survey results are difficult to evaluate without comparative figures for earlier years. Nevertheless, human disturbance was probably significant in this high failure rate.

The small Monadh Liath sample establishes that breeding success there in 1964-66 was lower than in previous years (L. MacNally *in litt.*) and, as elsewhere, unhatched eggs contained toxic chemical residues. A higher rate of success was evident in 1967 and 1968, however.

A mean breeding success of 46% was recorded for the Perthshire sample; and of five pairs whose breeding results were unknown in 1967, three were thought to have reared young. No unhatched clutches were found, but human interference was known or suspected in breeding failures in 1964 and 1965. There are no directly comparable figures for earlier years, but Sandeman (1957) examined the breeding in 14 territories in 1950-56 and found a mean success rate of only 28% for that period; he thought that human interference was a major cause of failure.

The results from the twelve Speyside territories show some fluctuation, with a mean success of 50% among breeding pairs. This compares with 67% for the same sample in the period 1932-63, and the decrease is perhaps not surprising in an area where human pressures are probably higher than elsewhere and where, according to the Hon. Douglas N. Weir (*in litt.*) who is making the history of these territories the subject of a fuller study, 55% of the 1964-68 failures were caused by man.

Deeside remains the only area where breeding success has maintained a high level, with sample figures essentially unchanged since 1945 (Watson 1957, 1969). This is a region where human disturbance has been minimal and dieldrin levels in eagles' eggs from here and from the central Highlands showed a mean of only 0.06 ppm (Lockie *et al.* 1969).

Galloway has been recolonised by Golden Eagles in the last 25 years. Human disturbance is severe, however, and breeding success very poor.

The miscellaneous data for other areas totalled in table 2 are not strictly comparable with those of the survey proper, but are included as a more extensive sample of breeding success over a wider region during 1964-68. It is interesting to note that a figure of 0.58 young per breeding pair is recorded for 173 territory-years, exactly the same figure as for 316 territory-years in the survey proper.

Table 1 shows the mean differential in brood-size between eastern and western populations. Those in the east (Perthshire, Speyside and Deeside) tend quite often to rear two young in areas where there is an abundance of wild prey, while those in the west (Wester Ross, South Argyll and Galloway) almost invariably rear only one in areas where wild prey is scarcer and carrion is a more important food. Over the five-year period, the consistent success of the Deeside eagles is evident, as is the return to a high level in Wester Ross. Elsewhere, eagles have reared just over 0.50 young per pair except in Argyll

(0.41) and Galloway (0.19). The minimum success that will maintain a thriving adult population of Scottish eagles is unknown, but a figure of 0.50 young per pair may be adequate, in which case there are some grounds for believing that the Golden Eagle is holding its own in Scotland. This is, however, only a tentative suggestion and further work on the population is desirable.

The survey and the miscellaneous results together provide data for 489 territory-years and a mean figure of 0.58 young reared per recorded breeding pair. The exact population of Golden Eagles is unknown, but it is probably well over 200 pairs. Parslow (1967) quoted the 190 pairs of Nicholson (1957), which was based on unpublished estimates by P. W. Sandeman and by C. E. Palmar and Leslie H. Brown. Later additions to Palmar's notes produced a 1968 estimate of 213 known pairs (C. E. Palmar *in litt.*). Dr A. Watson (*in litt.*) considers that this figure is low, however, and that it may be nearer 300 pairs. In any event, the survey has produced data for a substantial part of the population, with an average of 79 breeding pairs studied annually.

CAUSES OF FAILURE

Eggs collected under licence during the survey were found to contain varying residues, and results of analyses were given by Lockie *et al.* (1969). Dieldrin residues have already been mentioned, with reference to their fall in western Scotland and their steady low level in the central and eastern Highlands. Residues of DDE, BHC and heptachlor epoxide all decreased in western Scotland between 1963-65 and 1966-68, DDE showing a smaller decrease than the others, but none of the levels recorded for these substances has been regarded as significantly affecting the breeding success of Golden Eagles.

Some form of human disturbance has been mentioned in all yearly returns for the survey, and is clearly an important factor in certain areas. Table 3 summarises failures known or believed to have been caused by human interference. Exact causes of failure were often

Table 3. Breeding failures of Golden Eagles *Aquila chrysaetos* in Scotland in 1964-68 due to human interference

	Survey areas	Miscellaneous areas	TOTALS
Eggs taken from nest	13	1	14
Eggs probably taken from nest	9	7	16
Nest, eggs, young or adults destroyed	8	4	12
Nest, eggs, young or adults probably destroyed	3	6	9
Other forms of disturbance	4	3	7
TOTALS	37	21	58

difficult to ascertain, but these figures indicate that probably 58 out of 118 failures (almost 50%) were due to human interference—37 (45%) in the survey proper and 21 (58%) in the miscellaneous areas. Brown (1969) discussed breeding success in relation to the accessibility and remoteness of eyries and to how well-known they were; for his sample in north-west Sutherland, he concluded that human interference, direct or indirect and especially in easily accessible well-known sites, was probably the main cause of failure to breed successfully once the eagles had laid eggs.

In certain areas, especially perhaps in sheep country but to some extent also on grouse moors, Golden Eagles are still actively persecuted and nests, eggs, young and adults are often destroyed. The species also continues to rate high on egg-collectors' lists and every year a number of eyries are robbed. Casual disturbance from climbers, careless bird-watchers and photographers seems to be on the increase, especially perhaps in such areas of growing tourist interest as the Cairngorms, and with increasing numbers of people visiting the Highlands (and the Southern Uplands) this could be a growing problem, in spite of the 1967 Protection of Birds Act.

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SUMMARY

Following a report that the breeding success of Golden Eagles *Aquila chrysaetos* in a part of Wester Ross had declined markedly, probably due to increased toxic chemical residues ingested in prey, a survey was organised to study the success in selected areas of Scotland. The survey is still continuing, but this paper describes the results of the first five years from 1964 to 1968. Seven areas covering all the main habitats except one were chosen and are briefly described. Data were obtained for breeding attempts within these seven areas and some information was also received from other regions. In all, results were produced for 489 territory-years, thus giving figures for a large part of the Golden Eagle population of Scotland during 1964-68.

In Wester Ross breeding success rose from the low 1961-63 figure of 29% to near the 1937-60 level of 72% (these being the percentages of breeding pairs which reared young), following a drop of over 60% in dieldrin residues in eagles' eggs since the restrictions on this organo-chlorine compound in 1966; the number of young reared per breeding pair over the five years was 0.75. In Argyll the corresponding figure was only 0.41, and in samples in Monadh Liath, Perthshire and Speyside it ranged from 0.53 to 0.55. Deeside remained the area with the highest

average breeding success at 0.82 young reared per breeding pair, a figure which has scarcely altered since 1945. In Galloway, however, it was only 0.19. The mean rate of success over the seven areas during the five years was 0.58 young reared per breeding pair, which is exactly the same as that for all the other pairs recorded outside the survey proper. It is tentatively suggested that 0.50 young per pair may be adequate to maintain a viable adult population and that the species is currently holding its own in Scotland.

Eggs collected under licence during the survey were analysed for toxic chemical residues and the results are briefly discussed. Other reasons for breeding failure were difficult to ascertain in the samples covered, but human disturbance is clearly important: details are given to show that this was a factor in 45% of losses in the survey itself and in 50% of all failures.

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Sooty Shearwaters in the English Channel

P. J. Oliver

Since 1963, observations of Sooty Shearwaters *Puffinus griseus* off Cap Gris Nez (Pas-de-Calais), France, have suggested that this species is of far more regular occurrence in the autumn in the Straits of Dover than had formerly been supposed. This short paper summarises the relevant records from Cap Gris Nez Bird Observatory and compares them with the published status.

English and Continental authors have generally agreed that this

Table 1. Records of Sooty Shearwaters *Puffinus griseus* at Cap Gris Nez, France, grouped into ten- or eleven-day periods

Year	Sept 1st-10th	Sept 11th-20th	Sept 21st-30th	Oct 1st-10th	Oct 11th-20th	Oct 21st-31st	Nov 1st-10th	TOTALS
1962						3		3
1963			201					201
1964								—
1965		7				86	11	104
1966		1			1	1		3
1967					51			51
1968			324		3			327
1969			49	9		12		70
1970		1		55	139			195
TOTALS	—	9	574	64	194	102	11	954

species is rare on both coasts of the English Channel, at best occurring in only small numbers (see, for example, Mayaud 1953, Hollom 1965, Géroudet 1965, and Peterson, Mountfort and Hollom 1966). In Kent there were only five records in the ten years to 1967 (*Kent Bird Report* 1967), although in 1968 a total of six was recorded (*Kent Bird Report* 1968). There have been few records from Belgium (Commission pour l'Avifaune Belge 1967, Bulteel and Van der Vloet 1969).

At Cap Gris Nez, Redman (1956) observed three Sooty Shearwaters in the first week of October at a time of severe westerly gales, while Phillips (1963a) gave three August records from this region, all apparently of isolated individuals. Table 1 summarises the seasonal occurrence of the records from Cap Gris Nez during 1962-70, and

Table 2. Major movements of Sooty Shearwaters *Puffinus griseus* at Cap Gris Nez, France, from 1962 to 1970

Asterisks show that the relevant details were not recorded by the observers

Date	Wind direction and force	Hours of count	Total counted	Rate of passage per hour maximum	average
1 Sept 1963	W 6	9½	192	70	20
1 Oct 1965	SW 5	5	86	34	17
1 Oct 1967	SW 10 to WNW 8	6½	34	10	5
1 Sept 1968	W 4	7¾	120	*	15
1 Sept 1968	SW 6	9½	52	*	5
1 Sept 1968	NW 6 to NW 3	6½	152	*	25
1 Sept 1969	*	7½	24	*	3
1 Sept 1969	*	10	20	*	2
1 Oct 1970	SW 6 to SW 9	3½	34	*	10
1 Oct 1970	NNW 8 to NW 3	8	21	*	3
1 Oct 1970	WSW 7 to W 5	9½	133	58	14

table 2 gives fuller details of the principal movements (20 shearwaters or more in a day). These tables take into account the records in Vande Weghe and Van Impe (1964) and Gibbs *et al.* (1965), but exclude those of Phillips and Redman quoted above. Observations have been made with $\times 10$ binoculars, usually supplemented by telescopes or (in the case of Belgian observers) by more powerful tripod-mounted binoculars.

It will be noted that the largest concentrations of Sooty Shearwaters have been seen at the end of September, with smaller numbers in October and early November. All those recorded have been flying rapidly south-west down the English Channel, although occasionally some have been seen to alight briefly on the sea. In considering the seasonal distribution of the records it is necessary to take into account the periods when Cap Gris Nez Bird Observatory has been manned: in no case have observations been continuous throughout an autumn. In table 3 the incidence of manning is related to the recorded occurrence of the species. Although manning has been fairly frequent in late August, there is no recent evidence that Sooty Shearwaters occur off Cap Gris Nez in that month, and this period has therefore been excluded from table 3; manning has been negligible after early November. On the basis of the comparison in table 3, it appears that the totals in table 1 broadly represent a genuine pattern of occurrence, passage rarely taking place before mid-September and probably not after early November.

Major movements have always been associated with westerly winds (table 2), generally following the passage of deep depressions across the North Sea. Normally few or no Sooty Shearwaters have been seen at the worst periods of these gales, but once the rain associated with a depression has passed, and the sky has cleared, the movement has normally started. The weather conditions and pattern of occurrence of the shearwaters have been very similar for all the major movements

Table 3. Percentages of Sooty Shearwaters *Puffinus griseus* occurring in ten- or eleven-day periods at Cap Gris Nez, France, compared with percentages of days manned from 1962 to 1970

For each ten- or eleven-day period the upper line shows the percentage recorded in that period of the total numbers in all periods, while the lower gives the percentage days manned of the maximum possible in the nine years

	Sept 1st-10th	Sept 11th-20th	Sept 21st-30th	Oct 1st-10th	Oct 11th-20th	Oct 21st-31st	Nov 1st-10th
Percentage of shearwaters	—	1%	60%	7%	20%	11%	1%
Percentage of days manned	53%	65%	80%	52%	50%	54%	27%

recorded, except in 1968. In that year the movement continued for three days, whereas on all other occasions the peak occurred within a period of 24 hours. The passage of fronts across the North Sea that preceded the other movements was lacking in 1968, but it is not clear whether the more extensive movement in that year can be related to the difference in the weather conditions. The shearwaters have usually occurred singly at first, but later in parties, sometimes of up to 15 or 20 individuals. Rates of movement have varied widely up to a maximum of 70 per hour (table 2). Usually the shearwaters have been watched at moderate ranges, but on rare occasions, in overcast conditions, they have been seen as close as 200 yards from the Cap.

A few Manx Shearwaters *Puffinus puffinus* have usually been seen at the time of these movements, the most having been 36 between 22nd and 24th September 1968; numbers at the time of the October movements have always been less than ten. Passage of this species past Cap Gris Nez is less concentrated than that of the Sooty Shearwaters, and such larger movements as have been recorded (usually under 50 in a day, but once about 130) have not occurred later than the middle of September. Most Manx Shearwaters have been attributed by observers to the nominate race *P. p. puffinus*, but occasional Balearic Shearwaters *P. p. mauretanicus* have been identified both during and apart from Sooty Shearwater movements. Other seabirds are also normally seen during Sooty Shearwater movements, notably Gannets *Sula bassana* and, especially in October, Kittiwakes *Rissa tridactyla*. As the wind has moderated, the passage of shearwaters has generally diminished, but movement of other species, especially small skuas *Stercorarius spp.*, has often then started.

In addition to the observations at Cap Gris Nez, there are recent records of Sooty Shearwaters from Barfleur (Manche) at the north-east tip of the Cherbourg peninsula. In 1970 between one and five flew west on four dates from 24th August to 13th September and 56 were counted flying in the same direction during an all-day sea-watch on 6th September when the wind was north-west force 3 (D. B. Wooldridge *in litt.*).

Although it seems that migration occurs mainly after the passage of depressions, there is as yet no evidence of the nature of the factors that precipitate these movements. Gibbs *et al.* (1965) suggested that the Sooty Shearwaters seen passing Cap Gris Nez were returning from the North Sea to the Atlantic through the English Channel, a view contrary to that expressed by Phillips (1963a, 1963b) who concluded that those reaching the southern North Sea from Scottish waters returned northwards to the Atlantic. It now seems almost certain that at least some of these birds continue south and pass into the Atlantic through the English Channel. The records from Barfleur may also be consistent with such a pattern, although (perhaps partly

because of discontinuous manning) major movements have not so far been recorded there at the same periods as at Cap Gris Nez. It also seems certain that these shearwaters mainly pass close to the French coast: few occur in mid-Channel (there are occasional records in the observatory's files of single ones flying south-west seen from ferries between England and France) and almost none pass close to the south-east coast of England. The large numbers off Portland Bill in 1963 (Gibbs *et al.* 1965) appear to have been an isolated and exceptional occurrence.

On the basis of the records summarised in this short paper, it appears that the status of the Sooty Shearwater in the Straits of Dover must now be revised to that of a regular autumn migrant often occurring in moderate numbers.

ACKNOWLEDGEMENTS

I should like to thank my fellow members of the Cap Gris Nez Bird Observatory Committee and J. H. Phillips for helpful comments on earlier drafts of this paper, and D. B. Wooldridge for the records from Barfleur.

SUMMARY

Autumn records of Sooty Shearwaters *Puffinus griseus* off Cap Gris Nez (Pas-de-Calais), France, are presented and compared with published data. South-westerly migration has occurred in most recent autumns, generally after the passage of depressions across the North Sea. It is suggested that the status of this species in the Straits of Dover must now be revised to that of a regular autumn migrant.

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The Hastings Rarities: further comments

James M. Harrison

I am sure few would disagree that the controversy of the Hastings Rarities has now been thoroughly ventilated as a result of the publication in December 1968 of my book *Bristow and the Hastings Rarities Affair* in response to the original denouncement in August 1962 by Dr J. A. Nelder in his 'A statistical examination of the Hastings Rarities' (*Brit. Birds*, 55: 283-298) and by E. M. Nicholson and I. J. Ferguson-Lees in their review of 'The Hastings Rarities' (*Brit. Birds*, 55: 299-384). Since then, however, these three authors have discussed the issue further under the title 'The Hastings Rarities again' (*Brit. Birds*, 62: 364-381) and this and other developments call for some additional comments from me; all references here to that last discussion are given by the page numbers alone.

It must be stressed that my defence of George Bristow became imperative as a *direct result* of the original denouncement. It is true that no direct accusations were made therein, but the reactions of the Press certainly focused suspicion on Bristow; some even accused him openly. As I read the 1962 report, like many others I formed the impression that it was the contention of the importation of dead birds on ice that was the mainstay of the alleged fraudulent nature and consequent rejection of the Hastings Rarities. To quote, however, from the latest discussion by Messrs Nicholson, Ferguson-Lees and Nelder (page 368):

Our argument was merely *intended to indicate the possibility* [my italics] that specimens could have been brought in in this way and could then have avoided detection under the lax and dilatory methods of verification which the record shows to have been followed at Hastings at the time.

(Not that I subscribe to the view that the Sussex group of ornithologists was 'lax and dilatory'.) I reiterate that the point here is that the refrigerators of 1958-60 referred to in the comments quoted from Eric Gorton (pages 368-369) are a very different proposition from the inefficient ice-boxes of the pre-1928 era. Both would, however, show the effects upon the internal organs of the birds as detailed in my book (pages 30-32). The subject can always be recognised for what it is—frozen meat. Moreover, in the ice-boxes of the Bristow period the specimens became *wet*; whereas those put into modern refrigerators in polythene bags remain *dry*.

In a recent letter (*Brit. Birds*, 63: 89-90) R. A. H. Coombes also raised the issues regarding refrigeration and Bristow's alleged involvement, again swelling the volume of purely circumstantial evidence without any shadow of proof of the assertions made. Here

there are two points to consider. Firstly, the period to which his observations related (1939) was much later than the Bristow era and the design of marine refrigerators had by that time already been greatly improved. Secondly, the subjects of Mr Coombes's communication, geese, are not to be compared with the majority of the Hastings Rarities, mostly passerines and other smaller species, and therefore far more vulnerable to the damaging effects of the inefficient refrigeration of the pre-1928 period. Thus Mr Coombes's comments are not comparable and it is neither scientific nor acceptable criticism to draw unrealistic and inaccurate comparisons where circumstances of time and size are so totally different.

Mr Coombes's letter in this journal received publicity in *The Daily Telegraph* (27th July 1970) under the caption 'Ship steward imported "rare" British birds'. This had an astonishing result for, as if from nowhere, that ephemeral figure the ship's steward, Parkman, who had at this late stage entered the controversy incognito as Bristow's alleged secret agent and who had come to be regarded by many as the fount of the Hastings Rarities, was, through the mediacy of his brother, S. M. Parkman, J.P., suddenly revealed, just like some genie obedient to a rub on Aladdin's lamp, declaring not only his live presence but his identity as Alfred Parkman, and in a reply by the brother to *The Daily Telegraph* (3rd August 1970) all the allegations in Mr Coombes's letter were stoutly denied.

Mr Coombes stated that Alfred Parkman had mentioned Bristow as the destination for the birds, but here I must stress that this is no more than circumstantial evidence and, as such, quite worthless; as Mr Coombes himself admitted, it was lacking in any proof at all. I have been favoured by S. M. Parkman (*in litt.*, 6th August 1970) with the following information which was based upon a check of the facts, circumstances and dates with Alfred Parkman. To begin with, S. M. Parkman points out that his brother was a chief steward when he met Mr Coombes in 1939, but by no stretch of the imagination could he have been classed as 'elderly', his age at that time being 39; in this connection, Mr Parkman draws attention to the facts that the peak of the Hastings Rarities was during the second decade of the century and that the last five were recorded between 1925 and 1930.

It is true that Alfred Parkman did obtain specimens destined for Bristow's *address*, for the flat above the shop was let to S. Lambert who was at that time employed as a gardener by S. M. Parkman and who, having learned taxidermy from Bristow, had become a keen ornithologist. Alfred Parkman came to stay with his brother in summer 1935 and met Mr Lambert. The conversation turned to birds: Alfred Parkman told him that Peregrines *Falco peregrinus* were common around the Persian Gulf and offered to bring a specimen back from his next voyage to add to Mr Lambert's collection. In actual fact he

sent back two, addressed to his brother who duly delivered them to Mr Lambert. In conclusion, S. M. Parkman adds:

It is true, therefore, that my brother did bring birds home in cold storage and that they *did* end up at Bristow's address—or, rather, the flat above it. But that was the sole occasion—and it took place at least five years after the last recorded Hastings Rarity.

So these statements effectively dispose of Mr Coombes's story and the cherished hypothesis of the 'elderly steward' in connection with the Hastings Rarities.

I am further advised by Mr Lambert (*in litt.*, 16th July 1970) that he received a pair of Peregrines from Mr Parkman on 19th November 1936 and one other bird, a 'White-bellied Kingfisher' (presumably a White-breasted or Smyrna Kingfisher *Halcyon smyrnensis*), on 8th May 1937, thus fully substantiating S. M. Parkman's statement. I should like to add that Mr Lambert's acquaintance with Bristow dated from about 1929 and that he occupied the flat above the latter's shop from June 1934 onwards; these dates are of importance in relation to those of the Hastings Rarities.

There is in existence a letter from T. A. Coward to one of the Alexanders, dated 17th May 1923, of which I have seen a photocopy. This is of particular interest in the context of the Hastings Rarities, as the following quotation will bear out (Austen and Tart were two of the watchers, or wardens, employed by the Royal Society for the Protection of Birds on Dungeness at that time):

I stopped with Austen, and saw the other three watchers. Of course you know more about these men than I do, but I did not feel suspicious about any of them. I think that they were anxious to impress me with the work they were doing, but there was no suggestion of "feeling" if I wanted eggs. I cannot say that of all watchers, unfortunately. Austen is getting too old to tramp that beach, but he goes his rounds regularly—or did so whilst I was there—and on the day we came away he went off to Jury's Gap to see after the Pintail [*Anas acuta*] reported to be nesting there . . . There was just one point where Austen gave me more feeling of confidence than Tart. I asked them separately about the shooting of birds, and if they knew anything about Bristow and his methods. Now you may know Bristow, and he may be a perfectly honest man in many ways, but he is undoubtedly a *receiver* of illegally shot birds. I am not an extremist and have no real objection to the death of a *rare* migrant if it is going to teach us something fresh. But I do realise that the illicit shooting of birds for collectors means the slaughter of such birds as Kentish Plover [*Charadrius alexandrinus*], Ruff [*Philomachus pugnax*], Oriole [*Oriolus oriolus*] and Roller [*Coracias garrulus*] which might be intending to nest. . . . Now Tart, who I asked first, undoubtedly hesitated and then said he did not know Bristow. Austen said at once that he knew him and that he encouraged shooters to bring him their spoils, and I am not blaming the shooters (poor men) or Bristow to whom it means a living, but I do blame those so-called ornithologists who encourage the unnecessary slaughter.

These extracts from Coward's letter are of importance in that they supply contemporaneous evidence from a well-known ornithologist

who obviously considered that the Bristow birds could have been obtained locally.

Turning now to other points raised by Messrs Nicholson, Ferguson-Lees and Nelder in their reply to my book, I am challenged (pages 374-375) to amplify my remarks concerning the scrutineers of the Hastings Rarities seen in the flesh. Bristow was in fact complying with the conditions imposed by H. F. Witherby with regard to the showing of his birds to Dr N. F. Ticehurst. Mention of this compliance is indeed referred to by Dr Ticehurst in his comments quoted in my book (chapter IX: 98-112). I am gratified that the seven points I made in the summary of my book are all considered 'perfectly fair' (page 366), but I must make it clear that, in point 7, I did not criticise the 1962 report for 'investigating fully possible natural explanations of the occurrences', but expressed the view that it was in default in *not* investigating them fully. I think that by instancing the cases of the Buff-breasted Sandpiper *Tryngites subruficollis* at Rye in 1934 and the Pallas's Sandgrouse *Syrhaptes paradoxus* at Stodmarsh in 1964, both originally rejected and then later accepted (page 367), I showed that incredulity on general grounds can be overdone. In the case of the Audubon's Shearwater *Puffinus (assimilis) lherminieri* (page 376), I detailed every step in this fascinating story in my book (pages 61-63). I will add that when I showed the specimen to W. E. Dance at the time he expressed no doubts at all; in fact, he readily agreed as to its being the same bird he found on the beach at Galley Hill, off Bexhill. Mr Dance was not subjected to any duress whatsoever to make him sign the affidavit: no one is perforce obliged to sign such a document and can always decline!

Without any specialised knowledge of statistics (pages 371-373), I would merely say that I question the reliability and indeed the applicability of this method since (1) Messrs Nicholson, Ferguson-Lees and Nelder admit that the records rejected 'doubtless include many good ones' and (2) I myself listed in my book a number of unrecorded specimens, so that what was presented to the public as complete homogeneous analytical material was, in my opinion, no such thing. It seems to me that, as a substitute for 'rigorous scientific proof', statistics are vulnerable in the extreme. In fact, I do not see that any of the seven points in my summary have been effectively answered.

Further confirmation of 17 more of the Hastings Rarities has come to me through the kindness of Dr Ian Newton who has been carrying out research into irruptive movements of finches in Europe during this century. He has supplied me (*in litt.*, 16th March 1970) with most valuable information in support of the Bristow records of Pine Grosbeaks *Pinicola enucleator* and Two-barred Crossbills *Loxia leucop-tera*. Of the Pine Grosbeaks he wrote as follows on the next page.

Movements to the south and west of the usual winter range occurred this century in 1905, 1908, 1913, 1918, 1942, 1952, 1954 and 1956. This list may not be complete, but several authors have made the point that the recent irruptions extended less far than the earlier ones at the start of the century.

You give five dates, all of which fit in with these:

25 and 30.x.1905 (from the irruption of 1905)

4.iii.1909 (from the irruption of 1908)

20 and 25.i.1914 (from the irruption of 1913)

The irruption years for Two-barred Crossbills were then listed by Dr Newton as 1902, 1903, 1907, 1909, 1910, 1911 (small) and 1913, and he continued:

You give, I think, three dates for Two-barred Crossbills:

10.iii.1908 (from the irruption of 1907)

15.i.1914 (from the irruption of 1913)

20.i.1914 (from the irruption of 1913)

In all, ten Pine Grosbeaks and seven Two-barred Crossbills were obtained on these dates. Here then are 17 more records which must surely be regarded as fully substantiated, conforming as they do to a completely irregular irruptive pattern. Such evidence as this must be a major factor in support of my views on the validity of the Bristow records.

To bring the story up to date, it is interesting to note how many of the Hastings Rarities were recorded in the same area in 1968, the latest year for which full details are available. In the Bristow era, from 1892 to 1930, the average number of rarities which have been annulled from the records is only 14 per year. In 1968 there were, in fact, no fewer than 64 records of 22 species—a big difference! Such a figure exceeds any that Bristow was able to produce in his best years and must emphasise the great potentiality of the area for rarities. Time and again the same species are recurring and it is pleasing to note that in 1968 the first Thrush Nightingale *Luscinia luscinia* and Sociable Plover *Vanellus gregarius* were seen in Kent since the Bristow records. The case of the recent Nutcrackers *Nucifraga caryocatactes* is interesting in view of the statement that the Hastings ones 'tended to be recorded in the wrong years' (*Brit. Birds*, 62: 370). How is it that at Dungeness, an area with virtually daily coverage, no Nutcrackers were seen in the great invasion of 1968 and yet they were recorded there in 1967 (*Brit. Birds*, 61: 348) and 1969 (*Brit. Birds*, 63: 373). Does this mean that these should have been regarded as unacceptable because they were in the wrong years?

The value of using the modern records of Cranes *Grus grus*, Mediterranean Gulls *Larus melanocephalus*, Gull-billed Terns *Gelochelidon nilotica* and Bearded Tits *Panurus biarmicus* in a comparison with the Hastings Rarities is questioned (page 379) because the status of these birds has changed, but this is surely what it is all about. If it had been the other way round, if they had been commoner in the

Hastings era instead of now, this would presumably have been used as grounds for their unacceptability. Similarly, on the discussion regarding the area concerned (also page 379), the modern rarities in the Eastbourne area must surely be unacceptable to those who refute the Bristow birds, because there are so many Eastbourne records compared with numbers in the past, just as the Hastings records are unacceptable because there were so many compared with the modern period.

Now in 1970 we have had the first record for the Hastings area of a Great Spotted Cuckoo *Clamator glandarius* at Dungeness on 22nd August, a species common in the Mediterranean region but of which, like the Collared Dove *Streptopelia decaocto*, Bristow never had a specimen; also a Bonelli's Warbler *Phylloscopus bonelli*. Moreover, a Broad-billed Sandpiper *Limicola falcinellus* ringed in Kent on 31st August represented another comeback by a first-class rarity and the date is interesting when compared with those of the two Bristow specimens of this species, 28th August and 1st September: either one must agree that Bristow was incredibly clever at 'arranging' the right dates for his specimens, or one must accept that they were genuine.

Great stress has been laid upon the improbability of certain non-migratory birds among the Bristow records, such as the Wallcreepers *Tichodroma muraria* and Snow Finches *Montifringilla nivalis*. Now, however, a Wallcreeper has been recorded in Dorset from 19th November 1969 to April 1970 and accepted as a genuine vagrant by the Rarities Committee (*Brit. Birds*, 63: 283); while, according to P. F. Bonham and Dr J. T. R. Sharrock in 'Recent reports' (*Brit. Birds*, 62: 552), a Snow Finch was seen in Suffolk from July 1969 to at least February 1970. Discussing the latter, these authors wrote as follows:

The origin of the Snow Finch is more of a puzzle [than that of the Wallcreeper], particularly in view of the remarkably early date and the very sedentary nature of this species, but as yet no escapes have come to light and it is just possible that this, too, is a wild bird which has somehow reached the British Isles. The only previous records were among the Hastings Rarities and the species is therefore not currently on the British and Irish List.

Significantly, another Snow Finch occurred in autumn 1968 in the Netherlands: it was a first-year bird which showed no signs of having been in captivity and the specimen was preserved. Are the Bristow Snow Finch records really so suspect and were Dr Ticehurst's full comments on them in my book to be so lightly dismissed? I think not.

Without doubt, Messrs Nicholson, Ferguson-Lees and Nelder considered that the publication of Mr Coombes's letter implicating the 'elderly' steward was the final proof they needed. I was kindly favoured with an advance copy of the issue of *British Birds* in which it

appeared, with a covering note to say: 'We thought you might be interested.' This showed their relief at having obtained at long last, so they thought, the proof they so sadly lacked before. What followed four days later is now history.

As to financial incentive, one point above all else stands out in the reply to my book. It is the complete failure of the authors to account for one small fact: that I paid Bristow 10s for the Audubon's Shearwater, a new British bird, in comparison with, for example, 12s 6d for a Shelduck *Tadorna tadorna*.

*Dr James M. Harrison, Bowerwood House, St Botolph's Road,
Sevenoaks, Kent*

In fairness to the two Mr Parkmans and Dr Harrison, we have considered it essential to publish the clarification on pages 61-63 of the point raised by R. A. H. Coombes; we would comment only that it does show what earlier stewards could have done.

We are also glad to give space to Dr Harrison's remarks on pages 64-65 about the movements of Pine Grosbeaks (and Two-barred Crossbills, though we had not investigated the latter), on which Dr Newton puts a somewhat different interpretation from Dr G. Svårdson whom we followed as a leading authority on this subject. We must, however, repeat Dr Svårdson's conclusion that the only major irruptions in Scandinavia between 1890 and 1930 were in 1890-91 and 1918-19 (south Sweden and Denmark) and 1923-24 (central Sweden); the first and last of these are not given by Dr Newton and, for the other years he quotes, the significant words seem to be 'Movements to the south and west of the usual winter range'. According to Dr Svårdson, such movements occurred in Fenno-Scandia in several other autumns which Dr Newton does not list, namely 1900, 1906, 1910, 1912, 1915, 1921 and 1923, but none of these was on any great scale and we suspect that the same applied to 1905, 1908 and 1913, though in the last of those years some numbers were reported in east Prussia; one would, of course, expect the species to have been somewhere outside its normal range, especially in the Baltic area, for it to have become 'available' at Hastings.

We believe that most of the other points raised by Dr Harrison are covered by our two papers cited in his opening paragraph. Some readers may, however, be puzzled by his statement on page 65 that there were 64 records of 22 of the same species in the Hastings Area in 1968. In fact, as an analysis of the appropriate annual reports for Sussex and Kent will show, the score was actually only 26 of 18 species (20 of them at Dungeness). The majority of these were class II or class III species, as one would expect, and by present-day standards the only major rarities were a Cetti's Warbler *Cettia cetti* and

a Pallas's Warbler *Phylloscopus proregulus*. A further 30 records (including nine additional species, of which only a White-throated Sparrow *Zonotrichia albicollis* would be a class I rarity) came from the Beachy Head area in 1968, but we made it clear in 1962 that we excluded that part from our definition of the Hastings Area. (Incidentally, the Thrush Nightingale, the Sociable Plover and the Broad-billed Sandpiper mentioned by Dr Harrison for 1968 and 1970 were all well outside the defined area.) His 1968 total is otherwise inflated by a whole series of Bearded Tits, a species which for obvious reasons was never included by us amongst the Hastings Rarities. Even if, however, for the sake of argument, we accept Dr Harrison's figure of 64 records, which includes only seven major rarities, this pales beside the peak year at Hastings (1914) when there were 63 rarities, of which no less than 42 were class I (including two Rüppell's Warblers *Sylvia rueppelli*, two Grey-rumped Sandpipers *Tringa brevipes*, a Noddy Tern *Anous stolidus* and so on).

We emphasise again that the absurdities of the Hastings Rarities as a whole were the uniquely large proportion of class I rarities, the absence or small numbers of many lesser rarities that one would expect if the policy were to encourage a wide circle of country people to bring in any unfamiliar birds, and the astonishing incidence of multiple records of pairs and parties. We and Dr Harrison must be content to agree that the differences between us are irreconcilable and that the subject is now best entrusted to the judgment of his and our readers.

E.M.N. and I.J.F.-L.

Studies of less familiar birds

163 Orphean Warbler

Geoffrey Beven

Photographs by M. D. England and Geoffrey Beven

Plates 9-11

The photographs of the Orphean Warbler *Sylvia hortensis* on plates 9-11 were taken during June 1968 in Castelo de Vide in central Portugal; both of the nests were in olive trees, one being occupied by a young Cuckoo *Cuculus canorus* (plate 11b).

This robust-looking warbler is about six inches long. The adult male has a dull greyish-black or brownish-black cap, usually darker in summer and clearly extending below the eye. The cap merges into the grey or greyish-brown mantle, and the dark brown wing-feathers

are edged with brownish-grey. The lores and ear-coverts are blacker than the crown. The throat is pure white and the white under-parts become pinkish-buff on the flanks, while the tail is brownish or greyish-black with white outer feathers. Females are generally slightly browner, the forehead and crown being greyish-brown, but even when darker in summer these parts remain brown rather than black. Nevertheless the sexes are sometimes difficult to tell apart in the field. Juveniles have browner upper-parts than females, though their under-parts are whiter. The upper mandible is black, the lower usually bluish-grey with a black tip (see plates 10 and 11b), but the beak may be entirely black (as in plate 11a). The legs and feet may be bluish-black, slate or greyish-brown.

At close range the pale yellow or yellowish-white iris is most distinctive. Some birds have dark eyes, however, ranging from dirty greyish-white or light greyish-brown to dark sepia or dark grey (Rooke 1956, Fry 1959, McGeogh 1963, Williamson 1968, Griffiths *et al.* 1970). These dark-eyed individuals appear to be widespread as they have been observed in Iran, Arabia, Turkey, southern France and Cornwall. In addition, when with us in Castelo de Vide, Jack Hulbert caught one such bird in a mist-net on 19th June 1968 (plate 11a). The irides were brown, not pale, and both mandibles were black throughout. The cap was grey, not at all brownish or blackish, and below the cap but above the lores there was a faint whitish eye-stripe; the lores and ear-coverts were black, and the mantle was brownish-grey. For identification purposes, the measurements and wing-formula were checked against Williamson (1964). This author was quoted by McGeogh (1963) as having pointed out that eye colour in some *Sylvia* warblers varies with age and season, while Géroudet (1950) has observed that young Orphean Warblers have brown irides and could be confused with some other warblers.

The Orphean Warbler may be readily distinguished from the male Blackcap *S. atricapilla* which is smaller, has a clear-cut black cap just reaching the eye, and has no white in the tail. The male Sardinian Warbler *S. melanocephala* is also smaller and has a shining black hood extending below the red eye. Immatures may resemble young Barred Warblers *S. nisoria* but have shorter tails, upper tail-coverts without light tips, and less distinct wing-bars. Dark-eyed birds, with grey caps and dark lores and ear-coverts (plate 11a), may be momentarily confused with Lesser Whitethroats *S. curruca* (Rooke 1956, Griffiths *et al.* 1970). In Arabia, dark-eyed individuals of the south-eastern European race of the Orphean Warbler (see below) on passage or wintering might need to be distinguished from the resident Arabian Warbler *S. leucomeleena*, in which the sexes are similar and generally darker than male Orphean Warblers with the cap not so clearly defined. Many females of the latter, however, appear to be difficult, if not impossible, to

separate from Arabian Warblers in the field, though readily distinguished by measurements and wing-formula (Williamson 1968). In their winter-quarters in tropical Africa or on passage in Asia Minor, those Ménétries' Warblers *S. mystacea* with pale yellow eye-rings may show some similarity to Orphean Warblers; this species also has a black crown and ear-coverts, but it is noticeably smaller and has a white moustachial streak and pink under-parts.

The Orphean Warbler has a south-western Palearctic distribution, nesting in north-west Africa from Morocco to Tripoli and also in Cyrenaica, and in southern Europe from Portugal, Spain and Majorca through southern France to the Balkans. In northern Italy it was recently found breeding in the Valle d'Aosta (Géroudet 1967), and perhaps it also nests in Sicily. It breeds sparsely and irregularly in south-west Switzerland and in the vicinity of Lake Geneva (Géroudet 1950), and in 1966 it was rediscovered breeding in Valais (Bottani 1967). Its range extends eastwards through Asia Minor, Israel, Transcaucasia, Iran, Transcaspia and Russian Turkestan to Baluchistan and Afghanistan. In the past it has nested in south Germany and Luxembourg, and has occurred as a vagrant in Austria, Belgium, Britain, Czechoslovakia, the East Frisian Islands (Goethe 1965), Heligoland (Vauk and Gräfe 1965), Jersey and Madeira. (Data on distribution mostly from Vaurie 1959 and Voous 1960.) In Britain there are three records: near Wetherby, Yorkshire, on 6th July 1848 (Witherby *et al.* 1938-41), at Portland, Dorset, on 20th September 1955 (Rooke 1956) and at Porthgwarra, Cornwall, on 22nd October 1967 (Griffiths *et al.* 1970).

In autumn the Orphean Warblers migrate south, leaving south-west Portugal, Switzerland and Greece in August and September, although they are remarkably scarce in the eastern Mediterranean at this season. Ogilvie (1954), however, observed 'a large flock' in northern Asia Minor in August. From the end of September until May they are found in the southern Sahara and tropical Africa (from Senegal, Niger and Chad to the Sudan), and they remain in Eritrea from mid-November until late March. The winter range also includes Arabia and southern India. In the spring they travel north through the Spanish Sahara, Morocco, Tunisia and Tripoli to reach the Balearic Islands by the end of March, not arriving in Spain or Switzerland until late April or early May. They are common in Cyprus in spring, and by early April have appeared in Greece, reaching Israel by early May. (Data on migration and wintering from Vaurie 1959, Voous 1960 and Moreau 1961.)

The south-western European race *S. b. hortensis*, already described, breeds in north-west Africa and southern Europe and winters in the Sahara and tropical Africa. The south-eastern European race *S. b. crassirostris* breeds in Cyrenaica and from the Balkans and Asia Minor



PLATE 9. Female Orphean Warbler *Sylvia hortensis*, Portugal, June 1968. Note the pale iris emphasised by the dull blackish cap down to the lores and ear-coverts; otherwise the bird is grey-brown above with white outer tail-feathers and white below shading to pinkish-buff on the flanks (pages 68-74) (photo: M. D. England)



PLATE 10. Female and, below, male at same nest nine feet up in an olive. Note the stoutish black bill, bluish-grey at the lower base. Nests are loose cups of roots and grasses ornamented with flowery weeds and vegetable down and lined with fine stems and roots, hair, a few lichens and so on (page 73) (*photos: M. D. England*)



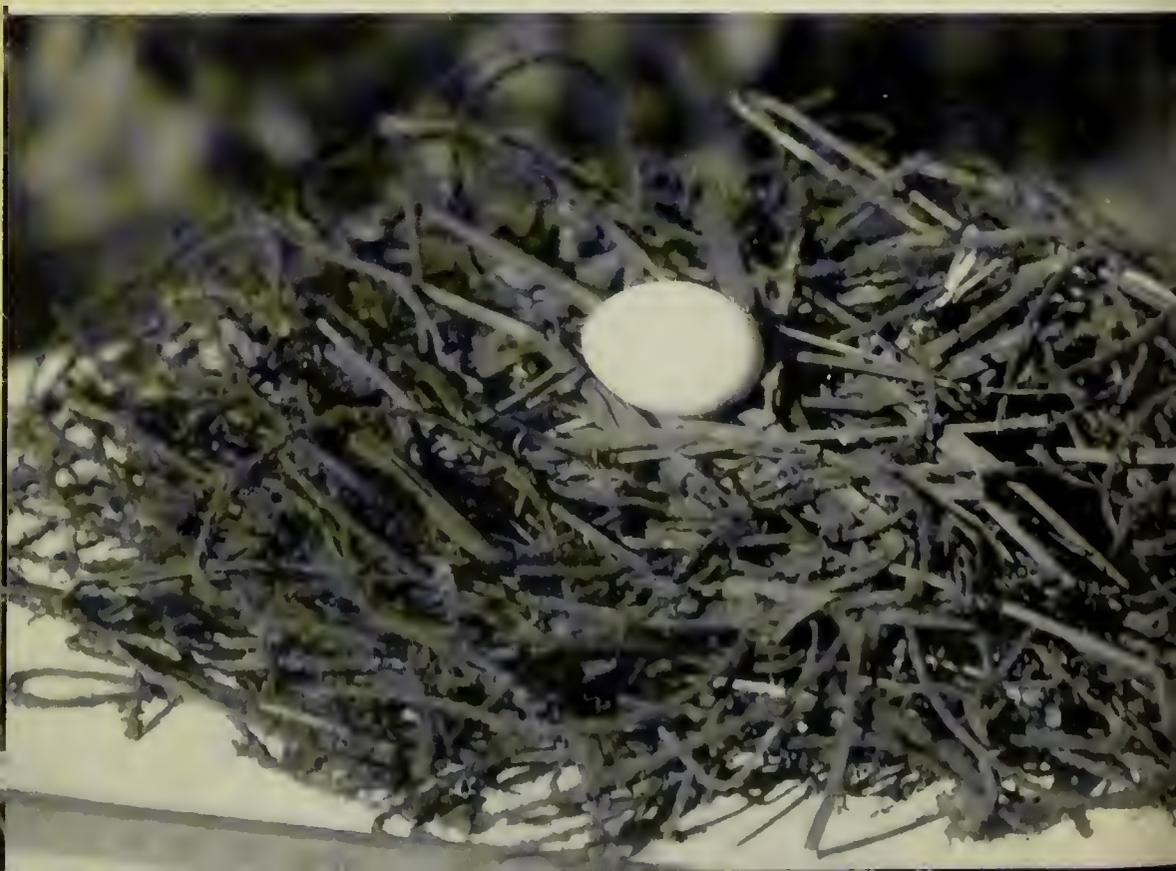


PLATE II. Above, Orphean Warbler *Sylvia hortensis* with brown (not pale) irides, all-black bill, grey (not dark) cap and short, faint, pale supercilium, Portugal, June 1968 (page 69) (photo: G. Beren). Below, male feeding young Cuckoo *Cuculus canorus* in a nest eight feet up in another olive close by (photo: M. D. England)





PLATE 12. Above, female Scaup *Aythya marila* on nest, Finland, June 1958, showing whitish crescentic patch behind the ear-coverts (page 87) (photo: Eric Hosking). Below, nest of Feral Pigeon *Columba livia* made of rusty wire, measuring nearly a foot across and weighing 2 lb 7 oz, Liverpool, 1951 (page 77) (photo: Eric Hardy)



to Transcaucasia, wintering in Arabia and north-east Africa. It is somewhat greyer and its black cap is more sharply defined; the bill and tail are slightly longer. A third race, *S. b. jerdoni*, with upperparts a purer grey, a more extensive dense black cap and a longer tail, breeds from Iran and Transcaspia to Afghanistan, wintering in peninsular India. Vaurie (1959) recognised a fourth race *S. b. balchanica* in Transcaspia and Iran, but Williamson (1968) considered that the slight plumage differences hardly warranted separate recognition.

Mainly an arboreal species, the Orphean Warbler inhabits open forests of cork oak *Quercus suber*, ilex oak *Q. ilex*, pines *Pinus spp* and other trees, where the undergrowth is poorly developed or absent. In the Coto Doñana it breeds sparsely in the stone pine and juniper zone where bramble and pistachio *Pistacia lentiscus* are present (Mountfort and Ferguson-Lees 1961). Commonly found in groves of orange and olive trees, in orchards, gardens and parks, it occasionally breeds in tangled hedges, in light Mediterranean scrub with scattered trees and, in Lebanon, on scrub-grown hillsides (Hollom 1959). It occurs up to 2,700 feet in the French Alps (Géroutet 1950), 5,000 feet or so in the Taurus mountains of Turkey (S. Cramp) and 8,000 feet in Armenia (Dementiev and Gladkov 1966-68). In the Swiss Valais its distribution closely follows that of the wigtree *Cotinus coggygria* (Desfayes 1967). On passage it favours olive groves and dry scrub, sometimes at altitudes up to 7,000 feet in mountainous country. In Tadzhikistan Orphean Warblers appear to migrate along mountains, apparently not descending into valleys (Dementiev and Gladkov 1966-68). The winter habitats are acacia savannah, palm groves and river-side scrub.

In general habits the Orphean Warbler resembles the Blackcap, but shows a preference for larger bushes and trees. On raising its crown feathers it acquires a peaked appearance. It flits about the canopy of the cork oaks and picks ants and other small insects from the gnarled trunks of the olives. Except when singing it is not conspicuous and is easily overlooked (Desfayes 1967). On arrival in its breeding area it shows little shyness and will allow close approach. One bird feeding a Cuckoo in central Spain became absurdly tame, even allowing itself to be caught in the hand (Bannerman 1954). Similarly in Portugal, at the nest containing a Cuckoo shown in plate 11b, one adult or the other repeatedly approached close to the nest with food while we erected a hide. Later, however, they became very wary and difficult to photograph, while Bottani (1967) commented on extreme shyness in a bird in Switzerland. Géroutet (1950) described how, when he approached a nest with young, the female became highly agitated, repeatedly calling in alarm and continually vibrating her wings and moving her tail up and down and from side to side, giving him an impression of 'injury-feigning'.

Orphean Warblers feed mainly on earthworms and insects, especially grasshoppers and green caterpillars, some of which may be very large. Bannerman (1954) recorded their eating many hairy caterpillars of the Gypsy Moth *Ocneria dispar* during a plague on ilex in central Spain. Food brought to the nest in Portugal included many green grasshoppers. Although their legs had often been removed, some of these larger insects were swallowed only with difficulty. After placing the grasshopper in the chick's gaping beak the adult hammered it vigorously or pulled it out several times, so that the insect became steadily more squashed and perhaps broken up, with juice dripping out and bits falling into the nest, to be replaced in the youngster's bill and ultimately swallowed. There was often a similar struggle with the larger caterpillars. Other food for the nestlings included small moths, stick insects (Phasmidae) and once a small black berry. An adult Orphean Warbler flew into our mist-net while carrying in its bill a large Oak Hawk Moth *Smerinthus quercus*, not yet dead. In the autumn ripe fruits, including figs and berries, may be eaten, and in winter the birds consume many insects and fruits, especially berries of the saltbush *Salvadora persica*.

The song is delivered from within the foliage of a bush or tree, sometimes while moving about and often from high up in a cork oak or perhaps from a perch close to the nest tree. Occasionally the male sings in flight from bush to bush (Géroudet 1950). The south-eastern European race *S. b. crassirostris* has a loud, thrush-like, vigorous and pleasant warble, without harsh notes, regularly repeated four or five times. On the other hand, the song of the south-western European race *S. b. hortensis* is a more monotonous, though melodious, 'wee-jee-wee-jee' or 'wee-hoo-wee-hoo', reminiscent of a Song Thrush *Turdus philomelos*. There is a call 'tyut-tyut' or 'tac-tac', like that of a Blackcap, and a very deep, harsh, rattling, scolding alarm.

Nests are built in trees, usually in woods, orchards, orange and olive groves, or often in quite low bushes, especially in south Tunisia and in parts of Switzerland where hazel and berberis may be used. Sometimes they are found near the centre but often among the outer branches, and very occasionally even in ivy on a tree trunk. The usual height above the ground is between five and ten feet, but may be as low as three or as high as 15 feet. In Spain small oaks and polarded ilex are often used, and sometimes orange trees; in Almeria, on 23rd May 1960, we found a nest with five eggs six feet up on a wire-trained horizontal branch of a grapevine. Of five nests seen in central Portugal in 1968, four were in olive trees between seven and 13 feet above ground, while the fifth was at seven feet in the outermost branches of a silver lime *Tilia tomentosa*. Those on plates 9-11 were both in olive trees, the one with the young Cuckoo (plate 11b) at a height of eight feet and the other at nine feet.

The nest is a small, neat, open cup of roots and grasses, sometimes so loosely built that the light shows through (Dementiev and Gladkov 1966-68). It is often ornamented with flowery weeds and down, and lined with fine roots, hair or thin stems, a few lichens, some vegetable down and perhaps spider's web. The measurements of one of our Portuguese nests were: inside diameter of the cup $2\frac{1}{4}$ to $2\frac{1}{2}$ inches, depth $1\frac{1}{2}$ inches; outside diameter of the nest 4 inches, depth 2 inches. Although it looks delicate, Géroudet (1950) found that one occupied nest did not disintegrate in spite of a violent storm during the night. In another locality exposed to the wind, however, a nest was reduced to a few twigs barely one week after the young had left (Bottani 1967).

There are usually four or five eggs, but a clutch of six is not uncommon in Switzerland (Géroudet 1950) and clutches of seven have been recorded. The eggs are pale greyish-white or bluish-white, marked with specks, streaks or larger blotches of lavender and olive-brown, more numerous at the broad end. The eggs of *S. b. crassirostris* are more uniform and less richly spotted (Etchécopar and Hüe 1967). Glossy white eggs with few spots have been found in Spain (Bannerman 1954). Full clutches may be found in Tunisia from mid-April to early June; and in southern Europe from the end of April until early May in Greece and until 11th June in south Spain (Bannerman 1954). In central Portugal we found nests with four eggs as late as 10th and 25th June 1968 respectively. In Switzerland full clutches may be found from early May until mid-June (Géroudet 1950, Bottani 1967).

Incubation, which is shared by both sexes, lasted twelve days in one instance recorded by Géroudet (1950). While the female is incubating, the male frequently sits on a branch close to the nest and may betray the site by flying off (Bannerman 1954). The adults meticulously attend the young, searching and probing the nest thoroughly and flying off with faecal sacs. One female I was watching probing in this way accidentally nudged a young bird, which fell nine feet to the ground with a thud. She immediately flew down to it and fussed around with much deep churring, while the youngster scrambled about vigorously. When I picked it up and climbed the tree to replace it in the nest, both adults mobbed me continuously while the fledgling called repeatedly from my hand. Bottani (1967) estimated that the young left a nest which he had been watching on about the thirteenth day after hatching.

ACKNOWLEDGEMENTS

It is a pleasure to thank Sr J. F. Bugalho and his family for giving us permission to photograph the birds on their property in Castelo de Vide, and also to thank him and Sr Antonio Cano, who assisted us in Almeria in 1960, for their help in the field and for many other kindnesses. I am also grateful to M. D. England and other members of his party for allowing their observations to be included in the above account.

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Notes

We regret that, owing to the Post Office strike, it was impossible to send proofs of most of the short items that follow to the authors concerned (though we managed to get galleys of all the main papers delivered). The same applies to the notes on Great Black-backed Gull, pigeons and doves, and Barn Owl in the January issue. We hope that no errors have resulted, but we shall be glad to publish any corrections that are necessary. EDS

Great Northern Divers, Goldeneyes, Fieldfares and Wrynecks breeding in Scotland Some unusual breeding records have been published in *Scottish Birds* in 1970. A pair of Great Northern Divers *Gavia immer* with two unfledged young were seen in late June and early July 1970 on a loch in Wester Ross. Although this species often summers in northern Scotland and nesting has been suspected before, this is the first authentic breeding record for Britain and Ireland (*Scot. Birds*, 6: 195). In mid- and late July an adult female Goldeneye *Bucephala clangula* was seen with four chicks on a lochan set in mature woodland in east Inverness-shire. Spring courtship, and even mating, frequently occur as late as May in that area, and in four of the previous seven years single birds had summered at one or more localities. In 1970 a female had been seen on the lochan in early May and a male up to late June, and then in July came the sightings mentioned above. A description of the young was published: this differs somewhat from that given in *The Handbook* (3: 308-314, plate 89). The female was full-winged and unringed, and the birds were considered likely to have been of wild origin (*Scot. Birds*, 6: 197-198). This was the first breeding record for Scotland and, indeed, for Britain and Ireland apart from the nests found in Cheshire in 1931 and 1932 (see *The Handbook*). The third species nesting on the Scottish mainland for the first time in 1970 was the Fieldfare *Turdus pilaris*: six young fledged from a nest in east Inverness-shire on 16th and 17th June (*Scot. Birds*, 6: 212-213, plate 15). Notes on Fieldfares breeding in Orkney in 1967 and in Shetland in 1968 have appeared in *British Birds* (61: 84-85; 62: 36-37).

Finally, we quote the summary of a paper by H. Burton, T. Lloyd-Evans and D. N. Weir on Wrynecks *Jynx torquilla* breeding in Scotland (*Scot. Birds*, 6: 154-156): 'In the latter part of the decline of the English Wryneck population from about 1950, there was an increasing number of summer records in the east Highlands, especially Speyside. In 1969 Wrynecks were present at five localities there and three nests were found, most birds probably arriving at the end of May. Broods of about 2, 6 and 8 young fledged in the period 15th-23rd July, the first breeding records for Scotland. Details of nests and observations of the birds are given and it is suggested that they were of Scandinavian origin.'

THE EDITORS

Little Grebe actively defending nest-site from Coot Some years ago I was watching a pair of Little Grebes *Podiceps ruficollis* at their nest on a small village pond at Whickham, Co. Durham. One of the pair, I think the female, was incubating while the other was at the far end of the pond. A Coot *Fulica atra* approached the nest; when it was about 20 feet away, the female grebe uttered a series of alarm calls, and the male responded by flying over and landing squarely on

the Coot's back. At this the Coot hurriedly departed. Later the male took over incubation, and by then one egg had just hatched; again the Coot approached but the female did not respond to her mate's alarm calls. He became very agitated, obviously unable to choose between going into the attack and staying with the chick; eventually the latter instinct won. The Coot continued on its way but avoided coming too close to the grebe.

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Woodcock nesting in hole in bank On 12th July 1970, in a disused sand pit planted mainly with larch, hawthorn and beech at Pebley, Derbyshire, I discovered a deserted nest of a Woodcock *Scolopax rusticola* containing four eggs at an advanced stage of incubation. It was in an open site, in a natural cavity five feet up from the base of a steeply sloping grassy sandbank. An overhanging clod of earth formed a 'roof' for the nest, but this had more or less collapsed. Two of the eggs had been partly predated. Desertion had probably occurred when the 'roof' caved in, perhaps because someone had accidentally stepped upon it.

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This is an interesting variation from the description in *The Handbook* (4: 188): 'Nests in woodlands: in south usually at foot of forest tree. Sometimes quite open or sheltered by undergrowth . . . *Nest*.—Mere hollow in mossy ground, often close to tree. . . ' EDS

Sabine's Gull persistently 'treading' to disturb organisms On 25th September 1970, at Pennington Marshes, Hampshire, we obtained close views of a juvenile Sabine's Gull *Larus sabini* walking about in muddy pools on *Spartina*-covered mud-flats. It frequently paddled its feet up and down in a treading motion whilst in shallow water, presumably to disturb various organisms in the mud at the bottom, as it then pecked at the resulting disturbance. This behaviour was not described for Sabine's Gull in *The Handbook* (5: 51), and Dr D. A. Bannerman, in volume 11 of *The Birds of the British Isles* (1962), mentioned only 'pattering across mudflats'; it would appear to be hitherto unrecorded, certainly in this country where one can seldom make prolonged observations of this species.

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A. C. Bent (1921, *Life Histories of North American Gulls and Terns*: 191-196) wrote: 'On their breeding grounds, the Sabine's gulls feed in the small ponds and pools on the tundra, where they find small fishes, aquatic worms, insects, and larvae, and small crustaceans.

They hover over the pools, daintily picking up their food from the surface, but apparently never diving for it. . . . These gulls spend much time, when the tide is out, feeding about the mud flats, where they run about like shore birds'. This is the source of the statements on feeding behaviour in *The Handbook*. Dr K. E. L. Simmons has also commented: 'In their paper on this species in *Behaviour* (28: 110-140), Brown, Jones and Hussell stated that it is very versatile in collecting food on the nesting-grounds; they mentioned (1) wader-like feeding on mud; (2) phalarope-like feeding on water; (3) tern-like hovering and plunge-diving; (4) scavenging; (5) egg-taking—but *not* paddling'.

Miriam Rothschild (*Brit. Birds*, 55: 114-117) and Professor Niko Tinbergen (*Brit. Birds*, 55: 117-120) discussed in detail foot-paddling, or treading, behaviour in gulls, specifically Herring *L. argentatus*, Common *L. canus* and Black-headed Gulls *L. ridibundus*, but it seems very likely that most, if not all, gulls do this at times. Under Herring Gull in *The Handbook* (5: 86), it was said to be 'common to several other species'. EDS

Guillemots feeding in fresh water While fishing in the River Tay at Dunkeld, Perthshire, between 20th September and 1st October 1969, I was surprised to see Guillemots *Uria aalge* flying up and down the river. I saw them almost every day with a maximum of four at the same time; at least seven individuals were almost certainly involved. They often swam downstream repeatedly diving, apparently fishing. One was seen to climb, with difficulty, out of the water on to a large bare rock on the bank; another swam in to the edge of a shingle bank almost at my feet and seemed remarkably tame. I again saw Guillemots occasionally at Dunkeld between 17th September and 1st October 1970, but never more than the odd single bird.

Dunkeld is more than 15 miles above the upper limit of the tidal reaches of the Tay estuary, and I have been unable to find any records of auks regularly penetrating so far inland up a river system in the British Isles. The plumage of these Guillemots appeared to be in good condition and there was no indication that they had been 'rehabilitated'. Apparently they are regular on the Tay; conditions at sea were not severe in the above periods.

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Pigeons, crows and other species building nests of wire I was interested in P. W. Hemmings's description and photograph of a nest of Feral Pigeons *Columba livia* built of thin strands of stainless steel wire (*Brit. Birds*, 63: 36-37, plate 7a). I have come upon several Feral Pigeons' nests made of much heavier, rusty wire in Liverpool and elsewhere. That shown in plate 12b was found in an empty warehouse in Manesty's Lane, Liverpool, in 1951; it was constructed of rusted

galvanised wire, much of which had apparently been bent into shape, and was partly lined with straw (it also contained paperclips and a hairpin). This nest measured nearly a foot across and weighed 2 lb 7 oz. Two eggs were laid, but the outcome is not known.

During the 1939-45 war I had considerable experience of nests built of wire by Ravens *Corvus corax* and Brown-necked Ravens *C. ruficollis* in Jordan. At one period I was responsible for a British Army Signals unit maintaining line communications on the route to Baghdad across the Jordan desert. Both species commonly nested on our telegraph poles, using spare wire which the linesmen had left around the base of the pole; the wire framework was lined with straw or twigs when available. Faults on the line were sometimes caused by these wire nests, usually between early March and early June. In 24 hours one spring a colleague destroyed 200 ravens' nests on 125 miles of desert line between Mafraq and H4; so persistent were the birds in building on these limited nesting sites that, travelling over this route only six hours later, he counted another 70 nests which they had rebuilt. A note on this incident was published in the *Bulletin of the Jerusalem Naturalists Club* (31: 3).

The use of wire is not infrequent in industrial or desert areas where there is a shortage of normal nest-building materials. In addition to the above, I have also heard of occasional wire nests of Heron *Ardea cinerea*, Kestrel *Falco tinnunculus*, Woodpigeon *Columba palumbus* and Rook *Corvus frugilegus*.

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In the Royal Scottish Museum, Edinburgh, there are two examples of nests built of wire by Feral Pigeons. One, collected about 1953, is about nine inches across and two inches deep, and weighs ten ounces. It is constructed of three-foot strands of stainless steel wire about a sixty-fourth of an inch in diameter and shorter lengths of soft galvanised iron wire up to a sixteenth of an inch in diameter. Two pieces of split cane are also incorporated. The other nest, found in Edinburgh in 1969, is a more compact structure six inches in diameter, two inches deep and weighing just over six ounces. Apart from a thin lining of straw, it is made entirely of lengths of tightly twisted copper wire up to a twentieth of an inch in diameter. This is particularly interesting since the nest was found in part of a scrap metal yard used only for ferrous scrap and the copper wire had to be collected from some distance.

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In late March 1970 a nest of Collared Doves *Streptopelia decaocto* containing two eggs was inadvertently pulled down from a gantry crane in a chemical plant at St Helier, Jersey. It was composed of

about 80 pieces of wire and four twigs. The wires (steel, soft iron and galvanised iron), which were easily obtainable in the vicinity, were loosely woven into an untidy but coherent mass that survived a drop of 20 feet on to concrete. Immediately after the destruction of this nest, the doves began building another of similar materials, but with only about half as many wires and ten twigs, on an exposed stairway about 20 yards away. Despite daily passage up and down the stairs by the plant operators, the incubating bird remained on the two eggs. This nest was in a particularly draughty situation, and the period was unusually cold (snow settled for a short while on one day), so it was somewhat surprising that one egg eventually hatched on 17th April; the chick was deserted the same day, however, and its parents temporarily left the site.

In early June two Collared Doves, probably the same pair, began to build a third nest about 50 yards from the crane. This also consisted almost entirely of wire and was laid on a lagged steam pipe about 15 feet above the ground. The surface of the lagging was warm to the touch: perhaps assisted to some extent by this additional heat, two young hatched and fledged successfully. Later examination revealed about 60 pieces of wire and four or five pieces of non-metallic material in the nest.

R. LONG

Ozarda, St John, Jersey, Channel Islands

On 29th April 1969 Mrs Isaac, of Burnham-on-Sea, Somerset, told me over the telephone that her husband had discovered two nests of Collared Doves made entirely of rusty wire in an elm tree in her garden. The source of the wire was found to be a number of discarded wreath-frames from an adjacent nursery-garden. One nest fell apart, but I enclose the other for your inspection.

JEAN R. NAISH

Rosemary Cottage, Coast Road, Berrow, Burnham-on-Sea, Somerset

The nest which Mrs Naish kindly sent us is seven inches in diameter and two inches deep, and weighs six ounces. It is made up almost entirely of a closely-woven mass of rusty iron wires, mostly about six inches long and a thirtieth of an inch across. It also contains two or three short lengths of partly oxidised copper wire a twenty-fifth of an inch in diameter, four or five of thinner copper wire a fortieth of an inch across and two pieces of even finer wire of unknown composition about a hundredth of an inch in diameter, about a dozen small twigs (probably from roses or some type of thorn), and a piece of flower stem about seven inches long. From the weight of the nest and the average diameter of the wire, it may be estimated to contain some 30 to 40 yards of wire (about 200 six-inch lengths). Mrs Naish originally sent some of the wire to the B.B.C. for discussion in their weekly radio programme 'The Living World', and we

gratefully thank Miss Dilys Breese, the producer, for bringing the matter to our notice and for sending us a complete transcript of the broadcast. This use of wire by the Collared Dove, a spectacularly successful and adaptable species in this century, is certainly of great interest.

In the programme, first broadcast on 3rd May 1970, Dr Maurice Burton commented that, in the early 1930's, there was a report of crows building nests of surplus wire on top of telegraph poles in an area of semi-desert in South Africa. Dr Burton did not specify which species was involved, but on page 357 of *Roberts Birds of South Africa*, revised by Dr G. R. McLachlan and R. Liversidge (third edition, 1970), the Black Crow *C. capensis* is said to make 'a large platform of sticks, often incorporating wire, placed in a tree or aloe, on the ledge of a krans, or, most commonly, on a telegraph pole'. Wire in the nest is not mentioned for the Pied Crow *C. albus* or the White-necked Raven *C. albicollis*, the only other corvids in South Africa. Dr Burton added that he had also heard of a Magpie *Pica pica* that had built its nest entirely of wire and of House Crows *C. splendens* in India having stolen a tray of steel spectacle frames and woven these tightly into a nest.

Derek Goodwin discussed the use of wire by pigeons on pages 87 and 88 of his book *Instructions to Young Ornithologists, 2: Bird Behaviour* (1961) and more briefly on page 44 of his *Pigeons and Doves of the World* (1967). We have also received a few other brief notes on nests wholly or partly of wire and other man-made materials (such as celluloid, polythene and polystyrene); insufficient space prevents us from publishing them here but we thank all those who have written. Correspondence on this subject is now closed. EDS

Analysis of pellet from Dorset Wallcreeper On 3rd March 1970 I was watching the Wallcreeper *Tichodroma muraria* at the Winspit quarries, Worth Matravers, Dorset (*Brit. Birds*, 63: 163, 283). It was feeding on a quarry face by extracting insects from the numerous cracks and crevices with its long bill. It would also enter caves for short periods, presumably also to feed. After I had been watching it for 15 minutes it stopped feeding and remained still, with feathers puffed out, for about two minutes when it suddenly opened its bill and with three quick shakes of its head regurgitated what appeared to be a pellet which fell to the ground. It then shook itself and continued feeding as before. After the bird had moved off I recovered the pellet from where I had seen it drop.

Subsequently the pellet was kindly analysed by the British Museum who were able to identify the remains of three species of spiders (Araneae), namely *Tegenaria* sp (family Aglenidae) and of unknown genera in the families Argiopidae and Clubionidae, one fly (Diptera),

namely *Eristalis* sp (Syrphidae), and a beetle (Coleoptera) perhaps of the family Carabidae.

I am greatly indebted to both the B.B.C. Natural History Unit, Bristol, and the Department of Entomology of the British Museum for their most valuable assistance.

K. PELLOW

37 Antony Road, Torpoint, Cornwall

Reviews

Signals for Survival. By Niko Tinbergen and Hugh Falkus. Drawings by Eric Ennion. Clarendon Press, Oxford, 1970. 80 pages; 88 photographs; many coloured sketches. £2.

Based on the B.B.C. film which won the Italia Prize for documentaries in 1969, this book adds to the subject by way of its own more contemplative form of expression. Photographs combined with drawings and linked by narrative portray and explain the 'language' of Lesser Black-backed Gulls in a colony on Walney Island throughout the breeding season.

Brilliant camera work time and again supplies the picture—selected from the sequence of a complete piece of behaviour—that clearly illustrates the signal used to convey the birds' intentions, desires, threats and fears. (The page size, $11 \times 8\frac{1}{2}$ inches, allows for agreeably large reproductions.) The text, refreshingly wasting few words, plays a dual role. It substitutes as best it may for the sound track and it is the loss of 'sound' that is most missed in the total effect. It also provides the linking narrative in a style that is acceptably anthropomorphic since it is informed by science, not sentimentality. To complement the photographs Dr Ennion contributes, in his inimitable style, a number of water-colour drawings in black, blue and 'sand dune' buff. These often usurp the role of the camera to good effect, especially where they depict a sequence of significant movements. Such lively sketches, many taking the place of diagrams, help to translate the action from film to page; not only do they make their point, they also embellish an already attractive production.

From its inception the book is educational, with an intended readership among students as well as those members of the public who, seeing films such as 'Signals for Survival' on television, are encouraged to seek a more permanent record. Ornithologists will know where to find the data on which Professor Tinbergen bases his conclusions. In this book he carries his learning lightly. His collaborator, Hugh Falkus, who has worked with him on several films, must share with him the credit for this not too familiar technique of presenting scientific natural history to a public increasingly concerned with understanding the creatures that share the environment with it.

LESLIE BAKER

Animal Photoperiodism. By Brian Lofts. The Institute of Biology's Studies in Biology, number 25. Edward Arnold, London, 1970. 64 pages; 4 plates; numerous diagrams. £1 (hard covers), 60p (paperback).

This is one of a series of booklets for students on limited topics, sponsored by the Biological Education Committee of the Royal Society and Institute of Biology. It covers the field of the effect of day-length on animal cycles thoroughly if rather laboriously, quoting all the usual bird examples and some less familiar ones from other animals. It would be interesting to see more speculation on the results of all this work, but that might of course have got the students into trouble with their examiners; and more detailed documentation, but this might have led them astray after the more bizarre references. One pound for the hardback edition is far too much for only 64 pages of even the heaviest text. An index would have been helpful.

W. R. P. BOURNE

The Living World of Animals. Advisory editors, L. Harrison Matthews and Richard Carrington; consultant zoologists, Michael Boorer and John F. Oates; consultant editor, Peter Scott. The Reader's Digest Association in conjunction with the World Wildlife Fund, London, 1970. 428 pages; many colour photographs, maps and other illustrations. £6.30.

This is a magnificent example of the popular modern genre of collective book manufacture. A large team of authors and advisory editors is collected together and orchestrated by a small central team of highly skilled professional processors of written material (writers does not seem quite the right word, nor are they journalists properly speaking). The result is an intensely illustrated book, stiff with comprehensive factual information about how animals live, written throughout in the same style, and eminently saleable to the large and increasing public that is hungry to learn about wildlife. The main treatment is an imaginative one by habitat, with special sections on evolution, behaviour and classification.

As an author myself, I am naturally prejudiced in favour of the old-fashioned technique of an author collecting and writing down his own facts, and standing up to be counted if he gets them wrong. Although to my personal knowledge these *Reader's Digest* teams take immense pains to get their facts right, and are greatly distressed if they get any of them wrong, this inevitably happens every now and then—on page 32, for instance, it is not true that the Whistling Swan winters in northern Europe and it is misleading to imply that the Curlew winters only on the coast of Africa. When such mistakes happen—usually in captions, those treacherous pitfalls for book editors—one inevitably wonders which of the leading world experts

acknowledged on page 8, but nowhere else in the text, was responsible. This is quite unfair to them, for the job was undoubtedly done in the office, and it is just bad luck that nobody picked it up on the proof, if indeed the proof was shown to any of the experts named. It would be very much fairer to the experts if the *Reader's Digest* would allow them responsibility for what they actually wrote or advised on. The same applies to the artists and photographers. The general standard of the illustrations, as of the text, is of the highest, but every now and then one wonders. For instance, I cannot believe that the Nuthatch, Dipper and Wren on pages 406 and 407 were drawn by somebody who had closely observed these species in the wild, but was it Barry Driscoll or Harry Titcombe, the two artists acknowledged (rather unusually for this book) on page 427 as responsible for this section?

One praiseworthy feature of the book is that, for once, 'animals' in the title really does mean animals, right down to the plankton, and not just mammals. Readers of *British Birds* are therefore just as likely to gain great pleasure from it, as well as to acquire much recondite and (despite my earlier strictures) accurate information, as are fanciers of other parts of the Animal Kingdom. R. S. R. FITTER

The Life and Organization of Birds. By W. B. Yapp. Edward Arnold, London, 1970. x+246 pages; many black-and-white photographs and line-drawings. £3.50 (hard covers), £1.75 (paperback).

This book is intended to encourage an interest in birds among zoologists and at the same time to be 'simple enough for the bird-watcher also to learn something from it'. These are ambitious aims for a book of 250 pages and I consider that neither has been adequately fulfilled. The coverage is wide, including reptilian ancestry, flight, adaptation, physiology, reproduction, behaviour and population biology, but the quality of presentation is uneven. Many passages could be read easily by 'the bird-watcher', but I can imagine most sticking on words like carpometacarpal, cytoplasm, gamete, coelomoduct and metanephros which occur in the first chapter alone. The author's viewpoint is original and critical, giving rise to some stimulating ideas. These cannot always be given their due in such a short work, and one would like more detailed expositions of such theories as the rarity of the Long-tailed Tit being due to the scarcity of feathers for lining its nest. Some fields receive scanty coverage: migration and navigation experiments, bird behaviour and population dynamics are all treated briefly, with severe criticism of established ideas without adequate reasons or alternatives. Many of the illustrations are poorly produced: photographs are badly composed or out of focus; the original line-drawings tend to be flat, scratchy and displeasing.

Often the author makes statements that are misleading in their brevity. Thus one is told that the Kakapo is 'flightless'; that muscles 'learn' to do without oxygen debt; that 'the lower the temperature, the more time a bird spends in feeding'; that 'if more than one potential nest-site is present in the territory the effect must be to limit population'; and that 'for such birds [as the Grey Heron] weather is the limiting factor'. Actual errors are rather few and most are found in the index and references. I might add that, if this book does stimulate the interest of zoologists in birds, they are likely to be frustrated when they attempt to use it to follow up that interest, as no references are given for many statements.

Despite these criticisms there is much of value in the book. This is particularly so in the sections that deal with the classical zoology of birds: structure and physiology. Here the author is brief and to the point, and his critical approach is built on better foundations.

The hardback edition is hardly value for money at seventy shillings when such books as J. C. Welty's *The Life of Birds* or Sir A. Landsborough Thomson's *A New Dictionary of Birds* (both 1964) cost only a little more. The former is the best introduction to bird biology known to the reviewer, and the latter, though different in layout, has very good coverage of the subjects in *The Life and Organization of Birds*.

DAVID G. DAWSON

Letters

Elusive species and the B.T.O. Ornithological Atlas project Some species are proving to be difficult to locate in fieldwork for the Ornithological Atlas. In order to prepare full maps for these species, we cannot rely solely on fieldwork carried out purely for the Atlas, but need to collect data from all sources.

All breeding season records during 1968-72 (even casual observations of just one bird) are required for the following species:

Quail *Coturnix coturnix*

Water Rail *Rallus aquaticus*

Woodcock *Scolopax rusticola* 'roding'

Barn Owl *Tyto alba*

Long-eared Owl *Asio otus*

Lesser Spotted Woodpecker *Dendrocopos minor*

Hawfinch *Coccothraustes coccothraustes*

The data required are: locality, county, date, 10-kilometre square number, and brief details of the sighting (single bird, nest with eggs, heard calling, etc.). If the 10-km square number cannot be found, a distinguishing feature of the square (largest town, village, lake, mountain peak or headland wholly within it) should be given. All

records should be sent to the relevant Regional Atlas Organiser (addresses in the 1971 Atlas Instructions inserted with this issue) or the county report editor (addresses in *Brit. Birds*, 62: 165-168). There is excellent liaison between the Atlas organisers and the report editors, and records sent to one will also be passed to the other, for Atlas information is very valuable material for county reports, and vice versa.

J. T. R. SHARROCK

59 Curlew Crescent, Bedford

The functions of the B.O.U. Records Committee Concluding his excellent review of the first ten years' work of the Rarities Committee (*Brit. Birds*, 63: 113-129), D. I. M. Wallace suggested that the Records Committee of the British Ornithologists' Union should merge with it. It therefore seems opportune for us to explain briefly, and comment on, the separate functions of the Records Committee.*

Basically, the Records Committee is charged with the maintenance of the British and Irish list. Thus, whereas the Rarities Committee covers only England, Scotland, Wales and the Isle of Man, the Records Committee is concerned with the whole of Britain and Ireland. Irish records of 'new' species are initially assessed by independent specialist referees and the editor of the *Irish Bird Report*, while their British counterparts are first examined by the Rarities Committee and then, whether or not they are considered acceptable, forwarded to the Records Committee. The Records Committee thus stands in similar relation to the *Irish Bird Report* as it does to the Rarities Committee. In maintaining the British and Irish list, it has to examine the first reported occurrences of accidental species, to consider the feral status of introduced species and periodically to reassess old records (whether previously accepted or rejected) in the light of new evidence or modern policies (for example, the changed attitude to the question of assisted passage in connection with American vagrants). The Rarities Committee does not concern itself with introductions or with records earlier than 1958 (the year when it came into being). Thus the field of overlap is limited to new species from 1958 onwards, an average now of only about four reports a year.

Liaison is very good. First, the Records Committee is fortunate to have the editor of the *Irish Bird Report* (Major R. F. Rutledge) as one of its members. Second, the honorary secretary of the Rarities Committee (F. R. Smith) is an ordinary member of the Records Committee, and the honorary secretary of the Records Committee (J.T.R.S.) is an ordinary member of the Rarities Committee. This is considered the right degree of overlap and nobody else is a member of both. It so happens, however—though this is coincidence and was

*Since this was written, D. I. M. Wallace has himself accepted an invitation to serve on the B.O.U. Records Committee.

not the case until very recently—that all the other four members of the Records Committee (Dr I. C. T. Nisbet, R.F.R., K. Williamson and I.J.F.-L.) are former members of the Rarities Committee whose present commitments would make it impossible for them to countenance rejoining that much overworked body. One of them (I.C.T.N.) is also resident in the United States and postage to him of a few records a year is financially practicable, whereas several hundred annually would be out of the question. The advantages of an American-based member are obvious since about 50% of the current additions to the British and Irish list are of Nearctic origin.

I. J. FERGUSON-LEES *Chairman* and J. T. R. SHARROCK *Secretary*
for the Records Committee with the approval of the B.O.U. Council

I read with interest D. I. M. Wallace's article 'The first ten years of the Rarities Committee' (*Brit. Birds*, 63: 113-129). As a subscriber to *British Birds* and a member of the British Ornithologists' Union, I echo entirely Mr Wallace's final hope that the B.O.U. Records Committee will merge with the Rarities Committee. I sincerely hope that steps will be taken by the appropriate governing bodies to achieve this merger and that it will not remain as just another sound piece of advice which is forgotten because of the effort involved. The whole issue may not be a vital one but such an anomaly does add one more bit of confusion to the already heavily confused ornithological scene.

Simplification, co-operation and pooling of ideas ought to be the ornithological keywords of the '70s and *British Birds* and the British Ornithologists' Union ought to be able to show that this is possible in this particular case.

R. F. PORTER
Royal Society for the Protection of Birds, The Lodge, Sandy, Bedfordshire

We invite comments from readers on the existing functions of the B.O.U. Records Committee and the Rarities Committee in the light of these letters. EDS

Black-headed Gulls taking food from trees I was rather surprised that there was no editorial comment following the two recent notes on Black-headed Gulls *Larus ridibundus* taking food from trees (*Brit. Birds*, 63: 174). As I pointed out in 1969 (*Brit. Birds*, 62: 43), 'Black-headed Gulls are well known to consume fruit at certain times of the year and they have frequently been recorded taking the berries of hawthorn *Crataegus* and the acorns of oaks *Quercus* in Britain. There are also records of their feeding on crowberry *Empetrum nigrum*, bog whortleberry *Vaccinium uliginosum* and cherry *Prunus* on the Continent.' In most cases the fruit was taken directly from the trees.

The majority of records refer to the taking of food from oak

or hawthorn (see, for example, *Brit. Birds*, 50: 75, 347; 54: 118, 130, 291; 55: 239). There are seven autumn records involving oak, mainly referring to the taking of acorns, and seven records of feeding on hawthorn berries. I have traced a number of references to Black-headed Gulls taking cherries from orchards in Continental Europe, and one recent and two older records of their feeding on olives (see *Brit. Birds*, 62: 43). There are also a few scattered references to the taking of insects (including caterpillars) from oak, birch, elm and possibly ash, spruce, sycamore and pine. The subject is briefly discussed and reviewed in my paper 'Feeding habitats and food of the Black-headed and Common Gulls', of which the first part was recently published in *Bird Study* (17: 287-296).

J. D. R. VERNON

55 Wolfridge Ride, Alveston, Bristol

We apologise for this oversight on our part, and thank Mr Vernon and also K. G. Spencer for drawing our attention to previous records. We have received two further notes on this behaviour, from R. H. Jones and C. Owen, both referring to Black-headed Gulls hovering in the wind over a hawthorn bush and picking the berries from the top-most branches. Correspondence on this topic is now closed. EDs

Summer plumage of female Scaup Few illustrators of ornithological works seem to have been aware of a feature of the summer plumage of the female Scaup *Aythya marila* described in *The Handbook* (3: 306) as 'on auricular region whitish patch'. Peter Scott clearly depicts it in plate 17 in his book *A Coloured Key to the Wildfowl of the World* (1957) and elsewhere, and it is well portrayed in plate 41 in *Atlas of European Birds* by Professor Dr K. H. Voous (1960) and in plate 12a in this issue. In most works, the summer and winter plumages are not distinguished. The whitish patch is crescentic in shape and follows down behind and beyond the line of the ear-coverts. Peter Scott and Dr James Harrison (*in litt.*) consider that it is not always obvious in the field but is sometimes distinctly so; in my experience it can show up as clearly as the patch in a similar area on female and immature Velvet Scoters *Melanitta fusca*.

M. J. ROGERS

Wardlands Cottage, 19 Lower Berwick, Polegate, Sussex

News and comment *Robert Hudson*

Recent B.T.O. conferences The British Trust for Ornithology held two further successful conferences in January at Swanwick in Derbyshire, now the Trust's venue for national meetings. The first was the Ringing and Migration Conference during 8th-10th January. This was a capacity gathering of people interested in ringing and bird observatory work. Lectures given, and subjects discussed, were wide-ranging: from warblers overwintering in Britain to long-distance migration by

Knots; from a survey of an atypical winter reed-bed population of Wrens to a continent-wide assessment of Wryneck migration in Europe. A complete session was given over to Blackbird studies; one aspect was an analysis of seasonal variation in weights at a Hertfordshire sewage-farm; another a study of population dynamics in the London area; and a third an analysis of ringing recoveries showing how European migration patterns of this species have altered over the last three or four decades. A number of study groups, formed during 1970 as small informal organisations of amateurs interested in particular species or genera, held meetings at this conference with the objects of co-ordinating their research. A concluding talk by the warden of Dungeness Bird Observatory on the advantages and disadvantages of working in the vicinity of a nuclear power station was welcome light relief.

The other conference, during 29th-31st January, was a much smaller gathering of county and other regional bird report editors. All aspects of local report preparation were discussed in one form or another, with most time being allotted to such fundamentals as the assessment of records of unusual species, the type of material it is desirable to publish, layout planning and cover design. Talks on the Ornithological Atlas project, on the Nature Conservancy's Biological Records Centre, and on the proposed centralisation of records of scarce breeding birds, served to place the local report network into a national context. This was the third B.T.O.-sponsored Report Editors' Conference, the others having been in 1956 and 1967. A noteworthy decision of the latest gathering was a unanimous endorsement of a 1967 resolution to adhere to the Wetmore order (as used in the 1952 *Check-List of the Birds of Great Britain and Ireland*) until there is an agreed European sequence. Thus the report editors in effect gave advance warning to the British Ornithologists' Union that the sequence in the latter's forthcoming publication on *The Status of Birds in Britain and Ireland*, one of the functions of which is the fifth edition of the British and Irish list in an order based on the *Check-List of Birds of the World* by J. L. Peters and his successors, will not be followed by British field-workers.

The B.T.O. was to have held a one-day regional conference in Cambridge on 27th March, with talks by Dr R. K. Murton, Dr M. Hooper, Dr J. T. R. Sharrock, Robert Spencer and Kenneth Williamson, but this had to be cancelled as a result of the Post Office strike. It is hoped to rearrange this conference in the autumn: enquiries to M. J. Allen, Stuart House, Mill Lane, Cambridge CB2 1RY.

Personalities Our congratulations go to two ornithological recipients of New Year's Honours. Miss Phyllis Barclay-Smith was appointed a C.B.E. for her services to bird protection; since 1935 she has held office with the International Council for Bird Preservation and has been the mainstay of its British Section. Also honoured as an O.B.E. was Dr Jeffery Harrison for his conservation work in connection with the joint experimental waterfowl reserve of the Wildfowls' Association of Great Britain and Ireland (W.A.G.B.I.) and the Wildfowl Trust at Sevenoaks, Kent.

We also congratulate two recent recipients of higher degrees based on ornithological theses. C. J. O. Harrison, of the Bird Room, British Museum (Natural History), has received a Ph.D. from London University; and K. E. L. Simmons likewise a Ph.D. from Bristol University, the latter's thesis being on his well-known studies of Great Crested Grebe breeding behaviour.

Royal hunting rights As part of its pledge to modernise the British Statute Book, the Government is currently reviewing ancient legislation concerning forest laws and royal hunting rights; the Wild Creatures and Forest Laws Bill received an unopposed second reading in the House of Lords on 25th January and seems certain to be passed by both Houses. This bill provides for the repeal of all the archaic forest laws except those sections relating to verderers. The Crown will lose hunting rights in Royal Forests, and prerogatives to sturgeon captured and whales stranded in English waters. (Responsibility for disposing of stranded whale car-

cases goes, unenviably, to the Receiver of Wrecks.) The reigning monarch will, however, retain the royal prerogative in respect of Mute Swans, since these make highly cherished gifts to foreign heads of state (according to *Hansard*) and royal ownership is the authority under which is organised the conservation of swans on the River Thames by the immemorial custom of swan-upping.

Oiling news No winter goes by without one or more oiling incidents making the headlines; and the present one has been no exception. Not that this country has experienced anything like January's incident in California, when two big tankers collided at San Francisco and released in the region of a million gallons of oil. Newspaper reports referred to 'thousands' of birds being affected. The Standard Oil Company used gigantic vacuum cleaners to suck the oil from the water as it neared the beaches which were also strewn with bales of straw to soak it up; with the wisdom of experience, American authorities eschew the use of detergents.

Nearer home, there were at least two significant oiling incidents. The first took place at the New Year on the north-east coast (Berwickshire to north Yorkshire); the source was not identified. The second, which received wider publicity, resulted from two mid-Channel collisions off the Kent coast in early January; none of the ships had fuel oil cargoes, but engine oil from the sunken vessels caused some degree of pollution. There appears to have been a further incident in Devon in the middle of the month, when oil-covered birds were picked up along a 15-mile stretch of coastline. Not even the most optimistic conservationist can foresee the time when oil pollution will have become a thing of the past; but there might be fewer oil slicks if fines were higher and detection improved. In this connection, the United Kingdom is taking a significant step forward: the Oil in Navigable Waters Bill is now passing through Parliament and back-bench pressure has led to the maximum fine for the deliberate discharge of oil in British waters being greatly increased to £50,000.

The Royal Society for the Protection of Birds has recently appointed C. J. Bibby as full-time organiser of the Beached Birds Survey, which is to be revamped and expanded. This survey not only monitors the incidence of bird-kills through oil slicks or other marine pollution, but also provides useful age/sex distributional data from casualties. There is to be a Bird Disasters Enquiry Committee consisting of representatives of the R.S.P.B., B.T.O. and Seabird Group; this will advise and assist over problems connected with maritime bird mortality, but will also be involved in any major disasters concerning terrestrial birds.

Fears of psittacosis outbreaks When the Parrots and Miscellaneous Birds (Prohibition of Importation) Order of 1953 was rescinded in November 1966, fears were expressed that uncontrolled importation of birds of the parrot family would increase the risk of psittacosis outbreaks in this country; the psittacines are particularly prone to carry this viral disease. The *Veterinary Record* for 31st October 1970 reported that a Bromsgrove (Worcestershire) bird-fancier died in hospital on 16th October and that his wife and son were taken seriously ill on the 22nd; he had recently obtained four parakeets from Paraguay, two of which also died. At the shop which sold them, an assistant was ill in early October; 125 other psittacines from the same consignment had been dispersed and could not be traced. Psittacosis was suspected. Dr Ian F. Keymer, pathologist at the London Zoo, reported on 14th November that since 1966 he had learned of eight confirmed and ten suspected cases of ornithosis (of which psittacosis is the virulent parrot strain that can affect Man) in cage-birds in various parts of England. The possibility of psittacosis getting a hold on the huge Budgerigar population of these islands hardly bears thinking about.

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

Recent reports *P. F. Bonham*

These are largely unchecked reports, not authenticated records

The following analysis deals with November 1970, and all dates refer to that month. The unsettled weather at the end of October continued, with depressions moving in from the Atlantic bringing rather strong westerlies. This general pattern persisted, in fact, until about 24th when an anticyclone over east Greenland began to move towards Scandinavia, bringing more or less easterly winds to Scotland for a few days but not affecting Ireland or England which remained dominated by depressions off Biscay. It was one of the mildest and wettest Novembers on record, with temperatures up to 60°F in the south during the last week.

THE RARER SPECIES

The passage of **Great Shearwaters** *Puffinus gravis* and **Cory's Shearwaters** *Calonectris diomedea* at Cape Clear Island (Co. Cork) trickled into the first few days of November; for example, 149 of one species or the other were counted on 2nd and 87 Great Shearwaters passed the island on 6th. Seabird passage was generally almost non-existent compared with the movements in October, however: a **Leach's Petrel** *Oceanodroma leucorhoa* off Hilbre (Cheshire) on 1st and a **Manx Shearwater** *P. puffinus* off Seaton Sluice (Northumberland) on 15th were almost the only reports received. Single **Spoonbills** *Platalea leucorodia* were recorded at Minsmere (Suffolk) on 14th and Cley (Norfolk) on 17th. A very tame immature **Night Heron** *Nycticorax nycticorax* was seen and photographed by various independent observers in the Appleby area (Westmorland) during 6th-8th; this would seem a remarkable occurrence considering the late date and adverse weather, and the bird was perhaps an escape from the full-winged colony at Edinburgh Zoo, 100 miles to the north. A **Ruddy Shelduck** *Tadorna ferruginea* at Ellesmere (Shropshire) on 8th is also more likely to have escaped from captivity. The only unusual raptors reported were a **Rough-legged Buzzard** *Buteo lagopus* at Spurn (Yorkshire) from 2nd to 4th, a buzzard 'almost certainly of this species' at Backworth (Northumberland) on 10th, and a **Goshawk** *Accipiter gentilis* at Wisbech sewage-farm (Lincolnshire/Norfolk) early in the month.

Lesser Yellowlegs *Tringa flavipes* remained from October at Killingholme (Lincolnshire) and Ballycotton (Co. Cork), **dowitchers** *Limnodromus sp* were seen at Oxy Marsh and Stanpit Marsh (both Hampshire) on 6th and 13th respectively (the same bird?) and a **White-rumped Sandpiper** *Calidris fuscicollis* was identified at Freckleton sewage-farm (Lancashire) on 15th. The situation for two other American waders was rather confused: a **Semipalmated Sandpiper** *C. pusilla* at Freckleton also on 15th may have been the bird at near-by Clifton sewage-farm during the last week of October, while a **Buff-breasted Sandpiper** *Tryngites subruficollis* at Frodsham (Cheshire) on 12th was perhaps the one present there from 10th to 17th October (the area of suitable habitat is huge). Palearctic species were a **Great Snipe** *Gallinago media* at Middle Eye on Hilbre from 12th to 14th and a **Temminck's Stint** *C. temminckii* at Rainham (Essex) on various dates between 4th and 25th. Five or six **Mediterranean Gulls** *Larus melanocephalus* were reported from the usual coastal localities.

Coming now to land-birds, a female **Yellow-billed Cuckoo** *Coccyzus americanus* was picked up dying in Thurso (Caithness) on 9th, the second record of this species and the eighth American land-bird in 1970 (for details of the others, see *Brit. Birds*, 63: 264; 64: 41). A male **Desert Wheatear** *Oenanthe deserti* was seen on Fair Isle (Shetland) on 20th, and a **Barred Warbler** *Sylvia nisoria* on Cape Clear Island on 13th and 19th (as well as one which stayed at Cley until 1st). There was the

expected November scatter of Asiatic *Phylloscopus* warblers, this year represented by four **Yellow-browed Warblers** *P. inornatus*, at Hauxley (Northumberland), Spurn and Gibraltar Point (Lincolnshire) all on 7th or 8th and at Dungeness (Kent) from 21st to 23rd, three **Pallas's Warblers** *P. proregulus*, at Spurn on 7th and at Anderby Creek (Lincolnshire) and Weston Park (Staffordshire) on 8th, and a **Dusky Warbler** *P. fuscatus* also at Spurn on 7th. The close coincidence of dates of all but one of these eight is notable, but even more remarkable is the inland locality of one of the Pallas's Warblers. Clearly there must have been a modest influx of these warblers about 6th or 7th of which the seven above probably represent only a small fraction.

Richard's Pipits *Anthus novaeseelandiae* continued to be reported: a total of ten singles probably included a few remaining from October, and there were also two at Clevedon (Somerset) at the end of the month. We heard of just one more **Tawny Pipit** *A. campestris*, at Wisbech sewage-farm in early November. Rather less credible were reports of a **Lesser Grey Shrike** *Lanius minor* at Walberswick (Suffolk) on 8th (where one or more **Great Grey Shrikes** *L. excubitor* are present nearly every winter) and a **Citrel Finch** *Serinus citrinella* at Newtown (Isle of Wight) on 24th. Lastly there were up to eleven **Lapland Buntings** *Calcarius lapponicus* at Donna Nook (Lincolnshire) and small numbers at several other east coast localities.

SUMMER VISITORS AND LATE MIGRANTS

This section begins with a very late juvenile **Hobby** *Falco subbuteo* near Hauxley on 10th. Two **Curlew Sandpipers** *Calidris ferruginea* were seen on the Dartford marshes (Kent) and another at Blithfield Reservoir (Staffordshire) on 1st, and a **Wood Sandpiper** *Tringa glareola* appeared at Ynys-hir (Cardiganshire) next day, while one or two **Little Stints** *C. minuta* lingered at half-a-dozen places, mainly inland. There were still about 20 **Avocets** *Recurvirostra avosetta* at Havergate (Suffolk) in early November, but only three by the end of the month; at Minsmere the last one left on 2nd, while odd reports from the south coast were evidence of the tail-end of the passage to winter-quarters. A few **Grey Phalaropes** *Pbalaropus fulicarius* and about 50 **Little Gulls** *Larus minutus* also enlivened the November picture. Strangely, all but five of the Little Gulls were reported on a single date, 7th, when up to eight were seen at ten places on the coast from Sussex to Northumberland. This was also the peak date for passage of **skuas**, reported mainly from north-east England; these included a **Pomarine Skua** *Stercorarius pomarinus* at Seaton Sluice on 1st, and two at Craster and three at Annstead (Northumberland) on 7th; a Pomarine also appeared at Cape Clear Island on 23rd. The only **terns** reported were a **Common or Arctic Tern** *Sterna hirundo|paradisaea* at Blithfield Reservoir on 1st, a **Black Tern** *Cblidonias niger* at Ellesmere on 8th and a **Common Tern** at Rye Meads (Hertfordshire) on 14th.

There were, of course, many lingering **Swallows** *Hirundo rustica* and **House Martins** *Delichon urbica*, and reports of these were received from more than 50 localities. Apparently rather less widespread were **Blackcaps** *Sylvia atricapilla* and **Chiffchaffs** *Phylloscopus collybita*; a few of the latter were trapped and identified as the Siberian race *P. c. tristis*, including one at Hauxley on 7th and one at Sandwich Bay (Kent) on 21st (note the coincidence with the Yellow-browed Warblers above). There were also quite a number of late **Wheatears** *Oenanthe oenanthe* in the south-east (and one in Derbyshire); a **Spotted Flycatcher** *Muscicapa striata* was seen at Beddington sewage-farm (Surrey) on 15th; and a **Garden Warbler** *Sylvia borin* apparently wintering at Denton (Northamptonshire) was ringed on 29th.

WINTER VISITORS

On the Ouse Washes (Cambridgeshire/Norfolk), numbers of **Bewick's Swans** *Cygnus bewickii* increased rapidly from three on 1st to 38 on 16th, 58 on 19th, 103 on 21st and about 200 by 27th, of which 17 were young birds. A similar early build-up

was noted at Slimbridge (Gloucestershire) where 232 (34 immatures) had been recorded by 17th. Bewick's Swans occurred at some 40 other localities in November but nearly all of these were transient parties; there was a slight concentration during 6th-8th but no major movements, presumably because of the mild weather. Whooper Swans *C. cygnus* were scarce in southern England for the same reason; there were only five on the Ouse Washes. Further north, gatherings of 428 at Loch Leven (Kinross) on 8th and 271 on Fenham Flats (Northumberland) on 22nd are worth mentioning. Outstanding duck totals included at least 10,000 Wigeon *Anas penelope* off Havergate on 17th, 13,400 on the Ouse Washes on 27th and some 20,000 at Lindisfarne (Northumberland) for most of the month, and 445 Goldeneyes *Bucephala clangula* on Loch Leven on 15th. About 100 Long-tailed Ducks *Clangula hyemalis* were reported south of the border during November, mainly in the north-east, and there were a couple of Smew *Mergus albellus* in the London area, plus one on Tyneside, from 22nd. Fifteen Glaucous Gulls *Larus hyperboreus* off Fair Isle on 1st increased to 50 by 16th—another good autumn there for this species (*cf. Brit. Birds*, 62: 502). Apparently these are resting birds from the offshore fishing fleets. As usual there were plenty of other Glaucous Gulls and a few Iceland Gulls *L. glaucoides*, but all these pale into insignificance next to the astounding report of at least 2,000 Little Auks *Plautus alle* off the Isle of May (Fife) on 2nd. In contrast the only Little Auks seen in Shetland were odd ones spotted from the mail-boats, and only a few ones and twos were seen on the English east coast. One off Cape Clear Island and another on Walton Reservoir (Surrey) in mid-month also deserve mention.

Winter passerines on the east coast included the usual flocks of Shore Larks *Eremophila alpestris*, Twites *Acanthis flavirostris* and Snow Buntings *Plectrophenax nivalis*; at Donna Nook there were up to ten Shore Larks, 150 Twites and 750 Snow Buntings, while 20 Shore Larks at Holme (Norfolk) was the largest party reported. There seemed to be rather more Great Grey Shrikes *Lanius excubitor* than last winter—about 45 during November from almost as many localities. Lastly, it is difficult to piece together the many reports of Waxwings *Bombycilla garrulus*: there were no really noticeable influxes and the general picture seems to have been of a rapid, basically westward, dispersal of the east coast October flocks (*Brit. Birds*, 64: 43) and further small arrivals during November from Scandinavia. Thus in the Midlands and parts of north-west England (Cheshire and Lancashire), and at odd places in northern and southern Ireland, there were many single birds and flocks of varying strength occasionally up to 200, while in Norfolk and north-east England there were 'new' flocks of 100-300 in several places and many smaller parties. For the record, reports came to us from some 75 localities in 30 counties.



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British Birds

Scarce migrants in Britain and Ireland during 1958-67

J. T. R. Sbarrock

Part 5 Pectoral Sandpiper, Sabine's Gull and American land-birds

The first four papers in this series (*Brit. Birds*, 62: 169-189, 300-315; 63: 6-23, 313-324) dealt with eleven largely Palearctic species which each have at least part of their breeding range in Europe. The present one turns to those with a mainly North American, or Nearctic, distribution. It is again necessary to draw attention to the general introduction to the series (*Brit. Birds*, 62: 169-174), which considered the sources of bias in these data. The text-figures that follow are numbered 65-79 and the tables 7-9, but inevitably there are also references to some of those in the earlier papers.

Pectoral Sandpiper *Calidris melanotos* and other American waders

A total of about 62 Pectoral Sandpipers was recorded in Britain and Ireland up to 1940, less than 30 in the next decade and under 60 in the seven years 1951-57 (*The Handbook*, Anon 1952, Nisbet 1959, Williamson 1963). Individuals at nine localities in the autumn of 1948 were described at the time as 'a miniature invasion' (Anon 1949) and ten or fewer in 1950 were also considered 'sufficient to constitute an invasion' (Anon 1951). Yet a total of 243 was recorded during 1958-67, an average of about two dozen a year. It is impossible to know the extent to which this increase merely reflects the growing number of observers and their greater awareness of the possibility of finding Nearctic waders.

Of the 243 recorded in the ten years, no less than 235 (97%) were in autumn (July-early November) and only seven in spring (April-May); there was also one in December. The peak fell clearly in the middle

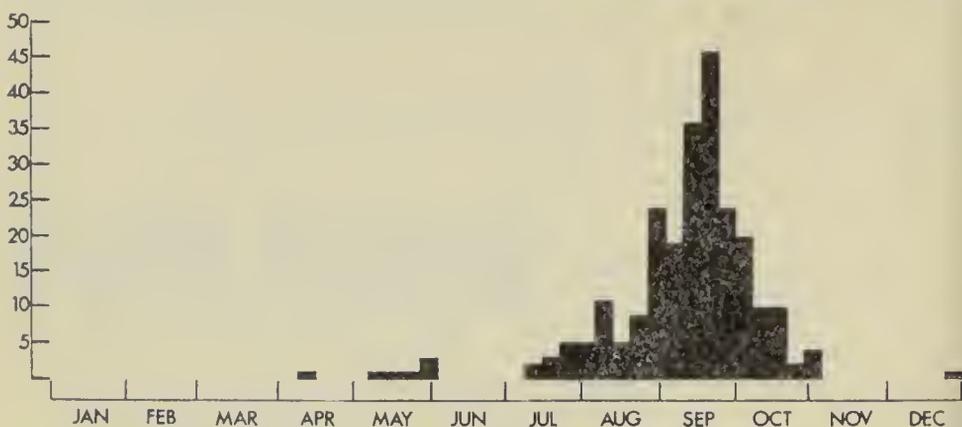


Fig. 65. Seasonal pattern of Pectoral Sandpipers *Calidris melanotos* in Britain and Ireland during 1958-67

fortnight of September and the distribution shows an interesting negative skewness (fig. 65). The seven spring records were all in the west—single individuals seen in Co. Antrim, Co. Derry, Co. Kerry, Co. Cork, the Isles of Scilly, Cornwall and Pembrokeshire. The autumn records, however, were more widespread (fig. 66), Co. Kerry and Norfolk each averaging more than two a year and Co. Derry, Co. Cork, the Isles of Scilly, Cornwall and Kent each averaging at least one. Although Norfolk is very well-watched compared with some parts of western Britain and Ireland (see fig. 1), it is nevertheless noteworthy that more were recorded there than in any other county during the ten years.

As a comparison with the Pectoral Sandpipers, we may consider the records of other Nearctic waders during the same period. The species concerned, with the number of records of each in the ten years given in brackets, were Killdeer *Charadrius vociferus* (seven), Lesser Golden Plover *Pluvialis dominica* (seven), Short-billed Dowitcher *Limnodromus griseus* (nine), Long-billed Dowitcher *L. scolopaceus* (ten) and indeterminate dowitchers (30), Stilt Sandpiper *Micropalama himantopus* (five), Upland Sandpiper *Bartramia longicauda* (five), Solitary Sandpiper *Tringa solitaria* (four), Spotted Sandpiper *T. macularia* (five), Greater Yellowlegs *T. melanoleuca* (four), Lesser Yellowlegs *T. flavipes* (29), Least Sandpiper *Calidris minutilla* (nine), Baird's Sandpiper *C. bairdii* (22), White-rumped Sandpiper *C. fuscicollis* (47), Semipalmated Sandpiper *C. pusilla* (seven), Western Sandpiper *C. mauri* (two), Buff-breasted Sandpiper *Tryngites subruficollis* (40) and Wilson's Phalarope *Phalaropus tricolor* (27). There were thus 269 records of these 17 species during 1958-67, a total which is conveniently similar to that of the 243 Pectoral Sandpipers recorded in the same period. The temporal distribution of these records (fig. 67) may be compared with that of the Pectorals (fig. 65). Since the records of 17 species are

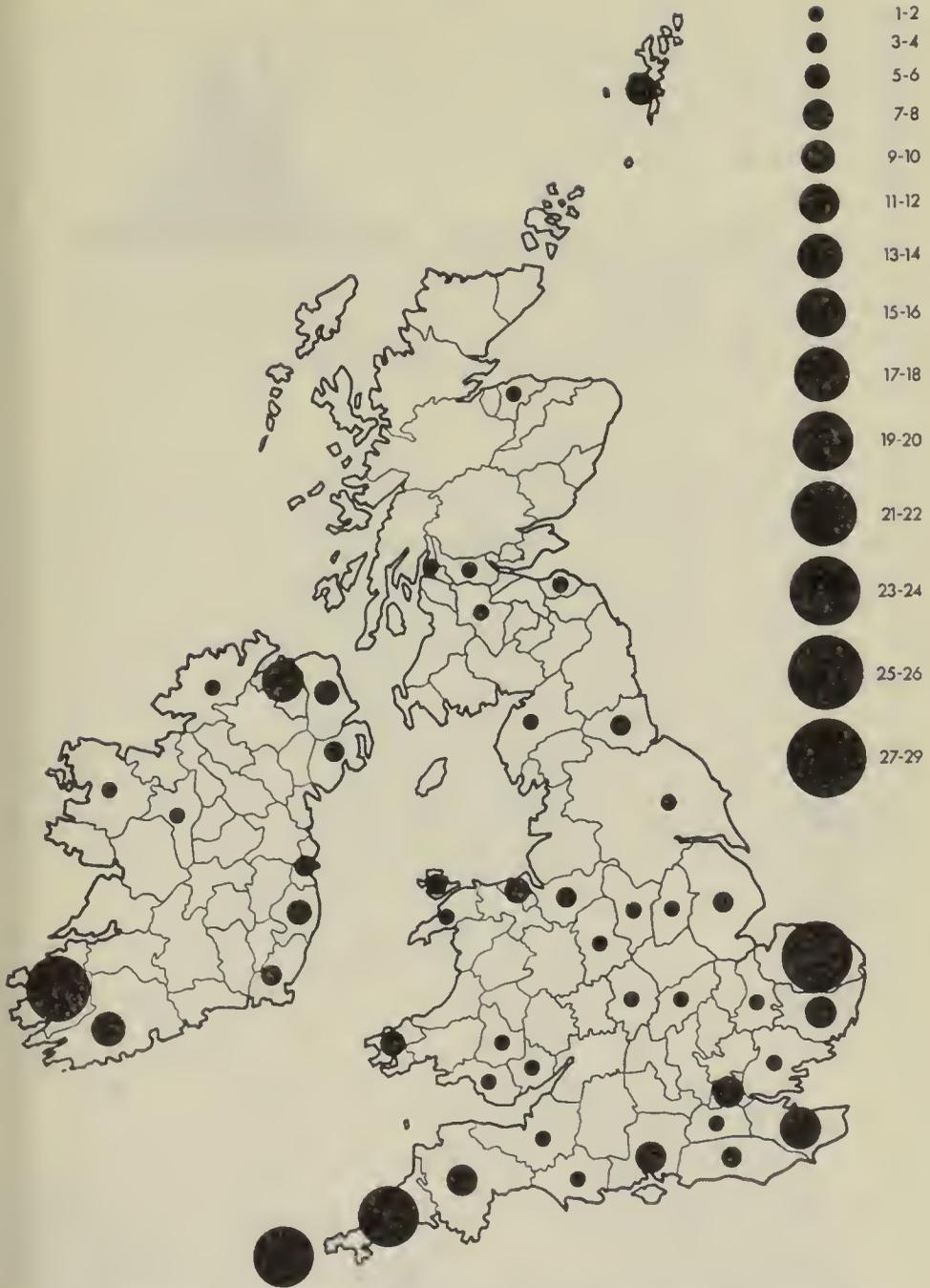


Fig. 66. Distribution by counties of autumn Pectoral Sandpipers *Calidris melanotos* in Britain and Ireland during 1958-67

amalgamated, one would not expect to find a clear-cut distribution, and the double peak in autumn is not surprising.

While only seven of the 243 Pectoral Sandpipers occurred in spring, 28 of the 269 other Nearctic waders were observed at that season; but, with a heterogeneous batch of records, comparisons must be drawn with caution. There are insufficient data to justify separate

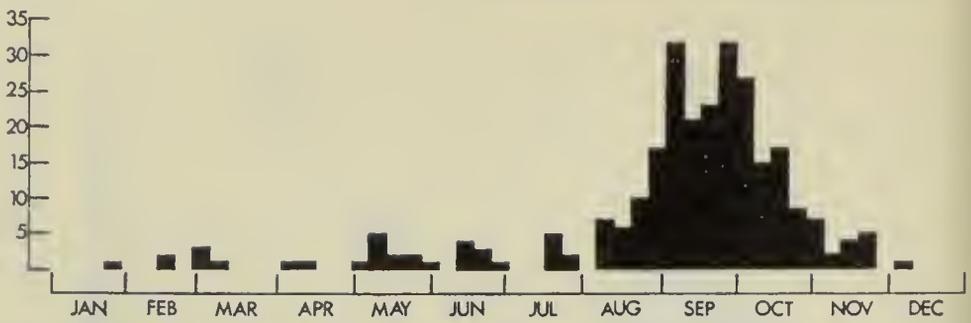


Fig. 67. Seasonal pattern of Nearctic waders (other than Pectoral Sandpipers *Calidris melanotos*) in Britain and Ireland during 1958-67

treatment for individual species, though it is clear that the pattern for each is usually distinct (the Killdeers, for instance, all being first recorded in November, February or March). It is, nevertheless, interesting to note that, whereas all seven spring Pectoral Sandpipers were in the west (Ireland, south-west England and Wales), seven of the other Nearctic waders in spring were in the east (north-east and eastern England and East Anglia) and 14 in the west. The difference between these two spring patterns is illustrated in fig. 68. The fact that 33% of the spring Nearctic waders other than Pectoral Sandpipers occurred in the east suggests that a proportion had crossed the Atlantic during a preceding season and were pursuing a south-north migration, perhaps between Africa and northern Europe. This idea is also



Fig. 68. Distribution by counties of spring Pectoral Sandpipers *Calidris melanotos* (open circles) and the 17 other Nearctic waders (filled circles) in Britain and Ireland during 1958-67

supported by the recurrence of what seem likely to be the same individuals at the same localities in successive seasons, for example the single Wilson's Phalaropes seen at Scaling Dam Reservoir, Yorkshire, on 20th and 21st June 1965 and found dead there on 22nd June 1966 (*Brit. Birds*, 59: 290; 60: 320). On the other hand, one

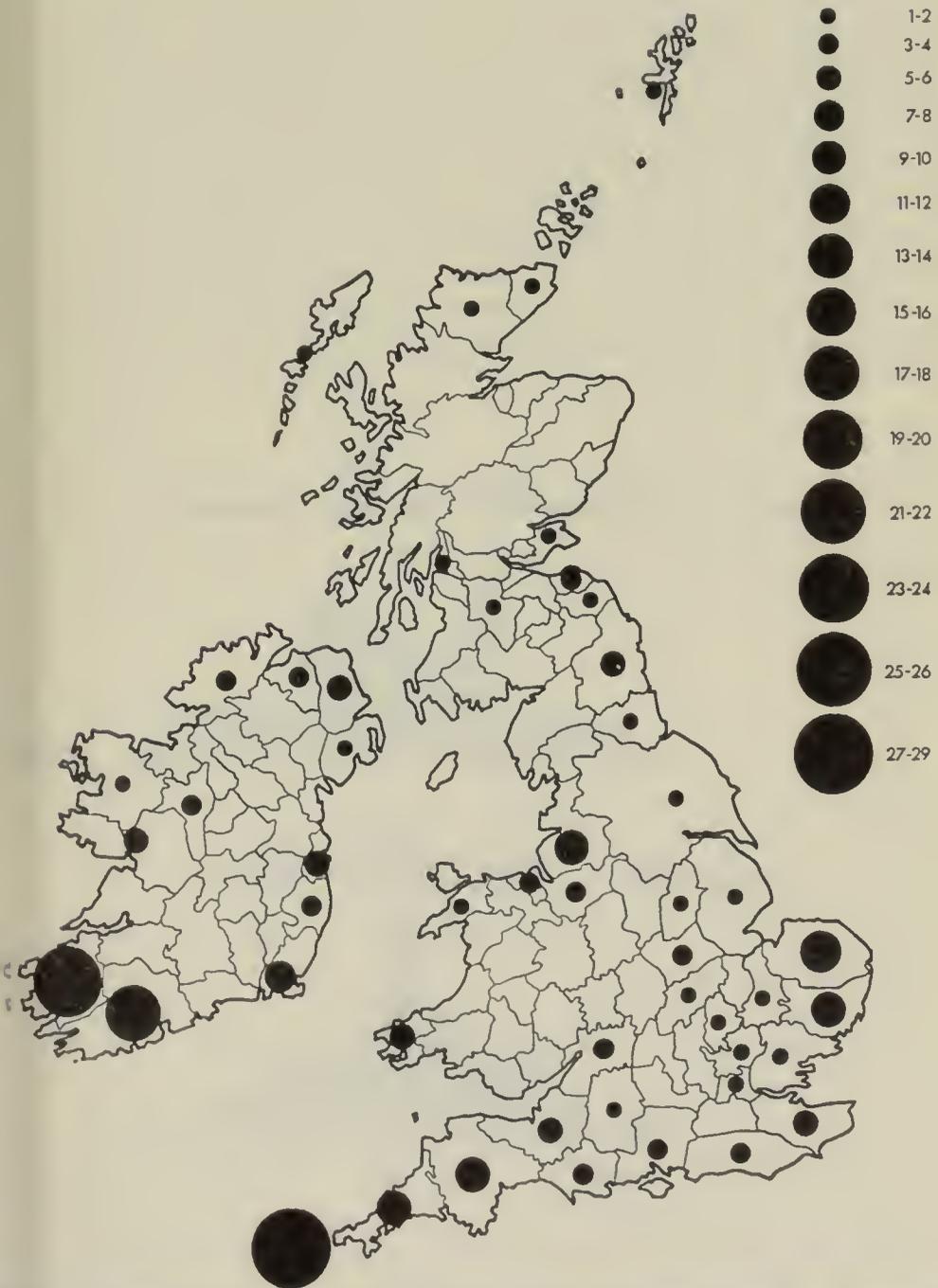


Fig. 69. Distribution by counties of autumn Nearctic waders (other than Pectoral Sandpipers *Calidris melanotos*) in Britain and Ireland during 1958-67

should not neglect the fact that all the Pectoral Sandpipers and 66% of the other Nearctic waders in spring were recorded in the west. This suggests that the majority of spring occurrences were due to spring transatlantic crossings.

The distribution of the autumn records of the 17 other Nearctic waders (fig. 69) is similar to that of the Pectoral Sandpipers (fig. 66), with averages of more than two a year in Co. Kerry and the Isles of Scilly and more than one a year in Co. Cork and Norfolk. Ignoring records other than those distinctly in the west (Ireland and south-west England) or the east (north-east and eastern England and East Anglia), two contrasting patterns emerge for these two areas when the data are analysed separately (fig. 70). In the west, Pectoral Sandpiper records form a normal distribution without the negative skewness exhibited by the entire data; this skewness is largely accounted for when the eastern data are examined, as Pectoral Sandpipers occurred earlier in the east than in the west. This is clearly demonstrated by the histograms and also by the fact that 33% of the Pectoral Sandpipers

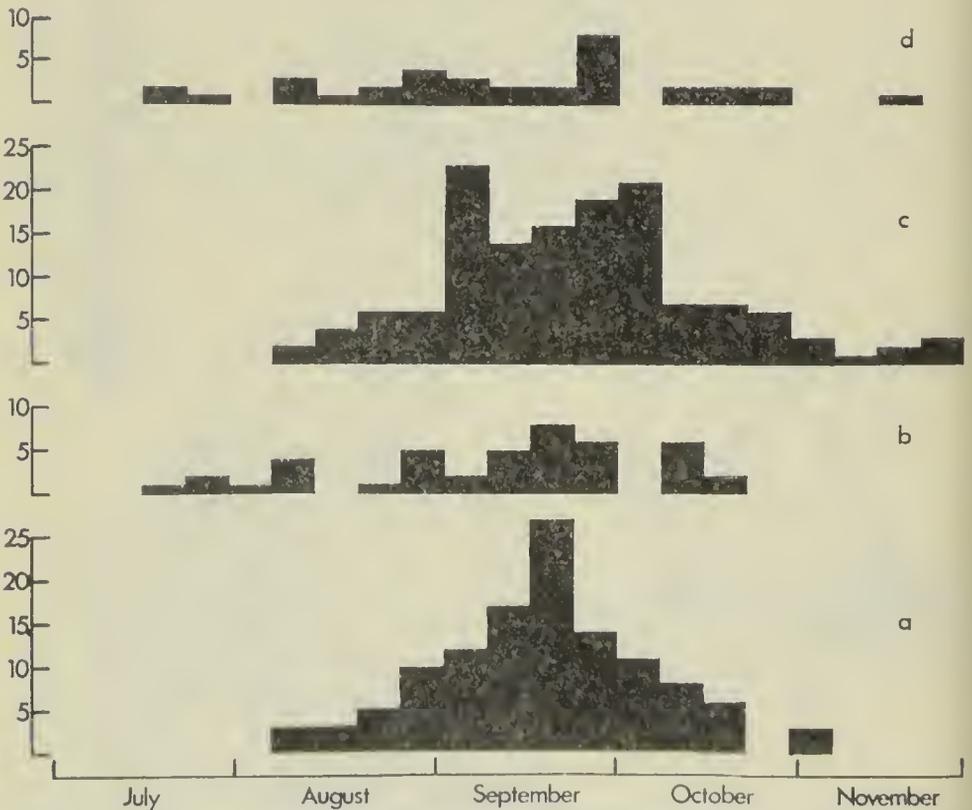


Fig. 70. Seasonal pattern in autumn during 1958-67 of (a) Pectoral Sandpipers *Calidris melanotos* in south-west England and Ireland, (b) Pectoral Sandpipers in north-east and eastern England and East Anglia, (c) other Nearctic waders in south-west England and Ireland, and (d) other Nearctic waders in north-east and eastern England and East Anglia

in the east occurred before 3rd September compared with only 17% of those in the west. This pattern is strikingly unexpected for a species assumed to arrive here in autumn as a transatlantic vagrant; one might have anticipated a coincident or subsequent peak in the east, reflecting simultaneous arrival or onward passage from the west.

The records of the 17 other Nearctic waders, similarly split into eastern and western components (fig. 70), help to shed light on this problem. Again bearing in mind the heterogeneous nature of the data, the patterns are strikingly similar to those of the Pectoral Sandpipers. The data from the east of Britain do not exhibit a normal distribution and, like the Pectoral Sandpipers, these other Nearctic waders appear there earlier, 37% of those in the east being recorded before 3rd September compared with only 13% of those in the west. The small numbers would make separate analysis of each species invalid, but the White-rumped Sandpiper may be taken as an example since this was the second commonest Nearctic wader in Britain and Ireland in 1958-67. The total of 47 individuals included 45 in autumn. Five of the nine in the east of Britain occurred before 3rd September, compared with only two of the 25 in the west. This is the same pattern as exhibited by the Pectoral Sandpipers and the 17 other Nearctic waders treated as a whole. The logical conclusion must be that the majority of these early east coast birds in the coastal counties from Northumberland to Essex (and probably those in the east of Scotland, the Midlands and south-east England, though these were not included in the comparisons) had crossed the Atlantic during a previous season and were undertaking a north-south migration from northern Europe.

Even by a simple visual comparison of figs. 66 and 69, however, it is evident that Pectoral Sandpipers are relatively more common in the east of Britain than are other Nearctic waders. In fact, more than a quarter of the autumn Pectoral Sandpipers were seen in the British east coast counties compared with less than a fifth of the other Nearctic waders. This disproportionately high percentage of Pectoral Sandpipers leads one to speculate whether *some* of those on the east coast may have been of Siberian origin, for this species breeds not only in North America west to Alaska, but also on the arctic coast of Siberia from the eastern side of the Taimyr Peninsula east to the delta of the Kolyma (Vaurie 1965). Of the 17 other Nearctic waders used as a control, however, no less than four more—Lesser Golden Plover, Long-billed Dowitcher, Western Sandpiper and Baird's Sandpiper—also have breeding distributions extending into Siberia. These four combined show a pattern similar to that of the Pectoral Sandpiper, with 25% of the records in the east, but individual analyses established that the first three all conform to the pattern of the remaining 13 strictly Nearctic species as a block. The notable exception, sufficiently

marked to raise the combined average of these four to such an extent, was Baird's Sandpiper which had ten in the west and no less than seven (41%) in the east. This is, of course, based on a very small sample (only 22 individuals in the whole of Britain and Ireland), but the addition of three 1968 records and seven provisional 1970 records, currently not all verified, hardly changes the proportion (38% in the east). Standard χ^2 tests were applied to these figures to examine the probability (p) that the differences were accidental and it was found that $p = 0.050$ for Pectoral Sandpiper and $p = 0.025$ for Baird's Sandpiper (compared in both cases with the remaining 16 Nearctic waders). Similar tests were applied to each of these other 16 (comparing them individually with the remaining 15) and in each case $p > 0.100$, even for the White-rumped Sandpiper which had the high east coast percentage of 26%.

While these differences between the west-east proportions of Baird's and Pectoral Sandpipers on the one hand and all other Nearctic waders combined on the other are only slight, the data do suggest a genuine differentiation. This could be due to a variety of reasons: these two species could be better adapted in some way to survival in Europe or Africa so that cumulatively there was a higher proportion regularly migrating north and south through Britain (though the spring records suggest that, if anything, the reverse is the case); they might be more likely for some reason to overfly Ireland and western Britain and occur in higher numbers in the east; there might be some observer bias resulting in their being selectively overlooked or the other species being particularly noticed in western districts (or vice versa in the east); habitat differences between the west and the east might result in segregation; and other explanations could no doubt be suggested. These all seem unlikely, however, and a more logical explanation appears to be that a proportion of the Pectoral and Baird's Sandpipers arriving in Britain come from the east, not the west, and are derived from the Siberian populations. It is highly unlikely that this hypothesis will ever be proved, but it is a theory which accords with the patterns shown by the 1958-67 data. The figures available suggest that perhaps as many as one in six of the Baird's Sandpipers and one in 14 of the Pectoral Sandpipers occurring in Britain and Ireland in autumn may be of eastern rather than western origin; but this is highly speculative.

Turning now to the annual totals (fig. 71), Pectoral Sandpipers showed very distinct autumn peaks in 1961 and 1967. Although marginally more (42) were seen in autumn 1967, the 41 records in autumn 1961 probably represented a higher number reaching Britain and Ireland, allowing for the increase in observers by the later year. The records over the ten years have the appearance of a cyclical pattern and, indeed, the dominance of Pectoral Sandpipers in the

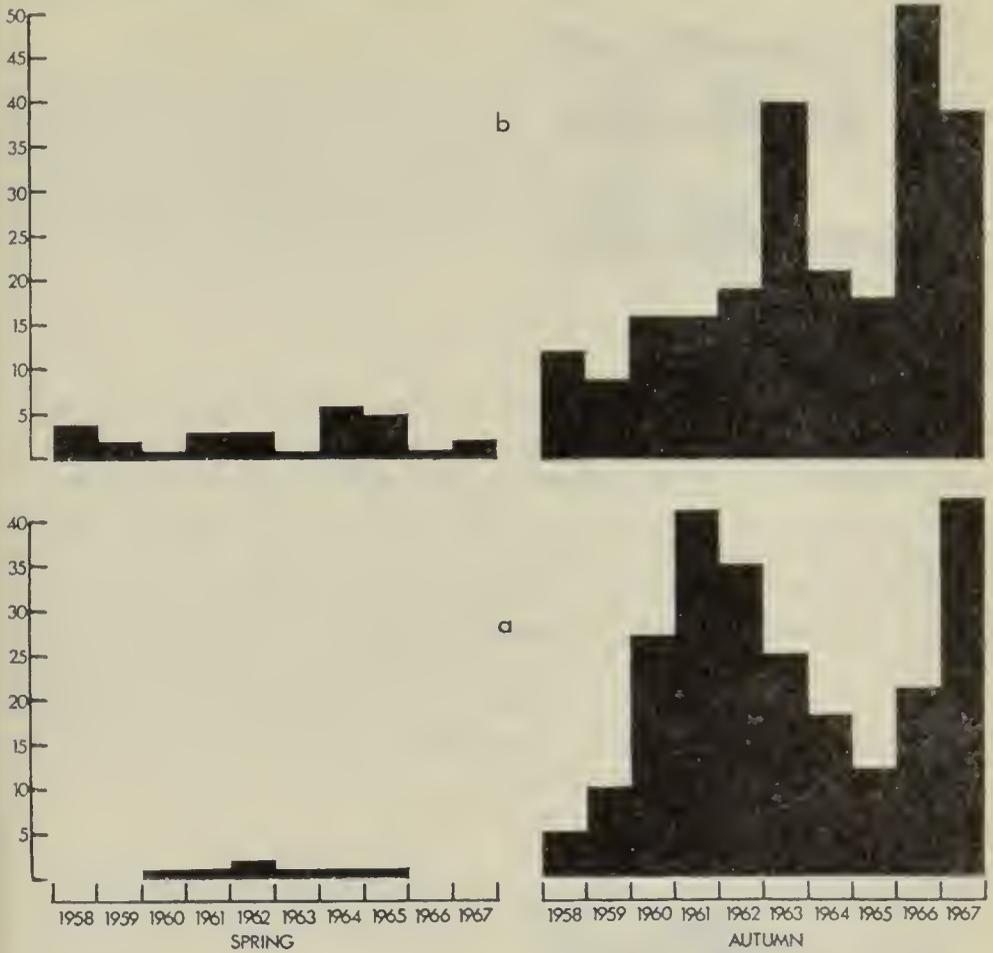


Fig. 71. Annual pattern of (a) Pectoral Sandpipers *Calidris melanotos* and (b) other Nearctic waders in Britain and Ireland during 1958-67 with the spring and autumn records shown separately

British and Irish records of American waders in the early 1960's led Williamson (1963) to suggest that the species was enjoying considerable success at that time.

The pattern of records on this side of the Atlantic may well reflect population levels in North America, especially since the Pectoral Sandpipers are not in phase with the other 17 Nearctic waders as a whole, which had peaks in the autumns of 1963 and 1966. It might reasonably be expected that the number of Nearctic waders appearing here in any particular autumn was determined to a considerable extent by the North Atlantic weather situation (e.g. Williamson and Ferguson-Lees 1960) and that a 'good' year for Nearctic waders as a whole would also be a 'good' year for Pectoral Sandpipers. Clearly, however, the timing of the migration of each species within North America will be distinct and, therefore, the timing and latitude of suitable meteorological conditions for transatlantic crossings

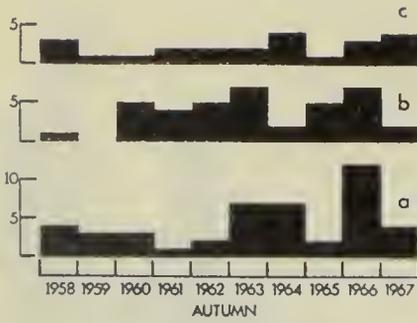


Fig. 72. Annual patterns of autumn records of (a) White-rumped Sandpipers *Calidris fuscicollis*, (b) Buff-breasted Sandpipers *Tryngites subruficollis*, and (c) Lesser Yellowlegs *Tringa flavipes* in Britain and Ireland during 1958-67

will be critical, leading to selective vagrancy to Europe each year. It is also doubtless misleading to treat 17 species in bulk in this sort of comparison, for the individual population levels are unlikely to be in phase. The numbers of most of the 17 other Nearctic waders are too small to warrant individual treatment, but the three commonest (White-rumped Sandpiper, Buff-breasted Sandpiper and Lesser Yellowlegs) may be taken as examples (fig. 72). The differences in the patterns of the Pectoral Sandpiper and each of these three species are no doubt due partly to the selective action of the timing of suitable meteorological conditions for transatlantic vagrancy as well as to the differing statuses of the populations.

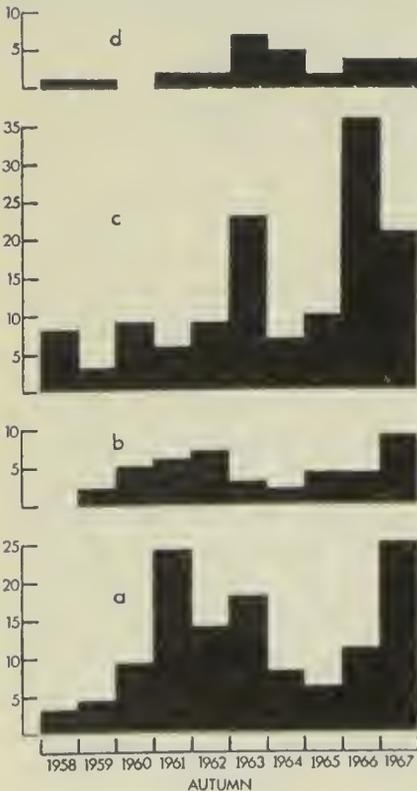


Fig. 73. Annual patterns of autumn records during 1958-67 of (a) Pectoral Sandpipers *Calidris melanotos* in south-west England and Ireland, (b) Pectoral Sandpipers in north-east and eastern England and East Anglia, (c) other Nearctic waders (excluding Baird's Sandpipers *C. bairdii*) in south-west England and Ireland, and (d) other Nearctic waders (again excluding Baird's Sandpipers) in north-east and eastern England and East Anglia

The annual patterns are only partially reflected in the east of Britain (fig. 73). In years when large numbers of Pectoral Sandpipers cross the Atlantic and reach western areas, there is obviously good penetration to the east (as in 1961 and 1967). Above average proportions of the Pectoral Sandpipers occurred in the east, however, in 1959, 1960, 1962 and 1965. The 1962 numbers seem very likely to have been an aftermath of the previous autumn's invasion, consisting partly of birds which had spent twelve months on this side of the Atlantic. It is conceivably not irrelevant, also, that 1962 was the only year in which more than one Pectoral Sandpiper was recorded in spring (though it has already been noted that all seven spring individuals were in the west and therefore suggestive of spring transatlantic crossings). In the other three autumns, however, the disproportionate numbers of Pectoral Sandpipers in the east did not follow large numbers in the west in the previous year, but they coincided with above average numbers in Britain and Ireland of three eastern waders—Little Stint *Calidris minuta*, Temminck's Stint *C. temminckii* and Curlew Sandpiper *C. ferruginea* (see table 4). It is tempting to suggest that these may have been years when some Pectoral Sandpipers arrived in Britain from the east.

The east-west pattern of the other Nearctic waders (excluding Baird's Sandpiper) is somewhat confirmatory (fig. 73), for the only year in which the proportion in the east was significantly above normal was 1964, following the high numbers in the previous autumn. It is perhaps also significant that the highest spring numbers in the ten years were in 1964 and 1965 and, even though the majority of these may have been recent transatlantic arrivals, there were four in the east compared with only three in the west. The species involved in the subsequent seasons were those that had occurred in numbers during the peak autumn. It is, however, surprising that there were relatively so few in 1967, following the 1966 influx; both the spring numbers and the proportion of autumn records in the east were below average in that year.

To summarise, the 1958-67 records of Pectoral Sandpiper suggest that (1) those which cross the Atlantic in autumn make landfall mainly in Ireland and south-west England, though small numbers penetrate through to eastern England; (2) spring occurrences appear likely to be mainly new transatlantic arrivals; (3) after years with a heavy autumn passage it is probable that some individuals recur in the following seasons in the course of north-south migration on this side of the Atlantic; (4) there is evidence of the possibility of vagrancy of very small numbers from the east. The first, third and fourth of these conclusions apply also to Baird's Sandpiper, and the first three conclusions apply to the other Nearctic waders which occur in Britain and Ireland.

Sabine's Gull *Larus sabini*

Thirteen Sabine's Gulls in September 1950 were considered at the time to constitute an invasion (Anon 1951). Yet a total of 203 was recorded in Britain and Ireland during 1958-67 (including twelve seen from fishing boats or ships in inshore waters), there being an average of 15 a year over nine of the years and one exceptional influx in the tenth. *The Handbook* drew special attention to the great rarity of adults in the records up to 1940, so it is of interest that the published details in 1958-67 include 55 adults and 81 immatures. One may not be justified in deducing that 40% of the Sabine's Gulls now occurring are adults, however, for the comment in *The Handbook* may have led some county report editors to mention adults specifically (cf. Red-spotted Bluethroats *Luscinia svecica svecica* and White-spotted Bluethroats *L. s. cyanecula* in part 4 of this series), and the 67 individuals for which no age data were given may, in consequence, have included a higher proportion of immatures.

Only seven Sabine's Gulls were reported in spring (March-June), but, while the others were spread from July to December, 72% of all the records were in eight weeks during September and October (fig. 74). There was an exceptional influx in the autumn of 1967 (fig. 75), with the main arrival during the first few days of September, but, even if the records for that year are omitted, 65% still fell in September-October and the median shifts only from 23rd to 27th September.

It is a great pity that the ages of a third of the individuals are not available for analysis, since the data which were published show interesting patterns (fig. 76). Taking all the records, 31% of the adults occurred before 3rd September compared with only 4% of the immatures (just three individuals). If the exceptional 1967 records are excluded, the pattern is even more striking, with as many as 41% of the adults before 10th September compared with only 11% of the immatures. This pattern is also found in the Bay of Biscay, where most of the Sabine's Gulls in August are adults, and Mayaud (1961) has

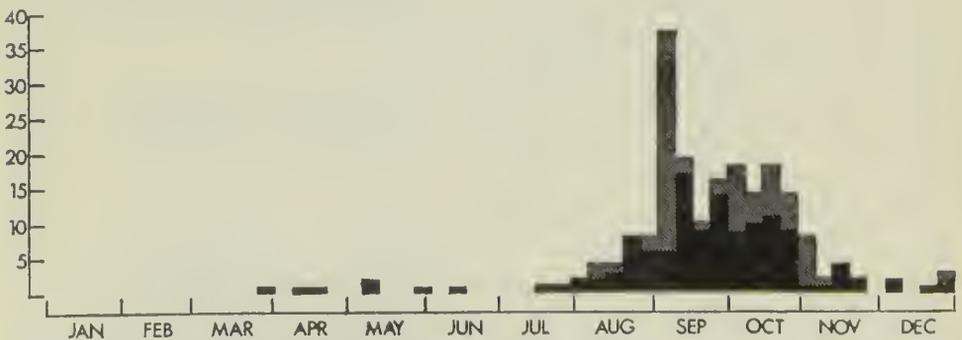


Fig. 74. Seasonal pattern of Sabine's Gulls *Larus sabini* in Britain and Ireland during 1958-67; the 1967 records are shown shaded

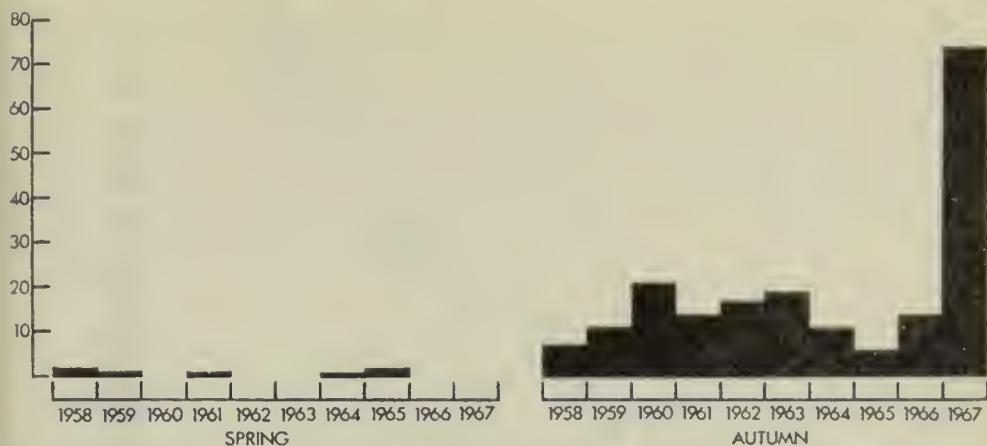


Fig. 75. Annual pattern of Sabine's Gulls *Larus sabini* in Britain and Ireland during 1958-67 with the spring and autumn records shown separately

suggested that these are failed breeders. As well as appearing earlier than the immatures in Britain and Ireland, the adults also tended to occur later for, again excluding the 1967 influx, only 14% of the immatures were recorded after mid-October, compared with 30% of the adults.

The seven spring records were confined to four counties—three in Kent, two in Dorset and one each in Co. Antrim and Co. Wexford. *The Handbook* noted that most autumn records up to 1940 were in Yorkshire and Norfolk; it seems likely that this pattern was merely a reflection of the distribution of observers at that time for, of the autumn records in 1958-67, almost 40% were in Cornwall—the

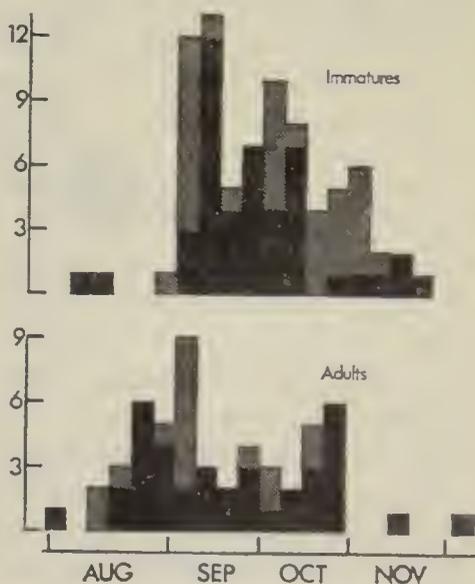


Fig. 76. Seasonal patterns of adult and immature Sabine's Gulls *Larus sabini* in Britain and Ireland in autumn during 1958-67; the 1967 records are shown shaded

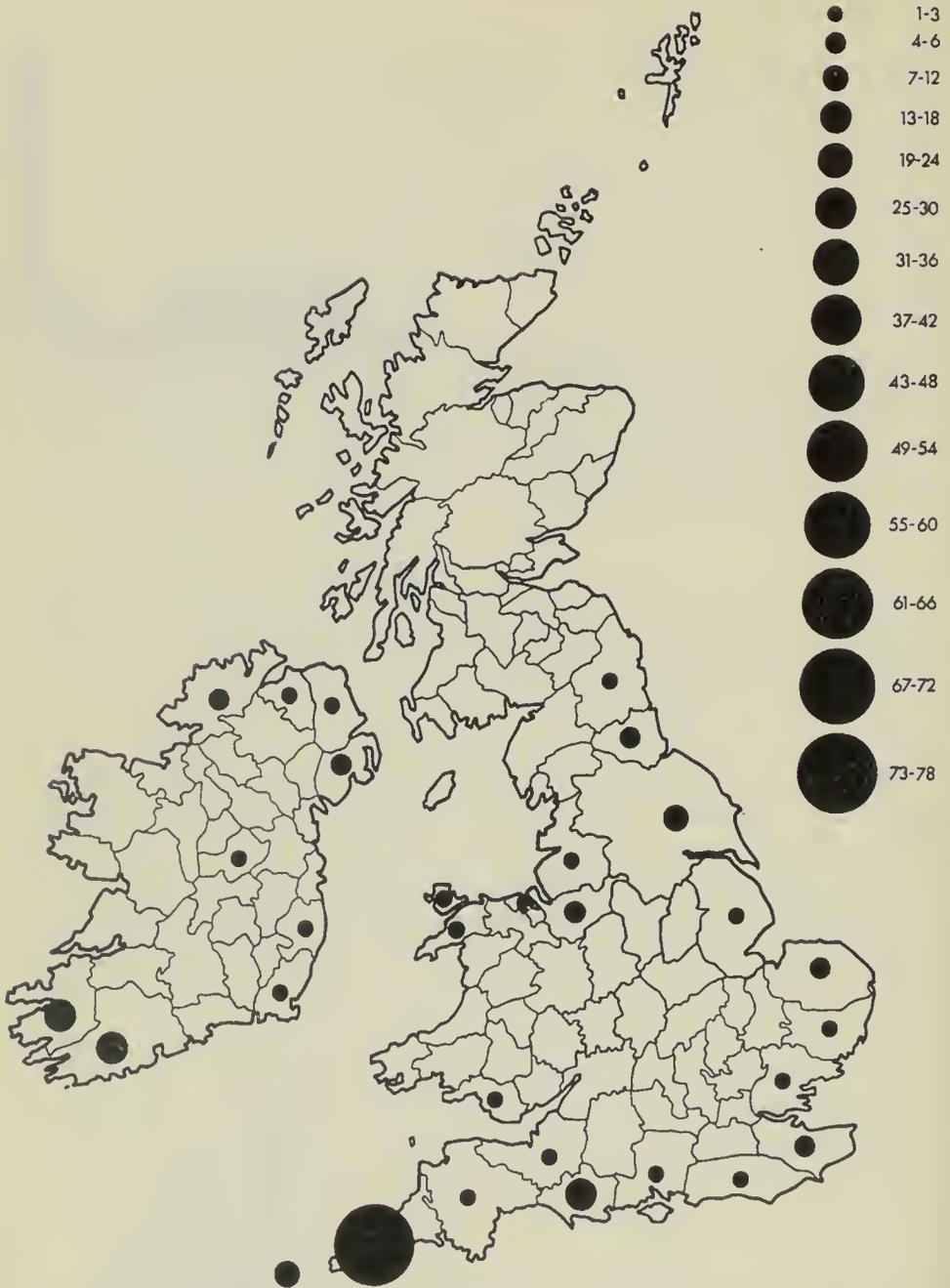


Fig. 77. Distribution by counties of autumn Sabine's Gulls *Larus sabini* in Britain and Ireland during 1958-67

vast majority at one locality (St Ives Island)—and only three other counties, all in the west (Co. Cork, Co. Kerry and Dorset), averaged more than one per year (fig. 77).

The experience of seawatchers in these western areas is that most Sabine's Gulls occur during or immediately after westerly or north-westerly gales (e.g. Phillips 1966) and they are clearly the result of

displacement eastwards, especially into the 'funnel' of the Bristol Channel. The early adults (17 individuals before 3rd September) conformed to the general pattern, with most in the west, but there were seven in Co. Cork compared with five in Cornwall. Unlike the Nearctic waders (fig. 70), this species was not recorded at significantly different times on the west coast (Ireland and south-west England) and the east coast (Northumberland to Essex).

The exceptional influx in autumn 1967 has already been mentioned, but it should be noted that it involved at least 74 individuals. In that year immatures occurred both earlier and later than usual and the influx, as well as being exceptionally large, was atypical in that the proportion of adults accompanying the early immatures was unusually high (fig. 76). The numbers of this species in each of the other autumns (fig. 75) varied from six (1958) to 21 (1960). Whereas the patterns of Pectoral Sandpipers could be compared with those of other Nearctic waders, there are too few records of other Nearctic gulls to provide a good comparison with those of Sabine's Gulls. The only records were six Bonaparte's Gulls *Larus philadelphia*, two Laughing Gulls *L. atricilla* and one Kumlien's Gull *L. glaucooides kumlieni*. Apart from a Bonaparte's in June, a Laughing in May and the Kumlien's in January, the other six were all in autumn (August to November). There were singles in 1961 and 1963, and the remaining four were all in 1967, thus coinciding with the peak year for Sabine's Gulls. It will be recalled (page 100) that this was also the peak year for Nearctic waders, including Pectoral Sandpipers. The third highest total of Sabine's Gulls, 19 in 1963, coincided with another peak of Nearctic waders, but numbers of the latter were below average in 1960, the year of the second highest total.

Sabine's Gull is nowhere a common breeding species but it has a Holarctic distribution extending from north-west Greenland westwards through Baffin Island, Arctic Canada, Alaska and Siberia to the Taimyr Peninsula, with irregular nesting further west to Spitsbergen. As recently as the 1950's, the wintering area was considered to be in the Gulf of Gascony (Fisher and Lockley 1953, Ferguson-Lees 1955). In the Bay of Biscay the numbers decline through the autumn—a recent example being 1,000 in the area of Belle Ile to Le Croisic in late August 1965, 100 in late September and 40 in early October (Ricard 1966)—and, though the disappearance from this region by mid-December was thought to be puzzling, it was suggested that it might represent an early return northwards to the breeding areas. Observations of passage in a narrow line near the coasts of Senegal and Morocco during May, the birds moving northwards very rapidly and hardly stopping to feed (Roux 1961), provided one of the first clues to the winter quarters which have now been shown to lie off south-west and south Africa between the Bay of Lüderitz and Port

Elizabeth (Morgan and Wheeler 1958, Liversidge and Courtenay-Latimer 1963, Zoutendyk 1965, Mayaud 1965). The birds in their winter quarters and the spring passage northwards along the west African coast are now regularly observed (see, for example, Bourne 1970).

The east Siberian and Alaskan populations pass through the Bering Strait and down the east Pacific coast and, because no significant numbers are observed along the coasts of Greenland or Norway, both Mayaud (1961) and Bourne (1965) deduced that the west Siberian population joined those from the east and also passed into the Pacific. The relative scarcity of British east coast records compared with those of, say, Long-tailed Skuas *Stercorarius longicaudus* (fig. 49), as well as the total absence of Scottish records in the ten years, makes it unlikely that the British and Irish records involve west Siberian birds passing between Iceland and Shetland through the Norwegian Sea. The pattern makes it far more probable that the Sabine's Gulls observed here are Nearctic ones which have passed along the North American east coast south to Maine and Massachusetts, crossed the Atlantic south of Greenland towards Brittany and then been displaced by westerly winds to Ireland and western Britain.

American land-birds

All the records of American land-birds in western Europe up to 1953 (including dubious and officially rejected records as well as those accepted in national check-lists) were brought together and discussed by Alexander and Fitter (1955) who thus provided an indispensable base-line. The 29 American passerines recorded in Britain, Ireland and France during 1951-62 were thoroughly analysed by Nisbet (1963) who also compared the patterns with earlier records. These two papers are essential reading for students of this subject and the brief treatment here in no way attempts to replace them.

During 1958-67 there were 52 records of American passerines (including two identified only to genus) and five of American cuckoos in Britain and Ireland. A further 15 passerines were recorded in 1968 and so, in order to provide a larger sample, this section is concerned with the eleven years 1958-68 (unlike all others in this series, which are strictly confined to the ten years 1958-67). The 1968 records have all been published in one place (Smith 1969) and so the reader may easily determine the 1958-67 patterns from the 1958-68 ones given here.

Table 7 shows the American land-birds recorded in 1958-68 and also during two preceding periods. Leaving aside the three non-passerines at the top of the list, it demonstrates the very striking increase in observations of Nearctic passerines in the most recent eleven-year period—nearly four times as many as the total for all time up to

Table 7. Summary of all accepted records of American land-birds in Britain and Ireland

In addition to the species listed below, there was an unidentified wood warbler *Dendroica* sp and an unidentified tanager *Piranga* sp in 1958-68, and the wing of an Ovenbird *Seiurus aurocapillus* was found on the tideline on 4th January 1969. The first two of these, but not the last, have been included in all the totals in this paper. Four records of the American Pipit *Anthus spinoletta rubescens* have been excluded since the breeding range extends into Greenland

	Up to 1946	1947-57	1958-68
Yellow-billed Cuckoo <i>Coccyzus americanus</i>	15	6	3
Black-billed Cuckoo <i>C. erythrophthalmus</i>	2	2	2
Nighthawk <i>Chordeiles minor</i>	1	2	0
Horned Lark <i>Eremophila alpestris alpestris</i>	0	1	0
Brown Thrasher <i>Toxostoma rufum</i>	0	0	1
American Robin <i>Turdus migratorius</i>	3	4	9
Olive-backed Thrush <i>Catharus ustulatus</i>	0	1	2
Grey-checked Thrush <i>C. minimus</i>	0	1	6
Red-eyed Vireo <i>Vireo olivaceus</i>	0	1	6
Black-and-white Warbler <i>Mniotilta varia</i>	1	0	0
Parula Warbler <i>Parula americana</i>	0	0	3
Yellow Warbler <i>Dendroica petechia</i>	0	0	1
Myrtle Warbler <i>D. coronata</i>	0	1	2
Yellowthroat <i>D. dominica</i>	0	1	0
Blackpoll Warbler <i>D. striata</i>	0	0	2
Northern Waterthrush <i>Seiurus noveboracensis</i>	0	0	2
American Redstart <i>Setophaga ruticilla</i>	0	0	2
Bobolink <i>Dolichonyx oryzivorus</i>	0	0	2
Baltimore Oriole <i>Icterus galbula</i>	0	0	10
Summer Tanager <i>Piranga rubra</i>	0	1	0
Rose-breasted Grosbeak <i>Pheucticus ludovicianus</i>	0	1	3
Rufous-sided Towhee <i>Pipilo erythrophthalmus</i>	0	0	1
Slate-coloured Junco <i>Junco hyemalis</i>	1	0	3
White-throated Sparrow <i>Zonotrichia albicollis</i>	1	0	7
Fox Sparrow <i>Passerella iliaca</i>	0	0	1
Song Sparrow <i>Melospiza melodia</i>	0	0	2
TOTALS	24	22	70

then and more than $5\frac{1}{2}$ times as many as in the previous eleven years. It is impossible, however, to know the extent to which this increase reflects the annually growing number of observers and also their greater appreciation of the possibility of finding American land-birds (indeed, the preoccupation of some of them with doing so). Nisbet (1963) drew attention to the fact that the earlier records might be biased towards the larger and more conspicuous species, and the proportion of the three non-passerines has fallen from 75% up to 1946 to 45% in 1947-57 and 7% in 1958-68. The drop in the actual numbers (especially of the Yellow-billed Cuckoos*), however, from

*Scientific names of species in this section are given in table 7.

18 in the first period to ten in the next eleven years and then to only five in the last eleven, clearly represents a genuine decrease.

Bonham (1970) has shown the annual totals of the passerines in Britain and Ireland from 1951 to 1968 by means of a histogram and has also mapped the geographical distribution of the records, so that these text-figures do not need to be repeated here. Including the cuckoos which, for convenience, are hereafter incorporated into the totals as if they were passerines, peak numbers occurred in 1962 (six in autumn), 1966 (two in late winter 1965/66, four in spring and five in autumn), 1967 (two in spring and 14 in autumn) and 1968 (one in spring and 14 in autumn). The majority were concentrated in a few well-watched localities in the south-west of Britain and Ireland—the Isles of Scilly, Lundy (Devon), Skokholm (Pembrokeshire), Bardsey (Caernarvonshire) and Cape Clear Island (Co. Cork)—which accounted for two-thirds of the autumn records in 1958-68, nearly half of them in Scilly.

The distribution of the records through the year (fig. 78) shows very distinct peaks, in April to mid-June (especially early May) and in late September to mid-November. These are even more marked if the nine American Robins—two in May and the others in November-February (thus comparable with the Killdeers)—are excluded. A fifth of the records fell in the spring period and three-quarters in the autumn, with no less than 71% of the latter in the first three weeks of October. This concentration is even more marked when single years are examined. Three American passerines have occurred within one week once, four within one week on two occasions, and five and seven within one week once each (table 8). (It is a strange coincidence, but probably nothing more, that when American land-birds reached Skokholm they were always the first of the influx and, conversely, those on Cape Clear Island were always the last.) Several of the species also show a remarkable concentration within a short period. Six of the seven Red-eyed Vireos occurred within just three days (4th-6th October) in five different years; three of the four Rose-breasted Grosbeaks also appeared within three days (5th-7th October) in three different years; and the two autumn Olive-backed Thrushes

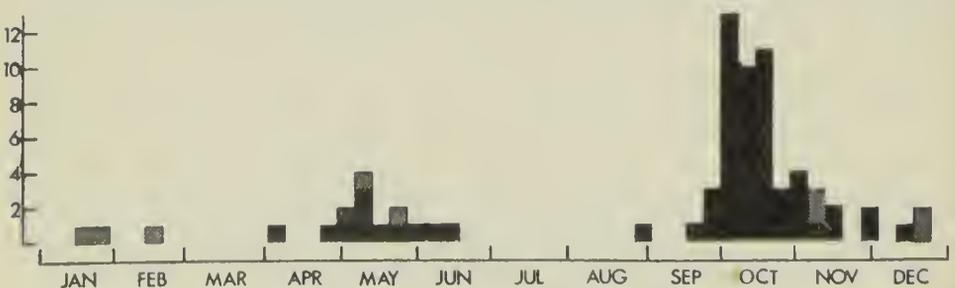


Fig. 78. Seasonal pattern of American land-birds in Britain and Ireland during 1958-68; the records of American Robins *Turdus migratorius* are shown shaded

Table 8. The five most concentrated arrivals of American land-birds in Britain and Ireland

Two records which fell in the following or preceding week are included in brackets for completeness. Scientific names are given in table 7

Year	Date	Species	Locality	TOTALS
1962	4th October	Red-eyed Vireo	St Agnes, Isles of Scilly	} 4
	4th October	Red-eyed Vireo	St Agnes	
	5th October	Baltimore Oriole	Beachy Head, Sussex	
	7th October	Rose-breasted Grosbeak	Cape Clear Island, Co. Cork	
1967	5th October	Rose-breasted Grosbeak	Skokholm, Pembrokeshire	} 3
	5th October	Baltimore Oriole	Skokholm	
	6th October	Red-eyed Vireo	Cape Clear Island	
	14th October	Olive-backed Thrush	Skokholm	} 7
	14th October	Red-eyed Vireo	Skokholm	
	15th October	White-throated Sparrow	Bardsey, Caernarvonshire	
	17th October	Baltimore Oriole	Lundy, Devon	
	17th October	Baltimore Oriole	Lundy	
	18th October	Baltimore Oriole	St Agnes	
	19th October	Black-billed Cuckoo	Lundy	
(21st October	American Redstart	Porthgwarra, Cornwall)		
1968	(6th October	Red-eyed Vireo	St Agnes)	} 5
	9th October	Parula Warbler	Portland Bill, Dorset	
	10th October	Bobolink	St Mary's, Isles of Scilly	
	12th October	Blackpoll Warbler	St Agnes	
	13th October	American Redstart	Cape Clear Island	
	14th October	Olive-backed Thrush	Cape Clear Island	} 4
	17th October	Grey-cheeked Thrush	Horden, Co. Durham	
	19th October	White-throated Sparrow	Beachy Head	
	22nd October	Blackpoll Warbler	Bardsey	
23rd October	Myrtle Warbler	St Mary's		

both occurred on 14th October in different years. Since the peak of autumn arrivals extends over three weeks, these patterns are clearly not due to coincidence and, while further data are required for most species, it seems probable that the British and Irish records are reflecting the North American migration patterns of the individual species. No light is thrown on the vexed question of assisted passage—whether most of these passerines cross the Atlantic on board ships—by the concentration of birds in a short period of time in a small area of western Britain and Ireland and coincidentally with westerly winds. These can all be explained equally by unassisted arrival on the westerly winds or by assisted arrival on transatlantic ships following easterly displacement by the westerly winds off the North American coast. The classic example of the latter was described by Durand (1963).

When the spring records are considered, it is very striking that 71% refer to buntings or 'sparrows' (Emberizidae), compared with only 6% of those in autumn (table 9). No wood warblers (Parulidae) or vireos (Vireonidae) were identified in spring, although together

Table 9. Seasonal distribution of the records of each family of American land-birds recorded in Britain and Ireland in 1958-68

	SPRING Apr-Jun	AUTUMN Aug-Nov	WINTER Dec-Feb
Cuculidae (cuckoos)	0	4	1
Mimidae (thrashers and mockingbirds)	0	1	0
Turdidae (thrushes, except next)	0	8	0
American Robin <i>Turdus migratorius</i>	2	2	5
Vireonidae (vireos)	0	6	0
Parulidae (wood warblers)	0	13	0
Icteridae (blackbirds and orioles)	1	11	0
Thraupidae (tanagers)	0	1	0
Fringillidae (finches)	1	3	0
Emberizidae (buntings and sparrows)	10	3	0
TOTALS	14	52	6

they made up 37% of the autumn records. It is not merely a case of the mainly seed-eating Emberizidae surviving better on this side of the Atlantic and recurring in Britain and Ireland on spring migration (the mainly insectivorous wood warblers having died), since there were actually more Emberizidae recorded in spring than in autumn, not merely a higher proportion. Nevertheless, this is clearly a part of the explanation, for the spring records (fig. 79) were not concentrated in the west like those in autumn (*cf.* fig. 3 in Bonham 1970 in which, however, all records were mapped regardless of season). It will be recalled (page 110) that five western localities accounted for 66% of

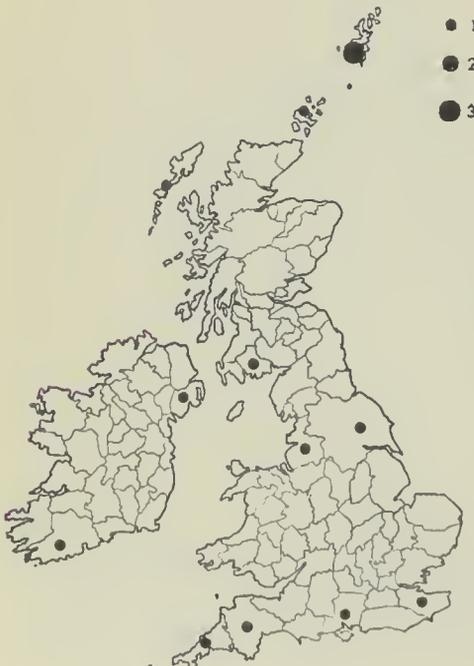


Fig. 79. Distribution by counties of spring American passerines in Britain and Ireland during 1958-68

the autumn records; in spring these five localities provided only 14%.

Nisbet (1963) drew attention to the discrepancy between the proportions of American Emberizidae successfully crossing the Atlantic on board ship and those seen in Europe in autumn. He noted that, of the 17 American land-birds recorded as having successfully reached Europe by ship assistance, only three were wood warblers, compared with eleven Emberizidae. The numbers recorded in Britain and Ireland in the autumns of 1958-68 were almost the reverse of this ratio, with 19 wood warblers and vireos and only three Emberizidae. The numbers recorded in spring, however, accorded more closely with the ship pattern.

Tuck (1970) has listed the species most often recorded landing on ships passing along the eastern seaboard of North America. The three most numerous of these in each of his two-month periods were as follows (in descending order of frequency):

APRIL-MAY	Slate-coloured Junco, White-throated Sparrow, Song Sparrow
AUGUST-SEPTEMBER	American Pipit, Myrtle Warbler, Magnolia Warbler <i>Dendroica magnolia</i>
OCTOBER-NOVEMBER	Slate-coloured Junco, White-throated Sparrow, White-crowned Sparrow <i>Zonotrichia leucophrys</i>

The three species commonest on ships in April-May made up 64% of the spring records of American passerines in Britain and Ireland in 1958-68. On the other hand, the six species commonest on ships in August-November made up less than 12% of the autumn records here, two of them have never been recorded in Britain or Ireland (Magnolia Warbler and White-crowned Sparrow) and one has never been recorded in autumn (Slate-coloured Junco), even though it is the commonest of all on ships in the western Atlantic in October-November.

The conclusions reached by Nisbet (1963) are confirmed by subsequent events. There is a clear indication that the majority of American land-birds, other than seed-eating Emberizidae, reach western Britain and Ireland naturally. While some may receive ship assistance for the whole or part of their journey, it is most unlikely that this is a major contribution to their vagrancy pattern here. On the other hand, there is a strong likelihood that the occurrences of the seed-eating Emberizidae, particularly those in the spring, result largely from ship-assisted passage across the Atlantic.

ACKNOWLEDGEMENT

As already stated in part 1, a full list of acknowledgements will be given in the final part of this series. I should, however, like to express my gratitude now to Miss Karen Rayner, who has drawn for me all the histograms included here.

Dr J. T. R. Sharrock, 59 Curlew Crescent, Bedford

Studies of less familiar birds

164 Wood Sandpiper

I. J. Ferguson-Lees

Photographs by J. B. and S. Bottomley

Plates 13-17

The Wood Sandpiper *Tringa glareola* appeared in this series as long ago as 1947 (*Brit. Birds*, 40: 175, plates 19-21), though some photographs of tameness at a ground nest were published in 1961 (*Brit. Birds*, 54: 135-136, plates 22, 24, 25). Unlike its allies, the Green Sandpiper *T. ochropus* of Eurasia and the Solitary Sandpiper *T. solitaria* of North America, the Wood Sandpiper usually breeds on the ground and seldom in old nests of other birds. Blair (1961a) was able to cite only six instances of tree nesting in Sweden and none at all in Norway, although this habit is rather more common in Siberia, as he pointed out, and there have been other Scandinavian records since then (e.g. Brandberg 1966). We are therefore glad to have this opportunity of publishing the fine series by Mr and Mrs Bottomley on plates 13-17 of a tree site in Finland in June 1970.

The forest edge where this nest was found is shown on plate 13b and the tree, a small Norway spruce *Picea abies* about 20 yards inside, on plate 14. The nest was ten to twelve feet above the ground and, as is clear from plate 15, quite near the main trunk. Plates 16 and 17 are close-ups of one of the Wood Sandpipers incubating in what can be seen to be an old nest of the Song Thrush *Turdus philomelos*. Other nests in which the species has been found breeding include those of Great Grey Shrike *Lanius excubitor*, Waxwing *Bombycilla garrulus*, Magpie *Pica pica*, Turtle Dove *Streptopelia turtur* and, especially, Fieldfare *Turdus pilaris*; no material is added by the waders in such cases. Mr and Mrs Bottomley found Wood Sandpipers common in the area of their nest, but most pairs seemed to be breeding in the open marshland or in clearings in the forest, as is typical.

The pylon hide on plate 14 was built over several days and the incubating bird remained on the nest through most of the construction, despite sawing and banging only a couple of yards away. As Mr Bottomley put it, 'Normally bird-photographers prefer their subject to be absent while hides are moved or built, but short of lifting them from their eggs it would not have been possible to persuade these Wood Sandpipers to depart.' The original mud lining of the nest (plate 16) was still more or less intact, but otherwise the structure was dilapidated and insecure. The birds approached the nest tree by fluttering from branch to branch 30 feet above the ground.



PLATE 13. Wood Sandpiper *Tringa glareola*, Finland, July 1970: note characteristic way in which waders perch on tree tops without grasping the twigs. Below, nesting habitat, Finland, June 1970: the nest on plates 14-17 was twenty yards inside the wood at the centre of the picture (pages 114-117) (photos: J. B. and S. Bottomley)



PLATE 14. Nesting site of Wood Sandpiper *Tringa glareola*, Finland, June 1970. The nest was ten to twelve feet above the ground in the thin spruce in the centre, at a point just beneath the top of the hide (page 114) (photo: J. B. and S. Bottomley)





PLATE 15. Wood Sandpiper incubating in old nest of Song Thrush *Turdus philomelos* close to the main trunk. Green Sandpipers *Tringa ochropus* commonly nest in such places, but this species much less often (page 114) (photo: J. B. and S. Bottomley)



PLATES 16 and 17. Close-ups of the nest on plate 15 (note mud lining) as the Wood Sandpiper settles on its four greenish-buff eggs blotched with purplish-brown and underlying grey (page 115). In summer this species has a finely streaked head and is otherwise brown above boldly marked with white (photos: J. B. and S. Bottomley)





PLATES 18 and 19. Spotted Sandpiper *Tringa macularia*, Cornwall, August 1970, and, below right, Common Sandpiper *T. hypoleucos*, Cornwall, August 1969. The Spotted is sunbathing above and preening below. These photos emphasise the distinctions between the two species in autumn (pages 124-125) (photos: J. B. and S. Bottomley)







PLATE 20. Pectoral Sandpiper *Calidris melanotos* near nest (just visible on right above), Alaska, 1950. Note the sharply demarcated streaking on the breast and the contrasted pattern and V of buffish stripes on the upper-parts. The 243 British and Irish records in 1958-67 are analysed on pages 93-103 (photos: Niall Rankin)



Most nests of Wood Sandpipers are no more than a neat scrape in grass, heather or moss, lined with a few grasses and dead leaves, among open tundra vegetation or in clearings in pine or birch forest, sometimes on a slight hillock and often by a small birch, alder or willow sapling. Like other *Tringa*, this species normally lays four eggs (rarely three). These range from cream or pale green through olive or brownish to deep buff, variably marked with sepia or purplish-brown and underlying grey; many eggs are heavily blotched, particularly at the larger end where the pigments can form a solid cap.

The Wood Sandpiper breeds from 51°N to well inside the arctic circle at 71°N. Though eggs have been found as early as 2nd May, few are laid before the second or third weeks of that month even in the south of the range, while north of the arctic circle many clutches are not complete before mid-June and some late ones not until early July. Both sexes have incubation patches and both sit on the eggs for 22 or 23 days (Kirchner 1960). Mr and Mrs Bottomley did not see a change-over during eight hours in their hide in Finland (and the incubating bird did not even turn the eggs), but Kirchner watched this at one nest several times. The relieving bird would fly in, calling 'gip gip . . .', to perch on a stunted pine 30 yards away. There it would call again—with a sound likened to the whistle of a Curlew *Numenius arquata*—before flying down and running to the nest which the sitting bird had meanwhile vacated silently before towering up into the air and singing. The song, uttered by both sexes, is a liquid and musical series of fluty notes, utterly different from the rather hoarse 'chiff-iff-iff' flight call and perhaps best rendered as 'liro-liro-liro-teela-teela-teela-oodl-oodl-oodl' with a quality reminiscent of a Woodlark *Lullula arborea*. It often accompanies the display flight (see *The Handbook*).

Like most waders, young Wood Sandpipers leave the nest as soon as they are dry, and the family may be 100 yards away within 24 hours. Some nests are in tussocks of vegetation surrounded by deep water and even these are quickly vacated soon after the eggs hatch, the chicks being able to swim from the outset. I know of no observation of young Wood Sandpipers leaving a tree nest, but when newly hatched they weigh only eight to ten grams (Kirchner 1956) and presumably they tumble to the ground without injury like the chicks of Green Sandpipers and tree-nesting ducks. Blair (1961b) described how young Green Sandpipers 'barely half an hour out of the shell' jumped to the ground from a hole in a broken poplar and how three young in another brood (the fourth egg was still hatching) dropped 30 feet from their nest in an old squirrel's drey.

The male usually takes the greater share in looking after the young. Indeed, at one of Kirchner's nests the presumed female left everything to the male from the time the eggs started hatching. Sometimes

the female does guard the brood as closely as the male for the first few days, but then she usually leaves the territory and he remains in sole charge. If disturbed with young, the male (and the female too, if still present) is very demonstrative. He flies round overhead, perches on trees and flutters across the ground with tail spread, continuously uttering his metallic 'chip chip . . .' alarm; if the young are small, one of the parents may return to cover them only a few feet from a human intruder. Only one brood is reared.

The Wood Sandpiper has a wide range in northern Eurasia from Norway, Sweden, Denmark and north Germany through Finland, the Baltic States, Poland and Russia, and thence right across Siberia to Anadyr, Kamchatka, north Manchuria and Amurland. It extends south to the northern Ukraine, Semipalatinsk, Altai and north Mongolia, but is no longer found in the rest of the Ukraine, the Kirghiz Steppes or the northern Caucasus as stated in *The Handbook*. Its southern limits may be moving northwards—in the early part of the century it used even to breed in the Netherlands, but has not done so since 1936 (*Avifauna van Nederland*, 1970)—while it appears to be increasing in the northern forest belt where it is the most abundant and characteristic of all waders. Merikallio (1958) put the Finnish population at 180,000 pairs, twice as high as the next most numerous species, the Snipe *Gallinago gallinago*.

The Wood Sandpiper migrates through most of Eurasia to winter throughout Africa from the Mediterranean region to Cape Province and from India and China through Indonesia to Australia. In Britain it has always been commonest on the east and south-east coasts on autumn passage from July to mid-October, but it now occurs in most English counties and more locally in Scotland (where it remains rare in the north-west) and Ireland (where it was a vagrant up to 1950, but is now annual in increasing numbers). Recently, also, this species has been recorded much more often on spring passage from mid-April to early June. Migration on a national or a European scale has been discussed by Nisbet (1956), Hoffmann (1957) and Myhrberg (1961).

The Wood Sandpiper was the third of the series of Scandinavian species which have started colonising Scotland within the last 20 years: preceded only by the Redwing *Turdus iliacus* and Osprey *Pandion haliaetus*, it has been followed by the Snowy Owl *Nyctea scandiaca*, Fieldfare and, on an as yet impermanent basis, Goldeneye *Bucephala clangula*, Green Sandpiper, Bluethroat *Luscinia svecica* and so on. Wood Sandpipers may have bred in Norfolk some years before 1846 and certainly did so in Northumberland in 1853 (perhaps again in 1857), but then there were no further nesting records for just over 100 years. Since 1959, however, they have been proved to breed in Scotland every year: just a few pairs between Sutherland and north Perthshire. One hopes that the population will continue to develop.

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Black Redstarts breeding in Britain in 1964-68

R. S. R. Fitter

This is the first of what is intended to be a series of quinquennial reports, following the previous summary covering the years 1950-63 (Fitter 1965). During 1964-68 the observed breeding and territory-holding population of Black Redstarts *Phoenicurus ochruros* in Britain (actually all in England) continued to fluctuate, as it has done ever since the first big influx in 1942 and 1943 (see fig. 1 and table 1). There have altogether been four peaks, in 1942 (49 territories held), 1948 (63), 1958 (49) and now 1964 with a record 69. The corresponding lows have been in 1946 (24), 1955 (23), 1962 (17) and now 1968 with 24.

The problem is whether these fluctuations are real or merely the result of defective observation. Even now, with a vastly increased network of active observers compared with a generation ago, it is clear that a proportion, and probably a large proportion, of nesting pairs go unrecorded. This is due mainly to their preferred nesting habitat—urban and industrial areas not greatly frequented by birdwatchers. Meadows (1965) demonstrated this nicely when in 1964 he surveyed the industrial lower reaches of the River Lea, on the borders of Essex and Middlesex, and found no fewer than four unsuspected breeding pairs and six other males holding territories. The sudden appearance of Staffordshire in the record in 1964 was also due to the fact that nobody had hitherto bothered to watch birds in the environs of the power station at Bilston. It is significant that during this five-year period Black Redstarts have held territories at seven power

stations and a gasworks, but how many more must have been overlooked in these apparently unpromising venues for a field meeting? See Meadows (1970) for further discussion of the problem.

The feeling that not all the observed breeding pairs or territory-holding males are recorded is strengthened by comparing the local bird reports which cover overlapping areas (for example, parts of London and Merseyside or, on a more local level, of Suffolk and Sussex). All too often the report covering the smaller area includes records omitted from what purports to be the comprehensive county report.

On the whole, it seems probable that the fluctuations are genuine, for there appears to be no reason why the admitted imperfections of observation and recording should apparently be cyclical. Moreover, it is probable that most migratory breeding passerine populations fluctuate in a similar way: everyone can remember years in which Blackcaps *Sylvia atricapilla*, Whitethroats *S. communis* and other warblers are notably common or scarce. Ever since regular nesting began in 1923, the pattern of the various small breeding populations of Black Redstarts in Britain has been the occupation of a site for a period (frequently very short) and then its abandonment, as often as not never to be reoccupied. Assuming that the pairs in question have moved elsewhere, and not come to grief, it may well take some time for an ornithologist to come across them again, and many must breed in such sites for a season or two completely unobserved.

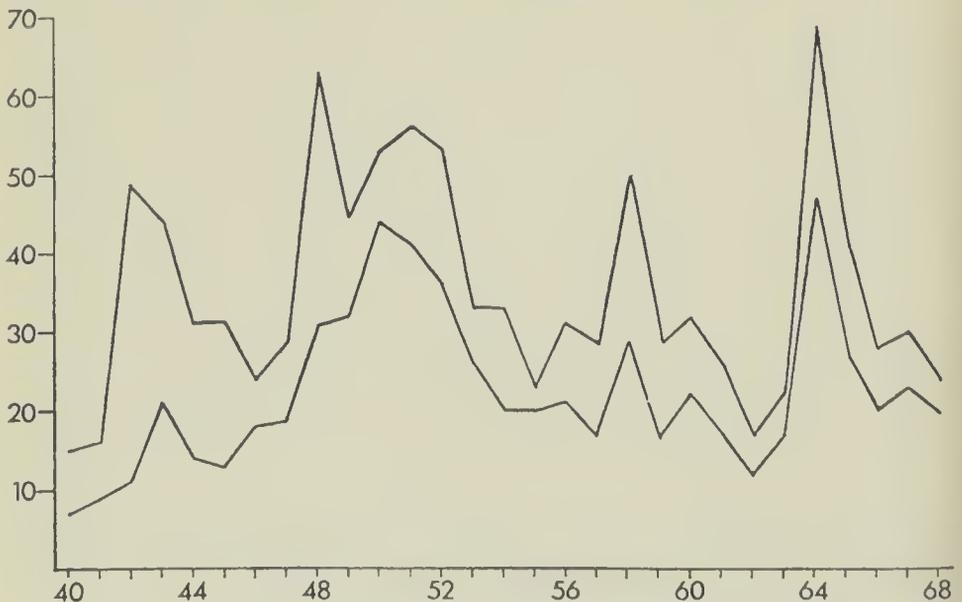


Fig. 1. Black Redstarts *Phoenicurus ocburos* in Britain in the breeding season from 1940 to 1968 (years along horizontal axis). The lower line shows the numbers of pairs, whether proved to have bred or not (first two columns in table 1 combined), and the upper the totals of territory-holding males (last column in table 1)

Table 1. Numbers of breeding pairs of Black Redstarts *Phoenicurus ochrurus*, and of singing males holding territories, in Britain from 1940 to 1968

The first two columns combined (total pairs recorded) and the last column (territory-holding males) are shown graphically in fig. 1

Year	Pairs proved to have bred	Pairs not proved to have bred	Territory-holding males not known to have paired	Total territory-holding males
1940	7	—	8	15
1941	9	—	7	16
1942	8	3	38	49
1943	17	4	23	44
1944	14	—	17	31
1945	10	3	18	31
1946	13	5	6	24
1947	15	4	10	29
1948	26	5	32	63
1949	31	1	13	45
1950	40	4	9	53
1951	35	6	15	56
1952	32	4	17	53
1953	25	1	7	33
1954	17	3	13	33
1955	14	6	3	23
1956	20	1	10	31
1957	14	3	12	29
1958	27	1	21	49
1959	16	1	12	29
1960	20	2	10	32
1961	15	2	9	26
1962	12	—	5	17
1963	14	3	6	23
1964	34	13	22	69
1965	22	5	14	41
1966	17	3	8	28
1967	18	5	7	30
1968	16	4	4	24

SUMMARY OF BREEDING RECORDS IN 1964-68

1964 A return to the high levels achieved in and after 1948, with 34 breeding pairs (the greatest number since 1952) and a grand total of no fewer than 69 territories held, the highest ever recorded. Breeding was proved in nine counties: Berkshire (Windsor), Essex (Stratford), Kent (Dungeness, the Dover-Folkestone area, St Margaret's Bay), Middlesex (City of London, Lea Valley, Shepherds Bush), Norfolk (Great Yarmouth), Staffordshire (Bilston), Suffolk (Dunwich, Ipswich, Lowestoft, Sizewell), Surrey (Croydon, Southwark) and Sussex (Eastbourne, Worthing). Elsewhere there were pairs or singing males at Bedford; Canning Town and Walthamstow, Essex; Kingsgate, Maidstone, Newington and Ramsgate, Kent; Bloomsbury and Brent-

ford, Middlesex; Peterborough, Northamptonshire; Nottingham; Wellington, Shropshire; Hastings and St Leonards, Sussex; and Birmingham, Warwickshire. Thus, apart from the outlying population in London, the great majority of breeding pairs continued to inhabit the coastal strip from Great Yarmouth to Beachy Head.

1965 A much less good year, with little more than half the number of known territories, although breeding was still recorded in seven counties: Buckinghamshire (High Wycombe), Dorset (Portland), Essex (Rainham), Kent (Dover, Dungeness, Littlebrook power station, St Margaret's Bay), Middlesex (City of London, Lea Valley, Paddington, Poplar), Suffolk (Framingham, Sizewell) and Surrey (Croydon). Elsewhere territories were held only at Windsor, Berkshire; Portsmouth, Hampshire (for the first time definitely in that county since 1945); Ramsgate and St Margaret's Bay, Kent; Cromer, Norfolk; Lowestoft, Suffolk; Beachy Head and Hastings, Sussex; and Birmingham, Warwickshire. Well-known sites apparently lacking in Black Redstarts in that year included Great Yarmouth and Eastbourne.

1966 The population fell lower still, to the level of 1961-63. Breeding was recorded in only six counties: Kent (Dover, Dungeness, Littlebrook), Middlesex (City of London, Poplar, Shepherds Bush, Tottenham), Norfolk (Great Yarmouth), Staffordshire (Bilston), Suffolk (Lowestoft, Sizewell) and Surrey (Croydon). Elsewhere territories were held at Dagenham and Stratford, Essex; Woolwich Arsenal, Kent; Bloomsbury, Middlesex; and Kingston-upon-Thames and Southwark, Surrey. For the first time almost since 1940, none was reported from Sussex, not even a singing male at Hastings.

1967 This year saw a slight recovery. Pairs were proved to have bred in nine counties again: Essex (Becontree Heath, Lea Valley), Kent (Belvedere, Dungeness, Littlebrook), Middlesex (Lea Valley), Norfolk (Great Yarmouth), Northampton, Staffordshire (Bilston), Suffolk (Lowestoft, Sizewell), Surrey (Croydon) and Warwickshire (Birmingham). Other territories were held at Blackwall Point and Dover, Kent; the City of London and Shepherds Bush, Middlesex; Old Hunstanton, Norfolk; and Ipswich, Suffolk. Once again, unaccountably, no occupied territories were recorded in Sussex.

1968 Numbers reverted to below the level of 1966, with breeding definitely established in only seven counties: Essex (Lea Valley), Hertfordshire (Welwyn), Kent (Elmers End), Middlesex (City of London, Marylebone, Park Royal, Tottenham), Norfolk (Great Yarmouth), Suffolk (Lowestoft, Sizewell) and Warwickshire (Birmingham). There were also singing males or pairs not proved to have bred at Littlebrook, Kent; Bloomsbury, Middlesex; Ipswich, Suffolk; Beddington, Surrey; and on the east Sussex cliffs. The astonishing

feature of 1968 was the collapse of the apparently well-established colonies at Dover and Dungeness, Kent, so that the only pair proved to have bred in the whole of the three counties of Kent, Surrey and Sussex, normally one of the main strongholds, was at a new site at Elmers End, Kent.

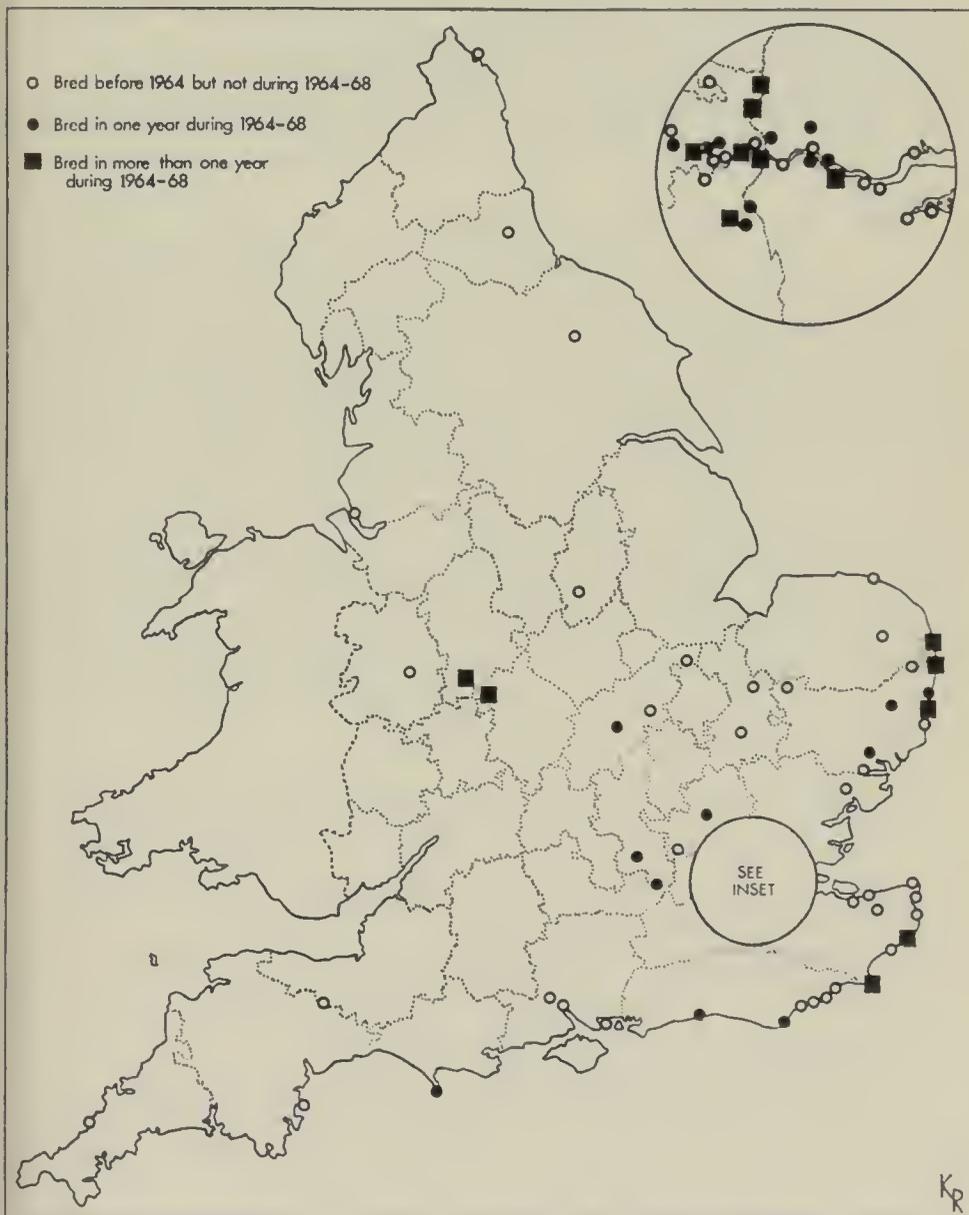


Fig. 2. Proved breeding localities of Black Redstarts *Phoenicurus ochruros* in Britain up to and including 1968. Note that the centres are now in the London area (see inset), south-east England, East Anglia and the Midlands. Breeding has never been proved in Wales or Scotland, and the most recent records in the west and north were Cornwall (1939), Devon (1949), Shropshire (1963), Lancashire (1950), Yorkshire (1951), Northumberland (1962) and Durham (1845). Apart from the last all the cases of proved breeding are since 1923

ADDITIONAL RECORDS FOR 1949-63

The two 1949 records were omitted in error from the county summaries and fig. 1 in Fitter (1965), although included in Fitter (1950):

- 1949 Single pairs bred at Torquay, Devon; and in the vicinity of Lakenheath, Suffolk.
 1950 Single pairs bred at Liverpool docks, Lancashire; and at Margate, Kent.
 1951 One pair bred at Margate, Kent.
 1958 One pair bred at Wrotham Park, Bentley Heath, Hertfordshire.
 1962 One pair bred on Holy Island, Northumberland.
 1963 Additional singing males at Bow Creek Wharf and Tottenham gasworks, Middlesex; and Aldeburgh, Suffolk.

SUMMARY OF RECORDS BY COUNTIES

Fig. 2 shows the proved breeding localities of Black Redstarts in Britain from the first in 1845 up to and including 1968, distinguishing between those where nesting was established in 1964-68 and those where it had not been known since 1963. Though there have been odd breeding season records in Scotland and Wales, all the proved cases of nesting have actually been in England. Nevertheless, there are still a number of English counties which are not known ever to have held even a singing male, these being Cheshire, Cumberland, Derbyshire, Huntingdonshire, Leicestershire, Lincolnshire, Rutland, Westmorland and Wiltshire; nor has a singing male ever been reliably recorded on the Isle of Wight, despite rumours to the contrary. In the following list, as before, late summer records are given where these suggest the possibility of birds having summered, while † indicates no breeding record before 1964:

†**Bedfordshire** For the second year running a pair was present in Luton in 1964 without proof of breeding. Also in 1964, a singing male in Bedford from 16th June to 20th July.

†**Berkshire** A pair bred at Windsor Castle in 1964 (first county breeding record) and a singing male returned briefly in 1965.

†**Buckinghamshire** A pair bred at High Wycombe in 1965 (first county breeding record). Also in 1965, a male at Marlow on 22nd May.

Cambridgeshire No breeding record since 1958.

Cornwall No breeding or breeding season record since 1939.

†**Derbyshire** A male at Old Brampton from 27th August to 1st October 1964.

Devon No breeding record since 1949. A male at Stokenham on 6th and 9th August 1968.

†**Dorset** A pair bred successfully at Portland in 1965 (first county breeding record). One present at another locality on the coast on 15th June 1967.

Durham No breeding record since 1845 and no breeding season record since 1957.

Essex Bred in the lower Lea Valley in most years. Elsewhere, one was at Harwich from 24th to 31st August 1964 (perhaps a migrant), a pair bred on an industrial estate at Rainham in 1965 but the eggs were taken, a male was seen at Dagenham Docks from May to 1st July 1966, a pair bred at Becontree Heath in 1967, and a female was seen at Walton-on-the-Naze on 18th June 1968.

†**Gloucestershire** An adult male at Up Hatherley on 29th June 1965.

Hampshire Three pairs may have bred at Portsmouth in 1965, when two singing males were also present. The failure to colonise the Portsmouth and Southampton region remains one of the more puzzling features.

†**Herefordshire** No breeding season record since 1958.

Hertfordshire One pair bred near Welwyn in 1968. The nesting at Wrotham Park in 1958 (see ADDITIONAL RECORDS) was the first county breeding record.

Kent Continued to be a main stronghold, with pairs breeding in most years at Dungeness power station and in the Dover area, and at times at Belvedere, Elmers End and Littlebrook power station. Territory-holding pairs were widely distributed along the coast and in the London suburban fringe. In 1968, in striking contrast to the previous 25 years, no pairs were reported even holding territories along the east Kent coast.

Lancashire No breeding season record since 1950, when a pair bred at Liverpool docks (see ADDITIONAL RECORDS).

†**Lincolnshire** One in Lincoln on 26th August 1964.

Middlesex Another main stronghold for more than 40 years, with more breeding during 1964-68 in the lower Lea Valley than in the traditional headquarters in the City of London, which has now been made almost uninhabitable for Black Redstarts by the rebuilding of the bombed areas. During the five years pairs also bred at Marylebone, Park Royal and Shepherds Bush, and singing males were scattered as far afield as Brentford. Many must still be overlooked in the centre and still more in the suburbs.

Norfolk Pairs bred at Great Yarmouth in most years, and Cromer usually held at least a singing male. There was a singing male at Old Hunstanton in 1967 and one, perhaps a migrant, was seen between there and Holme on 26th August 1966.

Northamptonshire A singing male was seen in Peterborough in 1964, and a pair bred in Northampton in 1967.

Northumberland A pair found nesting on Holy Island in 1962 by Dr A. M. G. Campbell (*in litt.*) was the first breeding record north of the Tees since 1845 (see ADDITIONAL RECORDS).

Nottinghamshire A pair at Nottingham in 1964 was not proved to breed.

†**Oxfordshire** No breeding season record since an 'almost certain' one in 1958.

Shropshire No breeding record since 1963. A singing male at Wellington in 1964.

†**Somerset** A male singing at Brean Down on 16th May 1964 may still have been on migration, but in 1967 a female was seen there from 5th August (very early for a migrant) until 22nd October. Single birds were also noted at Sutton Bingham on 26th August 1967 and at Nailsea on 16th August 1968.

†**Staffordshire** Bred at Bilston power station in 1964 (first county breeding record), 1966 and 1967; perhaps also in former years.

Suffolk Continued to hold more breeding pairs than either Norfolk or coastal Essex, usually at Lowestoft and Sizewell power station, sometimes also at Ipswich. In 1964 a pair bred at Dunwich, and in 1965 a pair bred at Framlingham Castle.

Surrey Croydon and its power station continued to be the headquarters of breeding Black Redstarts in the county, with territories also held from time to time at Kingston-upon-Thames and Southwark.

Sussex The original home of continuous nesting by Black Redstarts in Britain almost faded out during this quinquennium, breeding being proved only at Eastbourne and Worthing in 1964, with a probability on the east Sussex cliffs in 1968. No singing males were reported away from those areas, except at Hastings and St Leonards. Why are there never any at Brighton or Hove?

Warwickshire Pairs either bred or held territory in Birmingham in four out of the five years.

†**Wiltshire** A male on Easton Down on 30th June 1966.

†**Worcestershire** No breeding season record since 1961 and the only likely breeding record in the county was no more than a probability in 1954. An immature at Tarlebigge on 26th July 1968.

Yorkshire No breeding record since 1951; no breeding season record since 1961.

†**WALES** No breeding season record since one at Cardiff in 1948.

†**SCOTLAND** No breeding season record since one in Stirlingshire in 1955.

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R. S. R. Fitter, *Drifts, Chinnor Hill, Oxford*

A Spotted Sandpiper in autumn plumage

Photographs by J. B. and S. Bottomley

Plates 18-19

D. I. M. Wallace's excellent paper on the distinctions between the Spotted Sandpiper *Tringa macularia* and the Common Sandpiper *T. hypoleucos* out of breeding plumage (*Brit. Birds*, 63: 168-173) was expertly illustrated with drawings which he compiled from his own notes and those of several other observers on the four Spotted Sandpipers recorded in Britain during 1965-67. R. H. Charlwood's photographs (plate 31) of the extended wing and tail of one of these four in the hand, with a small inset of the same bird standing in shallow water, also depicted the species' main field-marks. Now plates 18-19 in this issue show three photographs of a Spotted Sandpiper which was present at Bussow Reservoir, near St Ives, Cornwall, from 17th to 29th August 1970, and one of a Common Sandpiper, also taken in August, for comparison. These superb shots by J. B. and S. Bottomley bring out several of the differences described in Mr Wallace's paper.

The most obvious is undoubtedly the appearance of the Spotted Sandpiper's mantle and wing-coverts, of which Mr Wallace wrote:

Mantle cleaner and greyer in tone [than Common Sandpiper's], lacking any warm brown, appearing almost uniform. Some feathers showed faint sub-terminal bars but the widely dispersed shaft streaks and cross-bars of autumn Common Sandpipers were absent. In contrast, wing-coverts evenly barred blackish and greyish-white. At short range and under most lights, this difference between mantle and wing formed a most striking field-mark. . . . Though the wing-coverts of immature Common Sandpipers are also barred, the marks are closer in colour (dark brown and buff).

Taking these points in order, the 'faint subterminal bars' are easily visible on plate 19a (less so on plate 18), but more especially on the scapulars than on the mantle, appearing as a narrow dark transverse band next to the tip of each feather with the tip itself pale. Just in front of the dark band on some feathers there is also a trace of a pale line. Shaft-streaks are actually visible on the Spotted Sandpiper's mantle and scapulars, but the bars are a more conspicuous feature; on the other hand, the almost total lack of barring on these parts of the Common Sandpiper (where are Mr Wallace's 'cross-bars?') emphasises its well-defined sepia shaft-streaks. Turning to the wing-coverts, note how the 'pale-dark-pale' tips to most of the Spotted Sandpiper's scapulars are reproduced on these, but in a much magnified form. The greater coverts have pale tips with a dark band but hardly any penultimate pale line, whereas the median and lesser coverts generally have a most obvious pale-dark-pale pattern. These features are clearer on plates 18 and 19a here than on plate 31a with Mr Wallace's paper, where, however, they are still noticeable. The rather striking wing-covert pattern was a little different in Mr Wallace's sketch (except on the greater coverts), but he did emphasise the contrast between coverts and mantle (see plates 18 and 19a). Plate 19b supports his remarks on the Common Sandpiper's coverts, but note how much narrower the dark bars are on this individual compared with the Spotted. According to *The Handbook* (4: 301), however, the Common Sandpiper's median coverts (at least) show 'considerable individual variation in character and pattern of barring'.

The other plumage difference seen well on these photographs is the fine dark streaking on the patches at each side of the Common Sandpiper's breast; the breast-patches of the Spotted appear quite unmarked, except for faint barring just by the 'shoulder' (plate 19a). This does not quite tally with Mr Wallace's sketch and text: there the Common Sandpiper's streaks were shown as rather coarser and the Spotted's breast-patches were somewhat barred all over—but the distinction was made. The profile views and lack of colour prevent discussion of other differences, but we must record our appreciation of the Bottomleys' astonishing skill in stalking and photographing these waders and other rare and common migrants. P. F. BONHAM

Notes

Fulmars brooding substitute objects While visiting the Monach Islands off North Uist in the Outer Hebrides between 6th and 28th July 1970, I made a count of nesting Fulmars *Fulmarus glacialis*. I found 86 nests with eggs or young on the islands of Ceann Ear, Ceann Iar and Shivinish, and at two further sites on Ceann Iar Fulmars were sitting on substitute objects. At one of these sites, a scrape in an area of vegetated cobble behind a shingle beach, a Fulmar was sitting on 6th July on an ellipsoidal plastic fishing-net float partly filled with liquid, presumably water, which appeared to be sealed in. It was a dull greenish colour, like the egg of a Mallard *Anas platyrhynchos*, 11.5 cm long and 5.5 cm in diameter and weighing 117.5 gm (including the liquid). This site was deserted on my second visit ten days later. The other site, visited on 16th and 26th, was under an overhanging marram grass tussock in sand dunes on a small promontory connected to the main island by a sandy spit. On both dates I found a Fulmar sitting on two dark grey stones, one about the size of a Fulmar's egg but somewhat angular, the other spherical and some 2.5 cm across. A predated eggshell was equidistant from this nest and another, empty, nest (though its position suggested that it was more likely to have come from the nest containing the two stones).

In my opinion this island is so remote that it is most unlikely that these objects were placed in the nests by human predators taking the eggs. The presence of much other debris supports the idea that they were washed up near the nests by the tide. To me the float resembled a Fulmar's egg much more than the stones did, and to a Fulmar the liquid inside may have enhanced this similarity. I know of no observations of Fulmars retrieving eggs or other objects to their nests, however, nor of any records in the literature, back to James Fisher's monograph *The Fulmar* (1952), of Fulmars brooding substitute objects. Two out of 88 nests appears a high rate for the occurrence of this phenomenon, but it seems unlikely that it has not previously been noticed, especially in the larger colonies. It would be interesting to know whether these birds were inexperienced first-year breeders, or even prospecting non-breeders, and also whether both male and female accepted the substitute objects.

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A note by the late E. G. Holt on an Oystercatcher *Haematopus ostralegus* brooding stones, with comments by Derek Goodwin, was recently published in *Brit. Birds* (63: 427-428). EDS

Early breeding of Swallows in south-west Spain The notes by J. C. M. Robertson and Mrs B. L. Hancock on juvenile Swallows *Hirundo rustica* in mid-May (*Brit. Birds*, 62: 282-284) and by Peter Davis on a fully-fledged brood in south-west Spain in mid-April, with an editorial comment regretting the lack of available information for that area (*Brit. Birds*, 62: 387), lead me to record the nesting data for early 1970 at the Palacio de Doñana, Huelva, in south-west Spain.

I arrived on the Coto Doñana on 14th December 1969 and saw my first Swallow there on 4th January, apparently one of the regular birds returning from its winter-quarters. This was joined by others on 12th. A nest-site in the porch of the Palacio was first visited on 19th, and a pair roosted in the porch on 27th January. (Both birds of this pair had been ringed at the Palacio in July 1967.) The rebuilding of the nest was commenced on 2nd February and the lining completed on 23rd. The first egg was laid on 26th and the clutch of six completed on 3rd March. Four young hatched about 19th and these four (together with four nestlings from a near-by nest at a similar stage of growth) were ringed on 30th March. They fledged on 11th April and were last recaptured on 21st (all four) and 26th April (two).

Other broods around the Palacio fledged in early May, and in fact the second brood of the above pair fledged on 29th May. A juvenile Swallow of unknown origin was mist-netted in the Palacio orchard at 4.00 hours on 24th April.

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Early breeding of House Martins in Portugal In mid-February 1970 Mrs Barbara Read and her husband saw House Martins *Delichon urbica* occupying a colony of about 20 nests in Albufeira, Portugal. She wrote that they were definitely not collecting mud, but 'hawking' over roofs and up and down the street, returning to the nests and feeding the occupants, which she thought were young birds, although she never actually saw any young. On such an early date it seems much more likely that these were adult pairs feeding each other in the nest, although breeding would still have been early.

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More colour preferences by hand-fed Robin In a previous note (*Brit. Birds*, 63: 342-343) I described the reactions of a hand-fed Robin *Erithacus rubecula* to sultanas coloured red, yellow, green or blue. What was almost certainly the same Robin was still in my garden at Brentry, Bristol, in autumn 1970; it had been hand-fed with normal sultanas on most days during the summer. As neither black nor white fruit had been tested during the previous autumn's observations, it was decided to note the bird's response to sultanas of these colours. This was done in a series of four experiments. The sultanas used were either normal

or coloured black or white; they were offered to the Robin on the outstretched palm at varying times of the day. The relative positions of the sultanas on the hand were altered at random throughout the tests.

In the first experiment, which took place between 11th September and 14th October 1970, one white, one black and one natural sultana were offered at the same time on 100 occasions: 99 natural fruits and one black one were taken and eaten; no white sultanas were carried off. The second series of tests was from 15th to 28th October, one black and one white sultana being offered together 50 times: the black fruit was carried off and eaten on each occasion. As no white fruit had been eaten, a single white sultana was offered on 50 occasions in the third series of observations between 29th October and 9th November: the fruit was refused six times (all in the first three days); one white sultana was taken but dropped without being eaten; and the remaining 43 were carried away and swallowed. In order to find whether the Robin's preferences had altered in the course of the tests, a fourth experiment was carried out from 10th to 23rd November, the bird again being offered (as in the first series) one white, one black and one normal sultana together on 100 occasions: the natural fruit was taken 49 times, the black one six times and the white one 45 times.

In the first experiment, 99% of the sultanas taken were of natural colour and white fruits were ignored completely; this was not surprising as the bird had been fed with normal sultanas for several months beforehand. When only black or white sultanas were offered, black ones alone were selected: as many normal sultanas are very dark in colour this finding was not unexpected, although only 1% of the fruit taken in the first experiment had been black. When just white sultanas were offered, rejections amounted to 14%, but by the end of this experiment the Robin was eating them readily. Finally, when the first series of tests was repeated, no less than 45% of those taken were white compared with none in the original experiment. Thus it seemed that, although the bird would not accept white fruits at the beginning of the tests, it was prepared to take them when no other colour was available. Having then become accustomed to eating white sultanas, the Robin preferred them to black in the final experiment; indeed, it took natural sultanas only slightly more frequently.

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Reviews

Wild Wings to the Northlands. By S. Bayliss Smith. Witherby, London, 1970. 208 pages; 24 black-and-white photographs. £1.50. Anyone might be forgiven for thinking, on brief acquaintance, that this is just another birdwatcher's travelogue full of sentimental

reminiscences and not even blessed with a crop of really good photographs to relieve the tedium. In fact there is more to it than that, although the photographs do come as a disappointment to those of us privileged to have attended one of the author's superbly illustrated lectures.

This is an account of the fulfilment of Mr Bayliss Smith's long-cherished hope that one year he would be able to set out from the Camargue in early April and head northwards, looking in on as many bird reserves as possible on the way and finally arriving at the tundra of arctic Norway some ten weeks later. He successfully conveys the impression of travelling with the migrants at about their own rate of progress and investigating their likely resting places, while commenting on the kind of treatment they might receive as they pass through each country. So the journey starts in an area where the pressures exerted by Man are already great, but finishes in an unspoilt wilderness where Man, as yet, has scarcely left his mark.

Along the route, and here a map would have been useful, the birds have to run the gauntlet of many kinds of threat. The French shore shooters, we are told, still have a free-for-all from 1st to 15th May, thousands of birds falling prey to their guns. The author underlines the vital need for a chain of oases where waders may rest and feed safely on their journey. A few such havens do exist and these are described with appropriate enthusiasm. Of particular interest is the Le Zwin reserve in Belgium where a novel form of wader husbandry is practised with remarkable success.

The message, then, is conveyed in a highly readable and engaging style. On arrival at the tundra we are allowed to relax and share with the author his unfettered joy in an arctic summer. P. J. SELLAR

Avifauna van Nederland. Compiled by the Commissie voor de Nederlandse Avifauna. E. J. Brill, Leiden, 1970. 110 pages. Dfl 15.00.

This second check-list of the birds of the Netherlands provides, even for those who do not read Dutch, a valuable and comprehensive guide to the avifauna of a small country, rich alike in its variety of species and its skilled and dedicated ornithologists. English names are given for all species, as well as a brief description of status. There is also, in the English introduction, a key to the Dutch terms used to classify breeding species into broad categories of total numbers, and migrants and winter visitors into rough estimates of the peak numbers present in the country on peak days. Irregular visitors are divided into two groups, those with 16-30 and those with over 30 records since 1900, and occurrences are given in full for the still rarer vagrants. Sight records have been accepted only if recorded by more than one observer, though those made by a single observer and considered to be reliable

are given as unconfirmed reports. The list covers records up to the end of 1968 (although a few more recent ones are included) and includes 387 species, an addition of 30 since the first list in 1962. Changes in nomenclature and sequence 'have been drastically restricted pending a more clearly pronounced international agreement in this matter'; it is to be hoped that the efforts of one of the distinguished editors of this avifauna to further such agreement will meet with success. The Dutch text gives much other valuable information, such as main breeding areas and census results where available.

STANLEY CRAMP

Letters

Future 'British and Irish Lists' At a national conference of regional and local bird report editors in September 1967, arranged by the Report Editors' Committee of the British Trust for Ornithology, a resolution was passed deploring the multiplicity of listing sequences in use or proposed for British and Irish birds, in the knowledge that a new edition of the British and Irish List (in preparation by the British Ornithologists' Union) planned to make a further deviation, perhaps to a partially alphabetical arrangement. It was the unanimous decision of that conference (the resolution is printed in *Ibis*, 111: 114) to adhere to the well-known and widely used order established by the 1952 B.O.U. *Check-List of the Birds of Great Britain and Ireland*, until such time as there was one internationally acceptable sequence. Such uniformity was considered desirable, and its attainment the only valid reason for radical change.

By now it will be widely known that this position was endorsed at a further national conference of regional and local bird report editors in January 1971. At this, the B.T.O. Report Editors' Committee was asked to prepare and circulate a current list of British and Irish birds based on the 1952 *Check-List* sequence; editorial representatives of *British Birds* and *Bird Study* agreed to consider adhering to this familiar sequence, as did the local report editors. The prospect of the widespread and long-term use of such a compilation by the majority of British field-workers immediately raises the question of the future of the monopoly of the British Ornithologists' Union in producing 'official' British and Irish Lists.

When the first edition of the British and Irish List was published in 1883, the B.O.U. was still a young and vigorous body and the only national one representing ornithology in these islands. Subsequently, however, the Union's unwillingness to accept trinomial nomenclature led in 1912 to Dr Ernst Hartert and H. F. Witherby (with the Reverend F. C. R. Jourdain and Dr N. F. Ticehurst) issuing their well-known

A Hand-List of British Birds. This could (and should) have been the breaking-off point for the B.O.U. as final arbiter of the British and Irish List; but when in 1923 the Union forsook the archaic order and nomenclature adopted in its 1915 list for the 1912 usage, it was allowed to resume the mantle of responsibility for producing *the List*, notwithstanding the excellent one which appeared in 1941 as an appendix to the final volume of *The Handbook of British Birds*. Despite its many faults, the fourth edition of the Union's *Check-List*, published in 1952, gained widespread acceptance and use largely through its adoption of the sequence of families proposed by Dr Alexander Wetmore, which brought British taxonomic approach more into line with New World concepts and practices by starting with the non-passerines.

During the 1950's the choice of sequences became more complex, though the Hartert and Wetmore orders retained considerable followings. In 1951 Dr Ernst Mayr and Dr Dean Amadon (*American Museum Novitates*, no. 1496) presented a sequence of families which differed from that of Wetmore, especially in its endorsement of the now famous (or notorious) 'crows last' arrangement of passerine families. The monumental *Check List of Birds of the World* by J. L. Peters (of which twelve of the planned 15 volumes have appeared, the families outstanding having been listed in 1956 by Mayr and J. C. Greenway, Jr, in *Breviora*, no. 58) started out using the Wetmore order; but Peters's posthumous successors have adopted a different arrangement for the passerines (including putting the crows last), though the whole is still popularly called the Peters order. In 1953 Dr William J. Beecher proposed changes in the classification of the oscines (*Auk*, 70: 270-333); and the appearance in 1959 and 1965 of the two volumes of *The Birds of the Palearctic Fauna* by Dr C. Vaurie presented a further alternative sequence in which, among other things, he placed the finches and buntings last, instead of the sparrows as Wetmore had done. The revised 1966 edition of *A Field Guide to the Birds of Britain and Europe* used a hybrid sequence: the Peters order for families, but Vaurie's sequence below the familial level. Meanwhile, in 1961 R. E. Moreau (*Proc. Zool. Soc.*, 137: 623-626) had advocated a partially alphabetical approach which was afterwards adapted by Dr David Lack (*Ibis*, 110: 107-113). By 1968 the confusion was complete.

Published arguments about the respective merits and demerits of the various sequences (see, for example, *Ibis*, 110: 107-113, 208-210, 368-369; 111: 106-112, 114; 112: 118-119, 403-404) have failed to resolve anything. Professor Dr K. H. Voous of the Zoölogisch Museum in Amsterdam is, however, examining the various sequences in use and changes proposed with a view to drawing up a compromise list of bird species for the entire Holarctic region. It is expected that his new list will be adopted in the projected seven-volume *Birds of the Western Palearctic*, thus becoming perhaps the most widely used one

for European birds, though it remains to be seen what sequence will be followed by the passerine volumes of *Die Vögel Mitteleuropas* and also whether agreement can be reached with important authorities in North America.

At a council meeting in October 1962, the B.O.U. resolved to prepare a new edition of the British and Irish List, which it was hoped would be ready for publication in 1965 (*Ibis*, 105: 581). It did not appear and, indeed, the manuscript was not completed until late 1970. Much of the delay was directly or indirectly caused by internal disagreement over the choice of listing sequence; and a proposal for a partially alphabetical arrangement by scientific names (of genera within the family and of species within the genus) was only narrowly defeated. Appeals for retention of the 1952 sequence, in the interests of stability, were rejected, however. The Union's final decision, to use the Peters order, will be unacceptable to the majority of British field-workers, who intend to continue using the now familiar Wetmore one. It would indeed be futile to discard the 1952 sequence in favour of the Peters order if in turn, in a few years' time, this would also have to be put aside for a more widely accepted European list. Dissatisfaction with the Union's attitude is apparent in the ranks, as is clear from the firm pro-Wetmore stand taken by successive conferences of regional and local bird report editors.

The influence of the B.O.U. on taxonomic studies of British and Irish birds has been in decline ever since the Hartert era (Gregory Mathews notwithstanding); and, in any case, Vaurie's volumes are unlikely to need major revision at or below the species level for many years to come. Considering these factors in relation to our opinion that the Union is now, by and large, outside the mainstream of British field ornithology, we believe that the time has come for the responsibility for maintaining an authoritative British and Irish List to be passed to a body more in tune with the opinions and requirements of field-workers, who form the majority of users of such lists (since taxonomists are notable for their independence). Two suitable alternative bodies come readily to mind: the British Trust for Ornithology, whose Report Editors' Committee (as previously mentioned) is preparing a list in Wetmore order for use by editors; or a committee under the auspices of *British Birds*, which would have the 1912 Hartert and Witherby precedent before it.

We regret the need for this letter. We have no doubt, however, that by its unpopular decision over sequence for its forthcoming publication, the B.O.U. has alienated British field-workers and thereby forfeited the right to continue as final arbiter on the shape of the British and Irish List.

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Request for information

Siskins feeding in gardens Recent notes on Siskins *Carduelis spinus* feeding from nut bags (*Brit. Birds*, 63: 344-345; 64: 35-36) have generated further correspondence; it seems that feeding on nuts, seeds and fat at bird-tables is rapidly spreading in this species, particularly in March and April. This development is being studied by Robert Spencer and G. H. Gush, who need all records, recent or otherwise, of Siskins feeding in gardens and of concentrations near-by. A simple questionnaire is being produced and copies may be obtained from Robert Spenceer, Warwick House, Grove Road, Tring, Hertfordshire.

News and comment *Robert Hudson*

Action on environmental pollution? Naturalists had been waiting with interest for the report of the Royal Commission on Environmental Pollution, published on 23rd February. They were not disappointed. The report was forthright in declaring that British tidal waters and estuaries were being treated as 'an open drain and dumping ground' for pollutants, and in warning that rivers were being increasingly fouled by agricultural, domestic and industrial waste products. It recommended that the Government should give high priority to the provision of better sewage treatment to help meet the demand for more fresh water from rivers, and to the exercising of tighter controls over the disposal of poisonous waste material on land and sea. Further, the report called for a programme of noise abatement for traffic, aircraft and some industrial machinery. The Royal Commission also gave consideration to another question causing concern, that of the increasing human population of these islands; but it concluded that, with the complicated relationships between pollution, population and technological advance, a detailed study of this was outside its terms of reference. The Royal Commission commented on improvements in levels of atmospheric pollution, but noted that there must be no relaxation in the Clean Air and Alkali Acts; pollution from car exhausts is not of hazardous proportions, though (the report points out) it would be dangerous to ignore the implications of the predicted increase in motor vehicles from 16 millions in 1970 to 40 millions by 2010. It called for closer investigation of economic aspects, to ensure that those who pay for reduced pollution are those who benefit from the improved environment, and declared that, in general, pollution should be reduced to the level where the expenses of reduction are covered by the ensuing advantages. Cost-benefit analysis of pollution control is the necessary starting point, and a central Government economics unit is proposed. There is plenty in this Royal Commission report for Peter Walker's Department of the Environment to get its teeth into: may its dentures prove adequate.

Additional nature reserves Among a number of wildlife reserves established during 1970 by the Scottish Wildlife Trust, one at Loch Fleet in Sutherland is of considerable ornithological importance. This loch is a huge tidal basin and the reserve covers 1,270 acres stretching over three miles in from the coast to include foreshore, mudflats, shingle banks, dune grassland and pinewood. Loch Fleet is rich in bird life, and is renowned for its wintering flocks of wildfowl and waders.

Hornsea Mere, near the Yorkshire coast and the largest natural lake in that county, is the latest addition to the reserves of the Royal Society for the Protection of Birds: the 300-acre mere has been leased to the Society by Sir Marmaduke and Lady Strickland-Constable, whose family has owned it since 1595. It is an important wetland area for breeding, migrating and wintering freshwater birds. Douglas Ireland has been appointed as warden and took up his duties on 2nd March.

Some positive steps Two March announcements give positive cause for optimism among conservationists. The Countryside Commission has had a raw deal from successive Governments which, among other things, have permitted potash mining in the North York Moors National Park, reservoir construction in the Dartmoor National Park, and an unfortunately sited motorway in the Chilterns; there were even fears that the present Government would abandon the Countryside Commission altogether. Reassurances were given by John Cripps, the Commission's chairman, at a press conference on 1st March: the Commission is to have a director at civil service Under-Secretary level and is to be given greater freedom from Treasury control over its spending. Two good, positive steps.

Another announcement made the same day is particularly welcome. Monsanto Chemicals, the sole manufacturers of polychlorinated biphenyls (PCBs) in Britain, have voluntarily withdrawn this group of compounds from industrial usage where there is no reasonable control of their possible escape into the environment. It will be recalled that, during the seabird disaster in the Irish Sea in autumn 1969, the only clue to the cause of the mass deaths was the discovery of large concentrations of PCBs in liver tissue. PCBs have been detected in bird bodies throughout the world, with high levels in pelagic species.

B.B.C. Anniversary The year 1971 is important in wildlife broadcasting, for it marks the 21st anniversary of the British Broadcasting Corporation's regular natural history programmes. The first edition of 'The Naturalist' went on the air on 3rd January 1946 and among its contributors was Ludwig Koch. There had, of course, been occasional wildlife programmes before then, but this one, broadcast from Bristol, set a pattern that led to the establishment in 1957 of the B.B.C. Natural History Unit. It was during the 1950's that wildlife programmes established themselves on television: the first 'Look' programme was transmitted on 14th June 1955. The Natural History Unit now employs over 30 people. Its producers have filmed in most parts of the world and its sound effects library houses over 3,500 recordings of 850 animal species. Not that the Unit intends resting on its laurels. One series of films in the making is about the great parks of the world—Yellowstone and Nairobi National Parks, the High Tatry Mountains, Fujiyama, the Danube delta, and so on. Another series will be of different types of environment in various countries. Other producers have plans involving South Africa, the Seychelles, the Florida Everglades and the Camargue.

Taking ecology into schools 'Ecology' has become a fashionable word in commuter newspapers and discussion programmes, but one suspects that those who use it so readily are not always aware of its true meaning. Perhaps the next generation will be more enlightened, since many school biology classes are now being shown wider horizons. The inclusion of field studies in the school curriculum encourages children to take an interest in their environment and to care about its wildlife; it gives them an understanding of the complex structure of plant and animal communities. With this 'catch-them-young' attitude, the Berkshire, Buckinghamshire and Oxfordshire Naturalists' Trust (B.B.O.N.T.) has produced a commendable booklet, *Projects for Environmental Studies*, for use in schools. In its 61 mimeographed pages, this contains something for all children, from nature trail construction for the young to a clear exposition of ecological field work suitable for those of secondary school age. At 50p per copy, it deserves to become well-known among teachers, especially those in the B.B.O.N.T. counties who can visit the sites described. It has been compiled by Mrs Ursula Bowen (senior lecturer in biology at the Lady Spencer-Churchill College of Education), and is available from her at 20 Winchester Road, Oxford.

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

Recent reports P. F. Bonham

These are largely unchecked reports, not authenticated records

Only a proportion of December reports reached us before the flow was completely stopped by the Post Office strike, and it has therefore been impossible to compile a comprehensive picture for that month. This brief survey deals with a few rarities and out-of-season summer-visitors in December 1970 and January 1971. Any additional rarities and an analysis of some of the more interesting winter-visitors will be published later. All dates refer to December unless otherwise stated.

Beginning with the non-passerine highlights, two reports of **Spoonbills** *Platalea leucorodia* may have referred to the same bird: one flew west at Newhaven (Sussex) on 28th and three days later it or another appeared at Titchfield Haven (Hampshire). A third was seen in the Blackwater estuary (Essex) during the first week of December. Nearctic wildfowl included a drake **Green-winged Teal** *Anas crecca carolinensis* in the Otter estuary (Devon) on 16th, a drake **American Wigeon** *A. americana* at Marsworth Reservoir, Tring (Hertfordshire) on 26th January, and a **Surf Scoter** *Melanitta perspicillata* found dead at Ginst Point (Carmarthenshire) on 15th January. Among Palearctic species were at least four **Lesser White-fronted Geese** *Anser erythropus*, at Slimbridge (Gloucestershire), in the Yare Valley (Norfolk), at Formby Moss (Lancashire) and on the Solway. (Incidentally, we received a very late report, since accepted by the Rarities Committee, of a Lesser White-front at Slimbridge on 1st March 1970, which means that I must correct the statement in *Brit. Birds*, 63: 46, that for the first time in five years none had appeared.) As well as the Lesser White-front, the presence of a **Ross's Goose** *A. rossii* among the flock of up to 12,000 **Pink-footed Geese** *A. fabalis brachyrhynchus* at Formby Moss from 5th, later accompanied by one, or sometimes two, **Lesser Snow Geese** *A. caerulescens caerulescens* (one white phase, one dark), caused a good deal of speculation, but it had to be admitted that they were more likely to have been wandering escapes than genuine vagrants. Two **Grey Lag Geese** *A. anser*, up to twelve **White-fronted Geese** *A. albifrons* (some of each subspecies), two **Pale-bellied Brent Geese** *Branta bernicla brota*, at least three **Barnacle Geese** *B. leucopsis* and a **Red-breasted Goose** *B. ruficollis* were also seen at Formby Moss at various times during December and January, though again how many of these were wild is another question. A second Red-breasted Goose was shot at Pottou Island (Essex) on 29th. The **Canada Goose** *B. canadensis* is rarely included in these summaries, but at Wexford Slobs during the winter up to five were present, two referable to *B. c. canadensis*, two to *B. c. parvipes* and one to *B. c. butchinsi*, some or all of which probably came originally from wild North American populations.

An immature **Golden Eagle** *Aquila chrysaetos* was identified at Gouthwaite Reservoir, Ramsgill, and at Leighton Reservoir, Masham (Yorkshire) on several dates from 6th to 12th—could this have been from the 1970 nest in the Lake District (*Brit. Birds*, 63: 398)? Other rare raptors reported were a **Steppe Buzzard** *Buteo buteo vulpinus* which frequented mounds of waste hides and other rubbish from a tannery at Seacombe, Wallasey (Cheshire), but was subsequently proved to have escaped from captivity; a **Black Kite** *Milvus migrans* over North Wootton (Somerset) at the end of January, probably also of captive origin; and three **Gyr Falcons** *Falco rusticolus*, all in December, on Unst (Shetland), Fenham Flats (Northumberland) and Roden Down, Aldworth (Berkshire).

There were still a few American waders: at Ballycotton (Co. Cork) one of the two **Lesser Yellowlegs** *Tringa flavipes* of September and October stayed until at least 2nd December, and a dowitcher *Limnodromus* sp was present from 13th until mid-March or later. There were also reports of a **Killdeer** *Charadrius vociferus* at

Grands Vaux Reservoir (Jersey) on 1st January, and of a **dowitcher** and a **Spotted Sandpiper** *T. macularia* in Norfolk. Vagrant or out-of-season Palearctic waders included a **Great Snipe** *Gallinago media* near Gunthorpe (Nottinghamshire) on 3rd January, a **Whimbrel** *Numenius phaeopus* at St Mawes (Cornwall), a **Wood Sandpiper** *Tringa glareola* and a **Curlew Sandpiper** *Calidris ferruginea* at Ballycotton, six **Greenshanks** *T. nebularia* at Woodhall (Renfrewshire), and a **Temminck's Stint** *C. temminckii* at Rainham (Essex) (probably the one in November—see *Brit. Birds*, 64: 90). A **Grey Phalarope** *Phalaropus fulicarius* was present in Seahouses Harbour (Northumberland) from 3rd to 6th, and among other odds and ends were two wintering **Quail** *Coturnix coturnix* at Manor Farm, Reading (Berkshire) in December and a **Crane** *Grus grus* in fields south of Alnmouth (Northumberland) from 9th January into February.

Ten **Arctic Skuas** *Stercorarius parasiticus*, six **Great Skuas** *S. skua* and a **Sandwich Tern** *Sterna sandvicensis* were reported—the last at Shell Bay (Dorset) on 13th—and three **Pomarine Skuas** *Stercorarius pomarinus* flew north off St Mary's (Northumberland) on 23rd; between that date and 27th some ten **Little Auks** *Plautus alle* were also seen on the same stretch of coast. A **Bonaparte's Gull** *Larus philadelphia* off St Ives (Cornwall) on 30th and 31st January was probably the same as the one that reappeared there for the third successive year in early 1970 (*Brit. Birds*, 63: 47). Much more exciting, however, were two arctic gulls in Tynemouth (Co. Durham/Northumberland): an immature **Ivory Gull** *Pagophila eburnea* from 16th December (possibly earlier) through into February and an adult **Ross's Gull** *Rhodostethia rosea* from 23rd to 31st. The latter, if accepted, will be only the eighth British and Irish record. It is possible that these gulls reached Tyneside by following the North Sea fishing fleets.

The passerine of the winter, a first record for Britain, was undoubtedly the much-watched **Desert Warbler** *Sylvia nana* trapped at Portland (Dorset) on 16th and present until 2nd January (after which it may well have died in the snow and freezing temperatures of that time). It was identified as the pale eastern race *S. n. nana* which breeds from west of the lower Volga round the northern and eastern shores of the Caspian Sea east to Mongolia and south through Iran, Afghanistan and west Pakistan, wintering in the southern parts of this range. No less remarkable, however, was the finding, in a moribund state near Limerick about 5th December, of the **Dusky Warbler** *Phylloscopus fuscatus* that had been ringed on the Calf of Man on 14th May 1970. As I stated in 'Recent reports' at the time (*Brit. Birds*, 63: 263), that was the first spring record of this Asiatic leaf-warbler—and now, seven months afterwards, as well as providing the first record for Ireland, its recovery has thrown new light on the possible survival of vagrant passerines, showing that ringing such vagrants may not be as futile as some critics maintain.

There were few other rare passerines. **Richard's Pipits** *Anthus novaeseelandiae* were present on Tresco (Isles of Scilly) on 17th and at Portland from 19th to 24th, the latter providing a bonus for those making the pilgrimage to see the Desert Warbler. A **Rose-coloured Starling** *Sturnus roseus* was found at Eastbourne (Sussex) on 1st. **Serins** *Serinus serinus* were reported at Stanpit Marsh, Christchurch (Hampshire) on 13th (one) and at Newington, Sittingbourne (Kent) on 20th (three), and an **Oortolan Bunting** *Emberiza hortulana* at Sandwich Bay (also Kent) on 6th. Summer-visitors in December included a **Pied Flycatcher** *Ficedula hypoleuca* at Barn Elms (Surrey) and a **Yellow Wagtail** *Motacilla flava* at Snettisham (Norfolk), both on 6th, a **Greenland Wheatear** *Oenanthe oenanthe leucorhoa* at Broadstairs (Kent) until 9th, a male **Redstart** *Phoenicurus phoenicurus* at Perry Oaks sewage-farm (Middlesex) on 19th, and a male **White Wagtail** *M. alba alba* at Sevenoaks (Kent) on 21st. In January another **Yellow Wagtail** was seen at Chittening (Gloucestershire) on 1st and a **Ring Ouzel** *Turdus torquatus* was reported at Bristol on 13th. Even more surprising, however, was a **Lesser Whitethroat** *Sylvia curruca* at Fontwell, Chichester (Sussex), from 14th January to at least 7th March.

Notice to contributors

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After publication, 25 separates are sent free to authors of papers (two authors of one paper receive 15 each and three authors ten each); additional copies, for which a charge is made, can be provided if ordered when the proofs are returned. Reprints of notes and other short items have to be specially ordered and are charged for.

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.

Notes should be worded as concisely as possible, and drawn up in the form in which they will be printed, with signature in block capitals and the author's address clearly given in one line at the foot. If more than one note is submitted, each should be on a separate sheet, with signature and address repeated.

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Various other conventions concerning references, including their use in the text, should be noted by consulting examples in this issue.

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British Birds

Report on bird-ringing for 1969*

Robert Spencer

Although scarcely a year has passed without the introduction of some new feature or embellishment, the basic composition of the 'Report on bird-ringing' has remained unchanged for about 15 years. It has indeed grown in size from some 36 to 48 or more pages, but during that same period the number of recoveries has increased at least fourfold so that, whereas 15 years ago there were 80 for every page of the report, in recent years the figure has been about 260. In short, the report has had to become increasingly selective, and year by year the task of selection has grown more difficult.

No-one would challenge the view of a distinguished American critic, Dr Jack P. Hailman, reviewing the 'Report on bird-ringing for 1967' and commenting on some of the problems surrounding individual recoveries (*Bird-Banding*, 40: 324-325): 'Until multiple recoveries yield a consistent pattern only the most tentative conclusions should be drawn.' But consistent patterns are, or should be, the subject of scientific papers. A ringing report is at once a stock-taking and a public relations operation and, on the basis of 'man bites dog' being news, is bound to be weighted in favour of the novel and the spectacular. The 'continued emphasis on single dramatic recoveries', which Dr Hailman disapproves of, is deliberate. Of course there is inherent in this policy the risk that due to selective publication the abnormal may be taken as normal, but it should also be noted that there has to be a first occasion even for a recovery of a type which will eventually prove commonplace: recoveries of British-ringed Manx Shearwaters *Puffinus puffinus* in South America nowadays scarcely merit mention, but the first, in 1951, seemed epoch-making. Nor should one underestimate the value of single recoveries as indicators of what birds are

*This is the thirty-third report issued on behalf of the Ringing and Migration Committee and is a publication of the British Trust for Ornithology. For the thirty-second report, see *Brit. Birds*, 62: 393-442.

capable of doing. This is especially true of those short-term recoveries which reveal rate of progress, such as the Manx Shearwater which completed the journey to South America in not more than 17 days. One notes that in athletics the record books list the achievements of the four-minute milers, but nowhere state how long the 'average' man takes to run a mile.

We shall, therefore, unrepentantly continue to note in passing the new and the spectacular, but, in an attempt to offer also the broader picture, we are in this report extending the use of summary tables to every species providing at least 20 or so recoveries during the year. Unfortunately, on this occasion some of the tables have to be of a hybrid nature in that they combine with 1969 data material held over from earlier years. This back-log is a once-only feature, and future reports will be able to work on a strictly annual basis. From the tables, the reader can discover how much birds move within Britain, which countries they visit overseas, and where they are being recovered in any particular month. It is advisable, however, to bear in mind that tables based on small annual samples may themselves not prove very reliable guides and that, even in much recovered species, the distribution of recoveries may vary geographically or annually.

Two final comments about innovations. Firstly, since 1967, when the Committee adopted Euring data-processing methods, we have recorded distance metrically on the master copies of recoveries. Now we have taken the opportunity to extend metrication to our publication and all distances in this report are given in kilometres. Secondly, all published recoveries are now anonymous, in that it has been decided to omit the ringers' initials and to devote the space saved to giving details of more recoveries.

Year by year for the last quarter of a century it has been possible to report an increase in the annual ringing total. In some years the difference has been only a matter of a thousand or two; once it was as high as 70,000; but always the trend has been upwards. Who can say at what level of activity ringing might eventually have levelled out naturally? We shall never know, for it became apparent to the Committee that without an income considerably beyond present possibilities, and without substantial capital investment, an artificial ceiling would have to be imposed. In fact, closer examination of the situation showed that the time-consuming and costly operation in the administration of bird-ringing is the handling of recoveries, and that the aim should be to so influence the interests of ringers that the number of recoveries resulting from their activities remains manageable. This the Committee attempted to accomplish by devising a new price structure for rings. Whereas in former years some ring sizes were heavily subsidised, the price structure introduced in 1969 takes into account the amount of subsequent 'servicing' (in the form of process-

ing recoveries) each ring size requires. Thus large rings used mainly on species with a mean recovery rate of 20% were costed to include the processing of 20 recoveries per 100 rings issued, while tiny sizes used on species with a mean recovery rate of 2% or less could be much cheaper. It would not be true to say that the same amount of money now 'buys' the same number of recoveries regardless of species, but that is the general tendency.

It is too soon to assess the effects of this new price structure—several years may be required for it to take full effect—so we should note straight away that, whereas table 1 indicates a drop of 90,000 in the number of birds ringed, caution is necessary before attributing this drop to any particular reason. For example, although one finds that 11,000 fewer gulls *Larus spp* were ringed in 1969 compared with the previous year (the price of gull rings having been increased steeply), further examination shows that one species alone, the Sand Martin *Riparia riparia*, accounted for more than half the total reduction. As the price of rings for this species had been increased only moderately, some other explanation is clearly required and we do not have to seek far, for 1969 will go down in ornithological history as the year in which vast numbers of a few common summer visitors failed to reappear in spring. That something serious had happened was soon apparent to workers in the British Trust for Ornithology's Common Birds Census, and when eventually the annual ringing figures were computed these too told the same story:

	1966	1967	1968	1969
Sand Martin <i>Riparia riparia</i>	75,151	48,391	64,196	14,356
Sedge Warbler <i>Acrocephalus schoenobaenus</i>	8,351	10,885	12,523	9,147
Whitethroat <i>Sylvia communis</i>	7,614	8,848	11,005	1,897
Yellow Wagtail <i>Motacilla flava</i>	1,885	1,586	2,206	1,284

We can only speculate regarding the fate of the tens of thousands which failed to return in 1969. Did they die on their autumn migration, in their winter quarters or on their spring journey northwards? Were their deaths due to natural causes or to some man-initiated disaster? Hard facts are difficult to come by, but if the trouble, whatever it was, did not occur in the winter quarters, then it is apparent either that the migratory journeys of the species concerned must be comparatively restricted, both in width of front and in time, or that the unidentified cause of the disaster was itself widespread and of considerable duration. On the other hand, if the disaster occurred in the winter quarters, then again one can argue either that the winter quarters are more restricted than has commonly been supposed or that the unidentified causes of the disaster were remarkably widespread.

To offset partially such reduced ringing totals, there can be mentioned various increases. The 91 Bewick's Swans *Cygnus bewickii* ringed

by the Wildfowl Trust came near to doubling the previous grand total; tallies of 407 Curlew Sandpipers *Calidris ferruginea* and 2,062 Sanderlings *C. alba* did so. The figure of 364 Kingfishers *Alcedo atthis* is particularly encouraging in view of the slow recovery of the species from the depletions of the 1963 winter and a food supply contaminated by Man's chemicals. The Barred Warbler *Sylvia nisoria*, once seemingly the prerogative of a few main-line bird observatories, now turns up so regularly in mist-nets that the new record annual total of 64 is unlikely to stand for many years. It is interesting to note, by the way, that as recently as 1956 this species was still in the second section of table 2, 'Species of which fewer than 100 have been ringed': now the grand total is very nearly 500.

In 1969 only the Hobby *Falco subbuteo* achieved the grand total necessary to qualify for promotion to the first section of table 2, but there are grounds for thinking that the Black Tern *Cblidonias niger* will not be long in following, for at Dungeness Bird Observatory, where no fewer than 56 were ringed that year, a most promising catching technique has been developed. Nineteen Red-throated Divers *Gavia stellata* in a year is an achievement of a different kind, for 15 of them were pulli. It may be that the methodical exploration of the remote parts of Scotland in connection with the British Trust for Ornithology's Ornithological Atlas of Britain and Ireland will help to ensure that small but useful numbers of these birds are henceforth ringed annually. Finally, before ending this brief survey of highlights of the year's ringing, we may note that three species were added to the ringing list in 1969—somewhat unusually, none of them from the New World. They were Black-necked Grebe *Podiceps nigricollis* (Abberton Ringing Station), Cream-coloured Courser *Cursorius cursor* (J. F. W. Bruhn) and Collared Flycatcher *Ficedula albicollis* (Holme Bird Observatory). In fact, meticulous cross-checkers with preceding reports will note the addition to the list of a fourth name—the Spotted Sandpiper *Tringa macularia*. Single individuals of this species were ringed in the Isles of Scilly in 1965 and 1966, but at that time this bird was regarded as a race of our familiar Common Sandpiper *T. hypoleucos*. Today, widely treated once again as a full species, the Spotted Sandpiper claims its proper place in the list, which now numbers 335 species.

In a year richly endowed with interesting and important recoveries, one aspect stands out above all others—the coming into its own of Africa as a recovery locality. Consider the following roll-call, which does not pretend to be comprehensive: the first Pintail *Anas acuta* recovery south of the Sahara (and only the second in all Africa); the second Shoveler *Anas clypeata* in Africa, the first Redshank *Tringa totanus* south of the Sahara, three Sanderlings in Morocco, the first Razorbill *Alca torda* in Morocco, the most southerly Sand Martins ever (no fewer than 12 in Sécégal and one in the Cape Verde Islands),

the first Reed Warblers *Acrocephalus scirpaceus* south of the Sahara (in Sénégal and Ghana) and a Spotted Flycatcher *Muscicapa striata* in Cape Province—the first passerine other than a Swallow *Hirundo rustica* to be recovered south of the equator. If one could look to a comparable intake of recoveries each year throughout the 1970's the distribution maps at the end of the decade could offer an invaluable insight into migratory patterns.

Another interesting grouping concerned the first recoveries in Norway of the Blackcap *Sylvia atricapilla*, Garden Warbler *S. borin*, Willow Warbler *Phylloscopus trochilus* and Goldcrest *Regulus regulus*. The east coast bird observatory habitué has lived for years with the concept of westerly drifted autumn passage migrants from Scandinavia. What more certain than that, sooner or later, there should be subsequent recoveries of these in Scandinavia? Two of the four recoveries comfortably fit this concept, but the Garden Warbler was ringed in rural Surrey on 24th August—a date within the recognised pattern for drift migrants, but hardly a typical place. And what of the Blackcap ringed at Spurn on 6th October and recovered in south Norway six weeks later? One might dismiss this behaviour as entirely aberrant, but in 1961 a Blackcap ringed in Austria in August was recovered in Co. Wicklow in December and there are other precedents for northerly movements of the species in autumn. Furthermore, such movements may not be entirely foolhardy for, because of the warming effect of the Gulf Stream, the January temperatures in south-west Norway may sometimes be higher than those on the south-east coast of England.

In 1955 the cumulative ringing total for Redwings *Turdus iliacus* was 5,502: nowadays we may nearly equal that total in a single year. The numbers of recoveries have similarly increased, and for some time ringers have taken it for granted that a significant proportion of the reports for this species would be from the south-east—in Italy, the Balkans, and even Georgia—and now Crete is added to the list of winter quarters. Fieldfares *T. pilaris*, because of the steep angle at which they take off, are much more difficult than Redwings to catch in mist-nets, but enough recoveries are coming in to show a similar south-easterly trend, with Austria and Turkey featuring for the first time and Yugoslavia for the second. More remarkable are the first and second recoveries in Italy of Ring Ouzel *T. torquatus* and the second of Blackbird *T. merula*, the latter surprisingly as far east as Venice. With two recoveries in Italy and one in the Lebanon, all three ringed in September at a time when drift migrants could be present, the Blackcap again features in this south-eastern review. But this is a species with a known migratory divide, western populations leaving south-westwards in autumn and more easterly ones south-eastwards. No such dichotomy has emerged in the Lesser Whitethroat *Sylvia curruca*, which provided a second and third recovery in Egypt, a second

in Cyprus and a first in Syria. It is doubtful whether the Egyptian recoveries would have come to light but for the work of visiting American research scientists.

Whatever route our migrants take in reaching Italy or the Levant, it seems unlikely that they travel via Switzerland. If they do, then either they do not die there, or they meet their deaths in places too remote for man to detect them, for prior to 1969 there had been but four recoveries of British-ringed birds in Switzerland, a Starling *Sturnus vulgaris* in 1957, a Mallard *Anas platyrhynchos* in 1963, and a Chiffchaff *Phylloscopus collybita* and a Goldcrest in 1967. This report adds two more: a Robin *Erithacus rubecula* found dead at Klosters—most improbably, one would think, but the record has been carefully checked—and a Siskin *Carduelis spinus* controlled at what must be the most scenically superb bird observatory in the whole of Europe, the Col de Bretolet. The Siskin story grows in interest from year to year and is worthy of mention. Late each winter, presumably when their natural food supply is running short, Siskins take to feeding on fat suspended from bushes in certain Surrey gardens, and are easily mist-netted. Birds caught in this way have subsequently been recorded in Spain, France, Belgium, Germany, Norway, Sweden and now Switzerland. Weybridge in April and Col de Bretolet in October: where, one is left wondering, did this particular Siskin spend the intervening months and where was it heading as it crossed the high alpine pass? The only slender clues we have relate to the first query: two Russian-ringed Siskins have been recovered in Surrey gardens. For the rest, we must await more ringing and more results.

Sixty years have now passed since the launching of the ringing schemes at High Holborn and Aberdeen, which were the direct progenitors of the present scheme. The excitement and enthusiasm of those early days communicates itself in all that was written, and publication of results was very frequent. The earliest ringing report, published in *British Birds* in November 1909, gave details of 14 recoveries, of which the first in chronological order was a Meadow Pipit *Anthus pratensis* ringed as a nestling at Ben Rhydding, Yorkshire, on 19th June 1909 and found dead there, having collided with a wire, some three weeks later. The first foreign recovery we have been able to trace was a Wigeon *Anas penelope* ringed as a pullus at Loch Brora, Sutherland, on 19th June 1909, and recovered in Ulrum, Netherlands, on 3rd September of that year. In announcing the *British Birds* scheme, H. F. Witherby wrote:

If sufficient results were obtained much could be learned from marked birds. We should gain a more exact idea of the movements of individual birds than has ever been possible by any other method, and this should not only throw light upon the more general aspects of migration, but it should tell us a great deal that is at present obscure with regard to particular points. For example,

while we may know the general distribution of a species in winter and summer, we do not know the extent of the migration of individuals; or, indeed, whether in such cases as the Song-Thrush and Robin, certain individuals migrate at all.

If the passage of 60 years has in places tempered the early optimism, we may nevertheless claim that ringing has made steady and substantial progress and one feels that, were he alive today, Harry Witherby would be enthusiastic about the prospects for the next 60 years.

COMMITTEE

The members of the Ringing and Migration Committee on 31st December 1969 were Dr C. M. Perrins (Chairman), A. Anderson, J. A. Hardman, P. Hope Jones, J. M. McMeeking, J. R. Mather, M. A. Ogilvie, R. E. Scott and Dr A. B. Watson, with Dr D. W. Snow (representing the Trustees of the British Museum), I. J. Ferguson-Lees, Dr J. J. M. Flegg and D. R. Wilson (*ex officio*) and Robert Spencer (Secretary).

FINANCE

The work of the ringing scheme is financed partly by the Nature Conservancy, an annual grant being received to cover the salaries of half the staff, and partly from the proceeds of the sale of rings and other equipment and from revenue derived from ringing permits. The publishers of *British Birds* made their annual grant of £25. Accommodation and certain services are provided by the British Trust for Ornithology, who make good any deficit in the direct income of the scheme. Income and expenditure are incorporated in the accounts of the Trust, published in its Annual Report.

STAFF

Robert Spencer, Robert Hudson, C. J. Mead, R. C. Faulkner, J. N. Dymond, Mrs M. Benson, Miss D. Keating, Mrs E. Oxley.

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R. C. Faulkner assisted in preparing several of the species summary tables; J. N. Dymond compiled most of the large ones with the aid

of punch cards and a recently installed sorter/counter machine, and also gave invaluable assistance in checking the typescript. The maps were all prepared by Kevin Baker.

PUBLICATIONS

The following published papers were based wholly or partially on the results of British ringing:

- DARE, P. J. 1970. 'The movements of Oystercatchers *Haematopus ostralegus* L. visiting or breeding in the British Isles'. *Fisberies Investigations*, ser. 2, 25 (9): 1-137.
- DICKINSON, B. H. B., and DOBINSON, H. M. 1969. 'A study of a Greenfinch roost'. *Bird Study*, 16: 135-146.
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Table 1. Numbers of birds ringed and recovered

A pullus is a nestling or chick not yet flying (page 150)

	RINGED			RECOVERED
	Juv/Adult	Pullus	Total	Total
1969	404,617	96,783	501,400	12,551
1968	484,137	109,780	593,917	14,794
1967	463,144	111,185	574,329	12,428
1966	451,626	100,611	552,237	13,408
1965	427,051	91,689	518,740	14,182
1964	372,537	76,700	449,237	12,665
1963	355,007	80,918	435,925	14,397
1962	307,924	81,551	389,475	11,689
1961	272,919	77,443	350,362	9,238
1960	219,104	60,085	279,189	7,911
GRAND TOTALS 1909-69			6,898,046	184,236

Table 2. Ringing and recovery totals to 31st December 1969

Section 1. Species of which more than 100 have been ringed

	RINGED			RECOVERED		
	Juv/Adult	Pullus	1969 total	Grand total	1969	Grand total
Little Grebe	40	—	40	417	—	16
Leach's Petrel	13	—	13	1,502	—	19
Storm Petrel	6,401	29	6,430	45,016	24	185
Manx Shearwater	1,016	8,196	9,212	175,745	90	2,356
Booby	726	1,564	2,290	17,993	15	206
Jaeger	23	825	848	33,785	94	1,821
Skua	1	1,435	1,436	14,812	269	2,872
Shearwater	154	4,340	4,494	37,707	271	2,997
Albatross	4	503	507	6,411	58	986
Booby	6,758	260	7,018	76,333	1,126	12,683
Albatross	2,655	3	2,658	50,123	354	9,046
Shearwater	3	—	3	326	2	50
Shearwater	39	4	43	391	4	63
Shearwater	272	1	273	3,657	30	633
Shearwater	276	—	276	2,035	30	286
Shearwater	79	6	85	1,078	12	242
Shearwater	5	—	5	106	—	21
Stiff-tailed Duck	492	17	509	3,038	93	491
Shearwater	39	11	50	504	10	91
Shearwater	297	1	298	7,904	71	646
Old Duck	109	189	298	2,813	38	199
Grey Lag Goose	1	—	1	1,758	33	387
White-fronted Goose	—	—	—	582	4	190
Black-footed Goose	1	—	1	11,826	64	3,286
Canada Goose	45	—	45	453	3	65
Canada Goose	676	270	946	5,512	251	871
White Swan	1,282	188	1,470	20,519	656	6,511
Willet's Swan	91	—	91	199	—	8
Osprey	3	137	140	1,488	11	88
Sharp-shinned Hawk	40	104	144	1,954	15	256
Marsh Harrier	—	—	—	127	—	15
Common Harrier	6	54	60	1,138	11	119
Montagu's Harrier	—	—	—	280	—	39
Osprey*	2	6	8	100	2	8
Osprey	—	10	10	240	1	25
Osprey	15	17	32	1,036	3	128
Osprey	65	411	476	6,060	85	766
Red Grouse	—	—	—	1,538	—	176
Black Grouse	—	—	—	104	—	11
Red-legged Partridge	6	—	6	129	—	20
Partridge	15	—	15	377	1	23
Water Rail	110	—	110	1,315	—	37
Water Rake	6	—	6	778	—	12
Waterhen	939	50	989	11,264	39	518
Waterfowl	355	24	379	3,709	26	378
Watercatcher	3,714	409	4,123	29,937	209	1,598
Waterfowl	210	2,003	2,213	89,662	39	1,976
Ringed Plover	410	208	618	8,466	8	155
Little Ringed Plover	24	41	65	872	1	19
Ringed Plover	94	—	94	1,188	6	30
Ringed Plover	52	13	65	1,099	5	40
Ringstone	648	—	648	3,206	13	49
Ringstone	1,050	26	1,076	11,651	46	626
Ringstone	63	—	63	903	2	37

*Newly promoted from section 2

	RINGED			Grand total	RECOVERED	
	Juv/Adult	Pullus	1969 total		1969	Grand tot
Woodcock	19	2	21	5,978	5	47
Curlew	307	130	437	10,358	36	50
Whimbrel	42	3	45	263	—	—
Bar-tailed Godwit	201	—	201	660	—	—
Green Sandpiper	56	—	56	485	2	1
Wood Sandpiper	14	—	14	236	—	—
Common Sandpiper	420	76	496	7,705	4	—
Redshank	995	135	1,130	15,351	36	51
Spotted Redshank	13	—	13	149	1	—
Greenshank	53	2	55	445	3	1
Knot	2,821	—	2,821	19,102	53	21
Purple Sandpiper	37	—	37	318	—	—
Little Stint	21	—	21	557	—	1
Dunlin	7,335	11	7,346	68,929	76	83
Curlew Sandpiper	407	—	407	718	—	—
Sanderling	2,062	—	2,062	4,114	17	3
Ruff	88	—	88	1,125	3	3
Stone Curlew	—	3	3	395	—	2
Arctic Skua	1	107	108	1,873	1	5
Great Skua	57	2,276	2,333	12,691	46	27
Great Black-backed Gull	113	595	708	8,381	45	58
Lesser Black-backed Gull	209	2,882	3,091	61,814	164	2,600
Herring Gull	840	4,481	5,321	99,718	319	3,922
Common Gull	292	310	602	7,871	25	32
Black-headed Gull	991	4,020	5,011	113,651	247	5,080
Kittiwake	127	1,279	1,406	31,053	42	76
Common Tern	217	1,905	2,122	51,540	26	95
Arctic Tern	9	1,804	1,813	44,072	16	66
Roseate Tern	1	1,399	1,400	14,285	40	22
Little Tern	8	94	102	2,981	—	4
Sandwich Tern	13	4,343	4,356	71,362	145	1,590
Razorbill	190	579	769	18,947	59	61
Guillemot	83	112	195	12,497	44	51
Black Guillemot	26	96	122	1,461	2	1
Puffin	894	652	1,546	24,482	53	24
Stock Dove	28	91	119	2,848	3	20
Rock Dove	2	3	5	146	—	—
Woodpigeon	260	214	474	14,777	75	1,470
Turtle Dove	94	56	150	3,118	4	12
Collared Dove	433	35	468	2,373	28	12
Cuckoo	69	24	93	2,774	1	9
Barn Owl	18	136	154	2,189	31	35
Little Owl	28	57	85	2,376	7	21
Tawny Owl	40	174	214	4,195	29	32
Long-eared Owl	14	19	33	829	7	6
Short-eared Owl	3	17	20	580	1	4
Nightjar	9	27	36	622	—	1
Swift	4,236	103	4,339	66,309	113	1,400
Kingfisher	364	—	364	3,147	17	11
Green Woodpecker	37	4	41	874	—	4
Great Spotted Woodpecker	109	10	119	1,995	5	10
Lesser Spotted Woodpecker	23	—	23	204	1	—
Wryneck	62	—	62	1,006	—	1
Woodlark	2	15	17	560	—	—
Skylark	253	300	553	17,918	3	14
Swallow	19,245	8,588	27,833	425,888	180	3,570
House Martin	4,808	180	4,988	54,252	18	380
Sand Martin	14,348	8	14,356	450,780	254	10,700

	RINGED			Grand total	RECOVERED	
	Juv/Adult	Pullus	1969 total		1969	Grand total
n	1	56	57	1,782	6	179
on/Hooded Crow	29	230	259	5,985	22	404
Tit	875	161	1,036	18,196	46	1,071
law	125	206	331	13,593	24	845
ie	68	132	200	4,722	5	270
	212	26	238	4,081	24	348
gh	—	7	7	379	—	29
Tit	7,884	3,758	11,642	148,753	116	2,303
Tit	25,352	6,981	32,333	340,399	320	5,430
Tit	1,983	626	2,609	19,323	16	202
ed Tit	27	4	31	134	—	—
h Tit	639	68	707	8,411	7	68
w Tit	1,029	40	1,069	6,641	3	37
-tailed Tit	2,525	—	2,525	16,221	11	143
atch	166	137	303	4,855	3	118
reeper	802	64	866	7,272	7	40
	6,245	125	6,370	45,276	43	295
er	72	211	283	7,630	8	95
led Tit	379	—	379	4,888	5	183
e Thrush	619	245	864	17,584	46	637
fare	1,648	—	1,648	11,136	50	229
Thrush	11,992	3,095	15,087	229,594	436	6,532
ing	5,066	—	5,066	39,806	64	535
Ouzel	110	47	157	3,210	8	63
bird	33,778	4,593	38,371	509,983	1,745	19,662
tear	778	152	930	25,817	2	136
chat	215	167	382	6,068	—	45
chat	471	306	777	11,488	2	52
art	1,412	279	1,691	28,625	8	168
Redstart	53	—	53	1,056	1	23
tingale	74	42	116	4,638	—	21
throat	37	—	37	382	—	3
1	10,215	873	11,088	167,308	185	3,769
hopper Warbler	545	55	600	3,210	2	7
Warbler	8,613	564	9,177	48,121	89	460
1 Warbler	38	17	55	281	—	—
e Warbler	8,866	281	9,147	77,209	30	258
dious Warbler	4	—	4	152	—	—
ne Warbler	20	—	20	239	—	2
cap	4,475	128	4,603	33,914	25	175
d Warbler	64	—	64	495	—	—
en Warbler	1,911	104	2,015	19,907	4	51
throat	1,797	100	1,897	104,242	6	462
r Whitethroat	1,611	28	1,639	13,655	10	75
ord Warbler	—	—	—	155	—	1
w Warbler	16,057	1,582	17,639	161,809	30	417
haff	5,243	104	5,347	49,226	19	155
l Warbler	45	163	208	3,849	1	14
w-browed Warbler	10	—	10	160	—	1
crest	2,246	12	2,258	24,233	8	57
rest	128	—	128	737	—	1
ed Flycatcher	1,410	695	2,105	27,185	15	194
Flycatcher	908	2,984	3,892	35,124	13	154
reasted Flycatcher	6	—	6	237	—	—
ock	12,228	929	13,157	165,730	161	2,124
ow Pipit	1,836	794	2,630	51,961	10	479
Pipit	279	146	425	6,262	1	12
/Water Pipit	383	21	404	12,307	—	94

	RINGED				RECOVERED	
	Juv/Adult	Pullus	1969 total	Grand total	1969	Grand total
Pied/White Wagtail	3,718	574	4,292	54,062	85	1,
Grey Wagtail	214	300	514	5,123	10	
Yellow Wagtail ssp	1,126	158	1,284	25,986	15	
Waxwing	—	—	—	356	—	
Great Grey Shrike	13	—	13	135	—	
Red-backed Shrike	21	26	47	2,972	—	
Starling	29,611	1,001	30,612	549,802	972	20,
Hawfinch	35	16	51	434	—	
Greenfinch	28,343	506	28,849	299,866	570	6,
Goldfinch	2,783	135	2,918	31,402	39	
Siskin	457	—	457	3,175	6	
Linnet	6,198	856	7,054	139,516	49	1,
Twite	93	101	194	3,996	1	
Redpoll	4,793	71	4,864	19,975	35	
Bullfinch	5,858	176	6,034	51,243	85	1,
Crossbill	—	—	—	601	—	
Chaffinch	13,198	438	13,636	182,229	112	2,
Brambling	2,434	—	2,434	23,689	19	
Yellowhammer	2,984	129	3,113	36,858	18	
Corn Bunting	451	2	453	2,544	5	
Girl Bunting	5	3	8	228	—	
Reed Bunting	6,579	531	7,110	65,747	57	
Snow Bunting	9	—	9	3,134	—	
House Sparrow	14,258	788	15,046	283,852	381	4,
Tree Sparrow	4,857	868	5,725	76,998	36	

Section 2. Species of which fewer than 100 have been ringed

(1969 total, grand total, 1969 recoveries and grand total recoveries are given in that order)

Black-throated Diver	—	3	—	—	Red-footed Falcon	1	2	—
Great Northern Diver	—	3	—	—	Ptarmigan	—	3	—
Red-throated Diver	19	60	1	5	Capercaillie	—	3	—
Great Crested Grebe	13	96	2	6	Quail	2	16	—
Red-necked Grebe	2	4	—	—	Pheasant	1	76	1
Slavonian Grebe	1	6	—	—	Spotted Crake	4	30	—
Black-necked Grebe*	1	1	—	—	Little Crake	—	1	—
Cory's Shearwater	—	1	—	—	Kentish Plover	—	1	—
Wilson's Petrel	—	2	—	—	Dotterel	—	63	—
Little Bittern	—	5	—	—	Solitary Sandpiper	—	3	—
Bittern	1	56	1	9	Spotted Sandpiper	—	2	—
Red-crested Pochard	—	16	—	5	Black-tailed Godwit	39	98	—
Mandarin	—	8	—	—	Long-billed Dowitcher	—	1	—
Goldeneye	4	40	—	7	Temminck's Stint	1	6	—
Long-tailed Duck	—	10	—	2	Least Sandpiper	—	2	—
Velvet Scoter	—	4	—	1	Semipalmated Sandpiper	—	3	—
Common Scoter	1	19	—	3	White-rumped Sandpiper	1	7	—
Red-breasted Merganser	2	31	—	2	Pectoral Sandpiper	1	26	—
Goosander	7	97	1	16	Stilt Sandpiper	—	1	—
Smew	—	3	—	—	Western Sandpiper	—	1	—
Bean Goose	—	1	—	1	Buff-breasted Sandpiper	—	5	—
Brent Goose	—	13	—	2	Avocet	4	6	—
Whooper Swan	4	43	—	6	Grey Phalarope	—	48	—
Goshawk	—	1	—	—	Red-necked Phalarope	3	44	—
Kite	11	20	—	1	Cream-coloured Courser*	1	1	1
Rough-legged Buzzard	—	1	—	—	Pomarine Skua	—	2	—
Golden Eagle	12	89	—	6	Glaucous Gull	1	14	—
Osprey	6	13	—	2	Iceland Gull	—	1	—

*Added to the list in 1969

Common Gull	5	13	—	1	Bonelli's Warbler	—	13	—	—
Black-throated Gull	—	1	—	—	Arctic Warbler	2	22	—	—
Lesser Frigatebird	58	64	—	—	Pallas's Warbler	—	18	—	—
Red-billed Tropicbird	—	1	—	—	Dusky Warbler	—	6	—	—
Common Noddy	3	28	—	2	Radde's Warbler	—	7	—	—
Great Frigatebird	—	2	—	—	Collared Flycatcher*	1	1	—	—
Lesser Frigatebird	3	11	—	—	Richard's Pipit	1	15	—	—
Common Noddy	—	1	—	—	Tawny Pipit	2	9	—	—
Common Noddy	1	19	—	—	Olive-backed Pipit	—	2	—	—
Common Noddy	—	7	—	—	Pechora Pipit	—	3	—	—
Common Noddy	3	35	—	1	Red-throated Pipit	—	7	—	—
Common Noddy	—	1	—	—	Citrine Wagtail	—	4	—	—
Common Noddy	1	10	—	—	Lesser Grey Shrike	—	7	—	2
Common Noddy	—	10	—	—	Woodchat Shrike	1	63	—	—
Common Noddy	—	1	—	—	Red-eyed Vireo	—	2	—	—
Common Noddy	—	1	—	—	Myrtle Warbler	—	1	—	—
Common Noddy	—	2	—	—	Blackpoll Warbler	—	1	—	—
Common Noddy	—	2	—	—	Northern Waterthrush	—	1	—	—
Common Noddy	—	1	—	—	Yellowthroat	—	1	—	—
Common Noddy	—	1	—	—	Bobolink	—	1	—	—
Common Noddy	—	4	—	1	Slate-coloured Junco	—	1	—	—
Common Noddy	—	2	—	—	Rose-coloured Starling	—	3	—	—
Common Noddy	—	3	—	—	Baltimore Oriole	—	5	—	—
Common Noddy	—	2	—	—	Summer Tanager	—	1	—	—
Common Noddy	—	7	—	—	Tanager sp	—	1	—	—
Common Noddy	—	1	—	—	Arctic Redpoll	—	4	—	—
Common Noddy	—	6	—	—	Serin	—	3	—	—
Common Noddy	1	2	—	—	Scarlet Grosbeak	5	51	—	—
Common Noddy	—	4	—	—	Rose-breasted Grosbeak	—	2	—	—
Common Noddy	—	3	—	—	Pine Grosbeak	—	1	—	—
Common Noddy	—	1	—	—	Parrot Crossbill	—	42	—	—
Common Noddy	—	1	—	—	Rufous-sided Towhee	—	1	—	—
Common Noddy	4	16	—	—	Black-headed Bunting	—	3	—	—
Common Noddy	—	1	—	—	Yellow-breasted Bunting	2	8	—	—
Common Noddy	13	68	—	—	Ortolan Bunting	7	50	—	—
Common Noddy	—	1	—	—	Cretzschmar's Bunting	—	1	—	—
Common Noddy	—	6	—	—	Rustic Bunting	—	11	—	1
Common Noddy	—	3	—	—	Little Bunting	—	19	—	—
Common Noddy	—	1	—	—	Fox Sparrow	—	1	—	—
Common Noddy	—	3	—	—	White-throated Sparrow	—	3	—	—
Common Noddy	—	20	—	—	Song Sparrow	—	2	—	—
Common Noddy	—	1	—	—	Lapland Bunting	—	87	—	—
Common Noddy	1	31	—	—					

*Added to the list in 1969

Summary tables and selected recoveries for 1969

This section of the report deals with the recoveries of 124 species: the only species excluded are those which produced too few recoveries, all of them reasonably sufficient to merit the preparation of a table. For 86 species a comprehensive summary table is provided and, in addition, over 260 of the more interesting or significant recoveries are given in full. The entry for each species is headed with the vernacular name, scientific names followed, in brackets, by the total number of recoveries obtained during the year and the longest time-lapse between ringing and recovery obtained during the year. For those species where no summary table is provided, the minimum movement in kilometres to qualify for inclusion is also given, placed between the total of recoveries and the longevity record.

Because the summary tables include both live and dead birds it would be misleading to regard them as necessarily providing a reliable indication of seasonal variation in mortality. For many species they probably do, but all that can be assumed with certainty is that they reflect the month by month variation in the reporting of recoveries. Each summary table is comprehensive, so that recoveries published in full are also included in it. Movements within Britain and Ireland (or in local waters in the case of seabirds) are subdivided according to distance involved. Where they seem meaningful, the numbers of recoveries showing movement between Britain and Ireland (and vice versa) are shown separately. Exceptionally, recoveries reported in a calendar year subsequent to the actual year of recovery are included in the total for the species but excluded from the relevant table.

Key to symbols and terms used in the recovery lists

- Ring number: where this is in italics the ring has been returned.
 Age: pull. (pullus)—nestling or chick, *not yet flying*;
 juv.—young, *able to fly freely*;
 1st W.—first winter;
 f.g.—full-grown, age uncertain;
 ad.—adult, at least one year old.
 Sex: ♂—male;
 ♀—female.
 Manner of recovery: v—caught or trapped, and released with ring;
 +—shot or killed by man;
 ×—found dead or dying;
 × A—found long dead;
 ()—caught or trapped alive and not released, or released but with ring removed;
 /?/—manner of recovery unknown.
 Date of recovery: where this is unknown the date of the reporting letter is given in brackets.
 Distance: the distances, given in kilometres, and the directions are approximate.
 Ordinal numbers: the numbers in brackets after the names of countries indicate the accumulated total of British-ringed recoveries of the species concerned in those countries, the numbering being based on reasons of convenience on sequence of publication rather than strict chronological order; the use of such numbering is not normally continued beyond the twentieth recovery in a country.
 Arrangement of entry: recoveries are arranged by species, and within species usually by ringing locality from north to south; ringing details are given on the first line and recovery data on the second.

Red-throated Diver *Gavia stellata* (1: 1 year)

1064942 pull. 25.7.68 Hermaness: 60°50'N. 0°53'W. (Shetland)
 × A 17.7.69 Sand, Garderhouse (Shetland) 80 km SSW

Storm Petrel *Hydrobates pelagicus* (24: 10 years)

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0-10 km (1)	-	-	-	-	-	-	-	1	-	-	-	-
11-100 km (13)	-	-	-	-	-	-	-	13	-	-	-	-
101-250 km (7)	-	-	-	-	-	-	2	5	-	-	-	-
250+ km (3)	-	-	-	-	-	2	-	1	-	-	-	-

1465	f.g.	13.7.68	Hirta: 57°48'N. 8°34'W. St Kilda, Outer Hebrides
	v	7.8.69	Lambhoga, Fetlar (Shetland) 530 km NE
1222	f.g.	1.7.68	Inishvickillaun: 52°03'N. 10°36'W. (Kerry)
	v	30.6.69	Skokholm (Pembroke) 370 km E
10346	f.g.	8.8.68	Inishvickillaun
	v	29.6.69	Skokholm

Shearwater *Puffinus puffinus* (90: 10 $\frac{1}{2}$ years)

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	?
0-100 km (19)	-	-	-	1	1	-	6	-	10	-	-	-	1
100-250 km (25)	-	-	-	-	11	1	3	4	6	-	-	-	-
250-500 km (19)	-	-	-	1	8	3	2	3	-	1	-	-	1
500-1000 km (10)	-	-	-	-	-	2	7	1	-	-	-	-	-
1000-2000 km (4)	1	-	-	-	3	-	-	-	-	-	-	-	-
2000-3000 km (2)	-	-	2	-	-	-	-	-	-	-	-	-	-
3000-4000 km (2)	-	-	-	-	-	-	-	-	1	-	-	1	-
4000-5000 km (1)	-	-	-	-	-	-	-	1	-	-	-	-	-
5000-6000 km (1)	-	-	-	-	-	-	-	1	-	-	-	-	-
6000-7000 km (6)	-	-	1	-	-	-	1	-	1	2	1	-	-
7000-8000 km (1)	-	-	1	-	-	-	-	-	-	-	-	-	-

11042	f.g.	6.6.62	Skokholm: 51°42'N. 5°16'W. (Pembroke)
	×	1.8.69	Gay Head: 41°21'N. 70°50'W. (Massachusetts) U.S.A. (1st)
18322	pull.	28.8.65	Skokholm
	×	(14.3.69)	La Pedrera: c. 34°00'S. 53°30'W. (Rocha) Uruguay (4th)
169437	pull.	9.9.68	Skokholm
	×	22.8.69	Fortune Bay: 47°15'N. 55°50'W. Newfoundland (5th)
10978	pull.	2.9.69	Skokholm
	×	7.10.69	Barra da Tijuca: 22°56'S. 43°15'W. (Rio de Janeiro) Brazil

There are numerous recoveries indicating the wintering of this species off the eastern coast of South America and interest now centres on the time taken by shearwaters to complete the passage: EF00978 is included as the fastest of the year.

Shearwater *Fulmarus glacialis* (15: 8 $\frac{1}{2}$ years)

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	?
0-100 km (4)	-	-	1	-	-	-	1	1	-	-	-	1	-
100-250 km (3)	-	-	-	-	2	-	1	-	-	-	-	-	-
250-500 km (1)	-	-	-	-	1	-	-	-	-	-	-	-	-
500-1000 km (4)	1	-	-	-	2	1	-	-	-	-	-	-	-
1000-2000 km (3)	-	-	-	-	1	-	1	-	-	-	-	-	1

661	pull.	2.8.68	Bressay: 60°08'N. 1°05'W. (Shetland)
	×	16.5.69	Atlantic Ocean (off Newfoundland) 44°47'N. 52°34'W.
146	pull.	4.8.64	South Ronaldsay: 58°47'N. 2°56'W. (Orkney)
	×	1.7.69	North Sea: c. 56°45'N. 5°50'E.
595	pull.	16.8.67	Forvie: 57°20'N. 2°00'W., Newburgh (Aberdeen)
	×	summer 69	Åsgårdstr: 59°22'N. 10°27'E. (Vestfold) Norway (13th)

Shearwater *Sula bassana* (94: 9 $\frac{5}{2}$ years)

Shearwater recoveries in 1969 and overseas recoveries in 1967, 1968 and 1969 are consolidated in a single table overleaf.

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0-10 km (4)	-	-	-	1	2	-	-	1	-	-	-	-
11-100 km (14)	-	-	1	5	3	1	1	1	2	-	-	-
101-250 km (8)	-	-	-	1	2	-	2	2	-	1	-	-
251-650 km (8)	1	4	-	-	-	-	-	-	1	1	-	1
Sweden (2)	-	-	-	-	-	1	-	-	-	-	-	1
Norway (6)	1	1	-	1	-	-	-	1	-	-	2	-
Denmark (8)	-	-	1	1	-	-	-	-	1	2	3	-
Germany (5)	-	-	-	-	-	-	-	-	-	4	1	-
North Sea (1)	-	-	-	-	-	-	-	1	-	-	-	-
Netherlands (14)	2	1	1	-	1	-	-	-	1	4	3	1
Belgium (3)	1	-	1	-	-	-	-	-	-	-	-	1
France (35)	7	3	2	-	1	3	-	2	3	6	4	4
Channel Islands (1)	-	-	-	-	-	-	-	-	1	-	-	-
Biscay (6)	-	-	-	-	-	-	-	-	4	-	-	1
Italy (1)	-	-	-	-	-	-	-	-	-	-	-	1
Spain (34)	3	3	5	2	1	-	2	1	5	8	1	2
Portugal (11)	-	1	1	-	-	-	-	-	1	6	1	1
Morocco (8)	1	1	2	-	-	-	1	-	-	1	1	-
Algeria (2)	-	-	-	-	-	-	-	-	1	-	-	1
Spanish West Africa (3)	-	1	-	-	-	-	-	-	-	-	2	-
Canary Islands (1)	-	-	-	-	-	-	-	-	-	-	1	-

Cormorant *Phalacrocorax carbo* (269: $13\frac{4}{12}$ years)

Recoveries in home waters in 1969 and overseas recoveries in 1968 and 1969 are consolidated in a single table.

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0-10 km (18)	2	-	2	1	-	2	4	3	1	-	-	2
11-100 km (84)	8	6	7	8	7	5	6	10	9	6	3	5
101-250 km (75)	16	3	12	5	6	3	3	6	8	4	3	6
250+ km (39)	9	3	4	3	-	3	-	-	8	5	2	2
France (71)	9	3	4	-	-	-	1	6	6	15	14	13
Channel Islands (1)	-	-	-	-	-	-	-	-	-	1	-	-
Spain (23)	-	2	1	1	-	-	-	-	2	3	7	7

5031322 pull. 7.7.67 St Margaret's Island: $51^{\circ}38'N$, $4^{\circ}42'W$. (Pembroke)
 × 17.9.69 off Rosehearty (Aberdeen) 700 km NE

Shag *Phalacrocorax aristotelis* (271: $16\frac{0}{12}$ years)

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0-10 km (33)	1	1	1	5	5	2	10	3	-	2	1	1
11-100 km (147)	11	4	17	16	18	14	18	10	13	11	6	7
101-250 km (56)	7	2	10	7	5	4	4	5	2	4	2	4
250+ km (31)	2	2	7	4	3	2	1	2	-	1	3	4
Norway (2)	-	-	-	-	-	-	-	-	-	1	1	-
Germany (1)	-	-	-	-	-	-	-	-	-	1	-	-
France (1)	1	-	-	-	-	-	-	-	-	-	-	-

Heron *Ardea cinerea* (58: $9\frac{2}{12}$ years)

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0-10 km (11)	-	2	3	1	-	-	1	-	1	-	-	3
11-100 km (28)	2	3	3	2	3	1	3	1	-	1	2	7
101-250 km (13)	1	2	5	-	-	-	-	2	-	2	1	-
275 km (1)	-	-	-	-	-	-	-	1	-	-	-	-
Overseas (5)	-	1	-	1	-	-	-	-	-	1	-	2

1070480 pull. 11.5.69 Ranworth: $52^{\circ}41'N$, $1^{\circ}30'E$. (Norfolk)
 × 1.12.69 Pont Authou: $49^{\circ}15'N$, $0^{\circ}42'E$. (Eure) France

0859	juv.	19.8.69	Peakirk: 52°39'N. 0°13'W. (Northampton)
	+	21.12.69	Saint-Évanzec: 47°56'N. 4°01'W. (Finistère) France
1505	pull.	6.5.67	Wickhampton: 52°35'N. 1°36'E. (Norfolk)
	×	5.4.69	Korendijkse Slikken: 51°46'N. 4°16'E. (Zuid Holland) Netherlands (3rd)
1719	pull.	23.6.67	Denver: 52°35'N. 0°22'E. (Norfolk)
	×	22.2.69	Quimerch: 48°17'N. 4°07'W. (Finistère) France
1463	pull.	29.5.68	Wickhampton (Norfolk)
	+	15.10.69	Dunkerque: 51°02'N. 2°23'E. (Nord) France

Hard *Anas platyrhynchos* (1,126: 11 $\frac{3}{2}$ years)

British recoveries in 1969 and overseas recoveries in 1967, 1968 and 1969 are consolidated in a single table.

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	?
France (unknown) (23)	1	3	-	1	-	3	-	1	3	3	1	5	2
10 km (313)	30	17	7	8	7	4	4	2	17	40	77	45	15
20 km (524)	79	12	3	6	4	4	1	2	58	85	154	102	14
50 km (85)	11	-	2	-	-	-	-	-	10	21	15	26	-
100 km (11)	-	-	-	1	-	-	-	1	2	1	3	3	-
1000 km (8)	-	-	-	-	-	-	1	1	1	-	4	1	-
Europe (75)	16	6	1	-	-	-	9	3	5	7	9	16	3
Britain (6)	-	-	-	-	-	-	-	1	-	2	-	2	1
Ireland (95)	4	-	-	4	1	1	3	18	25	16	10	9	4
Germany (45)	1	-	1	-	1	1	1	10	8	13	3	2	4
Netherlands (117)	-	1	-	-	-	1	4	19	24	28	20	16	4
France (7)	-	1	-	-	-	-	-	2	3	1	-	-	-
Denmark (61)	-	-	-	1	2	-	-	19	17	10	10	-	2
Sweden (55)	-	-	1	4	10	-	1	18	13	8	-	-	-
Denmark (7)	-	-	-	-	-	-	-	3	3	-	1	-	-
United States (9)	-	-	-	-	-	-	-	6	2	1	-	-	-
Romania (42)	-	-	-	5	5	1	1	13	11	5	-	-	1
Poland (1)	-	1	-	-	-	-	-	-	-	-	-	-	-

64938	juv. ♂	4.9.67	Peakirk: 52°39'N. 0°13'W. (Northampton)
	+	18.2.69	Poiana: 44°05'N. 24°41'E. (Bucharest) Romania (2nd)

Soft *Anas crecca* (354: 10 $\frac{1}{2}$ years)

British recoveries in 1969 and overseas recoveries in 1968 and 1969 are consolidated in a single table.

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	?
France (45)	3	1	-	-	-	-	-	-	5	5	17	11	3
10 km (89)	13	6	-	-	-	-	-	-	13	15	28	11	3
50 km (50)	15	5	-	1	-	-	-	-	5	4	10	10	-
100 km (26)	4	3	-	-	-	-	-	-	3	4	5	7	-
1000 km (25*)	3	-	-	-	-	-	-	-	5	-	4	13	-
Europe (1)	-	-	1	-	-	-	-	-	-	-	-	-	-
Britain (1)	1	-	-	-	-	-	-	-	-	-	-	-	-
Europe (78)	11	17	5	-	-	-	2	5	6	3	8	19	2
Britain (3)	2	-	-	-	-	-	-	1	-	-	-	-	-
Ireland (15)	2	1	-	-	-	-	-	3	2	2	3	2	-
Germany (9)	1	-	-	-	-	-	-	2	5	-	1	2	-
Netherlands (33)	-	-	1	1	-	-	2	13	11	5	-	-	-
France (1)	-	-	-	-	-	-	-	-	1	-	-	-	-
Denmark (6)	-	-	-	-	1	-	-	4	1	-	-	-	-
Sweden (30)	-	-	-	-	4	1	1	16	6	1	-	-	1
Denmark (4)	-	-	-	1	-	-	-	2	1	-	-	-	-
United States (3)	-	-	-	-	-	-	-	1	1	-	-	-	1
Romania (31)	-	-	-	1	7	-	1	11	8	1	-	-	2

* Composite figure which includes month of recovery in Ireland of 22 ringed in Britain and month of ringing in Ireland of three subsequently recovered in Britain

Garganey *Anas querquedula* (2: 1½ years)

ED20981	1st W. ♂	3.9.67	Dersingham: 52°51'N. 0°29'E. (Norfolk)
	+	(27.3.69)	Sultanköy: 41°02'N. 26°27'E. Ipsala, Turkey (2nd)
EC75505	ad. ♂	30.7.68	Abberton: 51°49'N. 0°49'E. (Essex)
	+	16.2.69	Borgo Lavezzaro: 45°19'N. 8°42'E. (Novara) Italy (16th)

Gadwall *Anas strepera* (4: 110 km: 2½ years)

SS78027	ad. ♂	30.8.68	Dersingham: 52°51'N. 0°29'E. (Norfolk)
	+	23.11.69	Camargue: c. 43°30'N. 4°30'E. (Bouches du Rhône) France (11th)
SS79055	juv. ♂	31.8.68	Abberton: 51°49'N. 0°49'E. (Essex)
	+	2.3.69	Aznalcazar: 37°18'N. 6°15'W. (Sevilla) Spain (2nd)

Wigeon *Anas penelope* (30: 5½ years)

British recoveries in 1969 and overseas recoveries in 1968 and 1969 are consolidated in a single table.

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0-10 km (9)	-	2	-	-	-	-	-	-	-	-	-	5
11-100 km (7)	2	-	-	-	-	-	-	-	2	-	-	1
250+ km (4)	1	-	-	-	-	-	-	-	-	1	-	-
France (6)	-	1	1	-	-	-	-	-	-	-	-	4
Netherlands (2)	-	-	-	-	-	-	-	-	-	-	-	-
Germany (1)	-	-	-	-	-	-	-	-	-	-	-	1
Denmark (2)	-	-	-	-	-	-	-	-	2	-	-	-
Finland (3)	-	-	-	-	-	-	-	1	2	-	-	-
Baltic States (4)	-	-	-	-	-	-	-	2	1	1	-	-
U.S.S.R. (12)	-	-	-	3	3	-	-	3	1	2	-	-

Pintail *Anas acuta* (30: 7 years)

British recoveries in 1969 and overseas recoveries in 1968 and 1969 are consolidated in a single table.

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0-10 km (5)	1	-	-	-	-	-	-	-	2	1	1	-
11-100 km (2)	-	1	-	-	-	-	-	-	-	-	1	-
250+ km (2)	1	-	-	-	-	-	-	-	1	-	-	-
Sénégal (1)	1	-	-	-	-	-	-	-	-	-	-	-
Italy (2)	-	1	1	-	-	-	-	-	-	-	-	-
Jugoslavia (1)	-	-	-	-	-	-	-	-	-	-	-	1
France (10)	1	2	1	-	-	-	-	-	2	-	-	4
Netherlands (3)	-	-	1	-	-	-	-	-	-	-	1	1
Germany (2)	-	-	-	-	-	-	-	-	-	1	1	-
Denmark (3)	-	-	-	-	-	-	-	-	1	1	1	-
Finland (2)	-	-	-	-	-	1	-	-	1	-	-	-
U.S.S.R. (12)	-	-	-	1	2	-	-	5	1	2	1	-

Pintail ringed at Nacton, 52°01'N. 1°15'E. (Suffolk), were recovered as follows:

Ringed		Recovered	
SS70066	15.9.67	1.6.69	Kaamanen: 69°02'N. 27°15'E. (Lappi) Finland (4th)
SS70170	2.10.67	0.12.69	Vrana Lake: 43°57'N. 15°33'E. (Hrvatska) Jugoslavia (1st)
SS70276	10.10.67	12.8.69	Temryuk: 45°18'N. 37°25'E. (Krasnodar) U.S.S.R.
SS70302	15.10.67	0.2.69	Albunazzo: 45°12'N. 9°15'E. (Pavia) Italy (4th)
SS69115*	3.9.68	(20.1.69)	St Louis: 16°01'N. 16°30'W. Sénégal (1st)
SS69126*	3.9.68	2.3.69	Mantua: 45°10'N. 10°47'E. (Mantova) Italy (5th)

*Ringed as juvenile; the remainder were ringed as adult

SS70066 is exceptionally far north and SS70276 exceptionally far south-east.

Welder *Anas clypeata* (12: 11 $\frac{3}{12}$ years)

851	ad. ♂	27.5.64	Abberton: 51°49'N. 0°49'E. (Essex)
	+	5.1.69	El Asnam: 36°11'N. 1°21'E. Algeria (1st)
173	1st W. ♂	16.3.69	Abberton
	+	27.10.69	Hauke-Haien-Koog: c. 54°42'N. 8°45'E. (Schleswig-Holstein) Germany (5th)
217	juv. ♂	3.8.69	Abberton
	+	c. 5.12.69	Cullera: 39°10'N. 0°15'W. (Valencia) Spain (14th)

In addition, there were six recoveries in **France**, one each in Ireland and the **Netherlands**, and one locally.

Red Duck *Aythya fuligula* (93: 6 $\frac{6}{12}$ years)

Area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0 (10)	3	1	-	-	-	2	-	-	1	1	2	-
0 km (26)	6	3	2	1	1	-	-	1	3	4	4	1
0 km (8)	2	-	1	-	1	-	-	-	3	-	1	-
0 km (5)	1	-	-	-	1	-	-	-	1	-	1	1
0 km (23)	6	1	-	-	-	-	-	-	2	2	4	8
0 km (1)	-	-	-	-	-	-	-	-	-	-	1	-
0 km (4)	-	1	-	-	-	-	-	-	1	-	-	2
0 km (1)	1	-	-	-	-	-	-	-	-	-	-	-
0 km (1)	-	1	-	-	-	-	-	-	-	-	-	-
0 km (1)	-	-	-	-	-	-	-	1	-	-	-	-
0 km (1)	-	-	-	-	-	-	-	-	1	-	-	-
0 km (2)	-	-	-	-	-	-	-	-	1	1	-	-
0 km (4)	-	-	-	-	2	-	1	1	-	-	-	-
0 km (2)	-	-	-	1	-	-	-	1	-	-	-	-
0 km (4)	-	-	-	-	2	-	-	1	1	-	-	-

941	1st W. ♂	26.1.63	Newburgh: 57°19'N. 2°01'W. (Aberdeen)
	×	21.8.69	Vindbelgur: 65°37'N. 16°59'W. (Sudur-Thingeyjar) Iceland (3rd)
959	juv. ♂	12.8.68	Loch Leven: 56°12'N. 3°25'W. (Kinross)
	×	25.8.69	Lake Orrevann: 58°46'N. 5°33'E. (Rogaland) Norway (2nd)
128	juv. ♀	24.8.69	Loch Leven
	+	9.11.69	Vendas Novas: 38°41'N. 8°27'W. (Alto Alentejo) Portugal (1st)

Hard *Aythya ferina* (10: 3 $\frac{11}{12}$ years)

1413	juv. ♂	11.2.66	Deeping St James: 52°40'N. 0°17'W. (Lincoln)
	+	0.9.68	'southern part of Magadan Oblast': very approximately 60°00'N. 150°00'E. U.S.S.R. (11th)
1747	f.g. ♀	24.2.67	Deeping St James
	+	30.8.69	Krupki: 54°18'N. 29°08'E. (Minsk) U.S.S.R. (12th)
1810	juv. ♂	9.12.68	Deeping St James
	()	27.5.69	Karpogory: 64°00'N. 44°28'E. (Arkhangel) U.S.S.R. (13th)
1260	ad. ♂	12.8.65	Abberton: 51°49'N. 0°49'E. (Essex)
	/?	0.9.68	Dubrovnoye: 54°48'N. 68°05'E. (Kazakhstan) U.S.S.R. (14th)
3015	ad. ♂	25.11.66	Abberton
	×	25.9.69	Basnaes Nor: 55°13'N. 11°17'E. (Sjaelland) Denmark (3rd)
3300	ad.	8.9.65	Abberton
	+	16.8.69	Hluboká nad Vltavou: 49°04'N. 14°27'E. (České Budějovice) Czechoslovakia (1st)

GM25413 is the most easterly recovery recorded to date for any species by the British Trust for Ornithology ringing scheme. Unpublished recoveries include one in France, one in Ireland and two in Britain.

Eider *Somateria mollissima* (71: 15 $\frac{7}{12}$ years)

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
0-10 km (18)	1	-	2	1	2	6	4	2	-	-	-
11-100 km (36)	2	2	5	6	4	9	3	-	-	4	-
101-250 km (16)	2	2	5	2	1	-	-	1	-	1	-
Denmark (1)	-	-	-	-	-	-	-	-	-	1	-

422144 pull. 9.8.63 Newburgh: 57°19'N. 2°01'W. (Aberdeen)
 + (=♂) 5.10.69 Køge Bugt: 55°30'N. 12°15'E. (Sjælland) Denmark (3rd)

Goosander *Mergus merganser* (1: 1 year)

HW14302 pull. 16.6.68 Holystone: 55°19'N. 2°04'W. (Northumberland)
 × 24.6.69 Lovik: 68°56'N. 15°43'E. (Nordland) Norway (1st)

Shelduck *Tadorna tadorna* (38: 11 $\frac{8}{12}$ years)

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0-10 km (20)	1	2	6	3	-	-	2	3	1	2	-	-
11-100 km (8)	-	2	-	-	-	-	-	-	3	-	2	1
101-250 km (3)	-	1	-	-	-	-	-	-	1	-	1	-
320 km (1)	-	-	-	-	-	-	-	-	-	1	-	-
Ireland (1)	1	-	-	-	-	-	-	-	-	-	-	-
France (1)	-	-	-	-	-	-	-	-	-	-	-	1
Germany (3)	1	-	-	-	-	-	-	1	-	1	-	-
Denmark (1)	-	-	-	-	-	-	-	-	-	-	-	-

AJ86842 pull. ♀ 31.7.63 Newburgh: 57°19'N. 2°01'W. (Aberdeen)
 × 9.1.69 Lough Foyle (Londonderry) 400 km SW
 GM61925 pull. 6.7.69 Sutton Bridge: 52°44'N. 0°10'E. (Lincoln)
 + 22.12.69 Hillion: 48°32'N. 2°40'W. (Côte du Nord) France (10th)

Grey Lag Goose *Anser anser* (33: 15 $\frac{2}{12}$ years)

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0-10 km (8)	1	1	-	1	-	-	-	-	1	-	2	2
11-100 km (9)	3	-	-	-	-	-	-	-	1	-	1	3
101-250 km (4)	2	1	-	-	-	-	-	-	-	-	1	-
340 km (1)	-	-	-	-	-	-	-	-	-	1	-	-
Iceland (11)	-	-	-	2	1	-	-	2	1	3	-	-

White-fronted Goose *Anser albifrons* (4: 11 $\frac{8}{12}$ years)

There were two recoveries in the Netherlands, one in France and one in Germany, none in any way remarkable.

Pink-footed Goose *Anser fabalis brachyrhynchus* (64: 16 $\frac{2}{12}$ years)

1006755 ad. 24.10.58 Greenlaw: 55°43'N. 2°28'W. (Berwick)
 + 8.9.69 Nordhassel: 58°05'N. 6°38'E. (Vest Agder) Norway (5th)

There were eleven recoveries in Iceland between the months of May and August. It is not possible to provide any indication of movement for the 52 recoveries within Great Britain because the places of ringing and of recovery are only expressed imprecisely (e.g. 'the Wash', 'the Solway').

Canada Goose *Branta canadensis* (251: 131 $\frac{7}{2}$ years)

Very area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	?
km (74)	6	2	3	2	1	4	36	1	7	4	6	1	1
o km (65)	1	2	3	2	1	10	13	-	10	6	10	6	1
50 km (22)	-	-	-	-	3	9	5	-	5	-	2	-	-
km (90)	-	-	1	1	-	6	78	-	1	1	1	-	1

long movements were almost all between Yorkshire and the Beaulieu Firth.

White Swan *Cygnus olor* (656: 101 $\frac{5}{2}$ years)

Very area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	?
n													
Distance unknown) (3)	1	-	-	-	-	-	1	-	-	-	-	1	-
km (377)	37	28	51	66	30	16	13	20	21	26	27	35	7
o km (266)	20	37	34	42	25	15	15	16	13	10	14	23	2
o km (6)	1	1	1	-	-	-	1	1	-	1	-	-	-
e (1)	-	-	-	-	-	-	-	-	-	1	-	-	-
erlands (1)	-	-	-	-	1	-	-	-	-	-	-	-	-
any (1)	-	1	-	-	-	-	-	-	-	-	-	-	-
en (1)	-	-	-	-	-	-	-	-	-	-	-	1	-

904 f.g. 31.7.65 Mistley: 51°57'N. 1°05'E. (Essex)
 x (12.5.69) Bleskensgraaf: 51°53'N. 4°45'E. (Zuid Holland) Netherlands (4th)



FIG. 1. All 15 foreign recoveries of British-ringed Mute Swans *Cygnus olor*. Recovery localities were ringed in the abnormally cold winter of 1962/63 are marked by solid circles and the other by solid triangles. No Mute Swan ringed outside the hatched area has ever been recovered abroad.

Z4247	f.g. v(=♀)	23.2.63 27.12.69	East Malling: 51°18'N, 0°26'E. (Kent) Falsterbokanalen: 55°24'N, 12°56'E. (Malmöhus) Sweden (2nd)
Z17699	ad. ×	2.3.67 27.10.69	Winchester: 51°04'N, 1°19'W. (Hampshire) Olivet: 47°52'N, 1°54'E. (Loiret) France (5th)
Z11155	f.g. ×	15.2.63 21.2.69	Shoreham: 50°49'N, 0°16'W. (Sussex) Schaprode: 54°31'N, 13°10'E. (Rostock) Germany (4th)

Sparrowhawk *Accipiter nisus* (15: 3 $\frac{3}{12}$ years)

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	D
0-10 km (6)	2	-	1	-	-	-	1	-	2	-	-	
11-100 km (7)	1	1	-	-	1	-	-	1	2	1	-	
130 km (1)	-	-	-	-	-	-	-	-	-	-	1	
Netherlands (1)	-	-	-	-	-	-	-	-	-	-	1	

ED57487	ad. ♀ ×	22.4.69 (3.11.69)	Fair Isle: 59°32'N, 1°37'W. (Shetland) Zwagerveen: 53°16'N, 6°07'E. (Friesland) Netherlands (2nd)
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This is the first foreign recovery of a Sparrowhawk since 1957.

Hen Harrier *Circus cyaneus* (11: 250 km: 5 $\frac{10}{12}$ years)

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	D
0-10 km (3)	1	-	-	-	1	-	-	-	1	-	-	
11-100 km (3)	1	-	-	1	-	-	-	-	1	-	-	
101-250 km (1)	-	-	1	-	-	-	-	-	-	-	-	
250+ km (1)	-	-	-	1	-	-	-	-	-	-	-	
Netherlands (2)	-	-	-	-	2	-	-	-	-	-	-	
Denmark (1)	-	-	1	-	-	-	-	-	-	-	-	

SS90906	pull. ♀ ×	11.7.68 21.5.69	Evie: 59°07'N, 3°06'W. (Orkney) Sluis: 51°18'N, 3°23'E. (Zeeland) Netherlands (1st)
SS20088	pull. ♂ × A	7.7.68 (21.4.69)	Rendall: 59°05'N, 3°10'W. Pomona (Orkney) Dilham, North Walsham (Norfolk) 775 km SSE
SS90916	pull. ♂ ×	16.7.68 21.3.69	Firth: 59°01'N, 3°04'W. Pomona (Orkney) Give: 55°50'N, 9°15'E. (Jylland) Denmark (1st)
3090475	pull. ×	8.7.63 8.5.69	Holm: 58°55'N, 2°52'W. Pomona (Orkney) Zandvoort: 52°19'N, 4°32'E. (Zuid Holland) Netherlands (2nd)

Kestrel *Falco tinnunculus* (85: 8 $\frac{7}{12}$ years)

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	D
0-10 km (18)	1	1	1	2	-	3	1	2	3	2	1	1
11-100 km (41)	3	5	3	3	1	1	2	8	4	5	3	3
101-250 km (13)	-	2	1	1	-	1	1	-	3	1	1	2
250+ km (6)	1	1	1	-	-	-	-	-	1	1	1	-
Ireland (2)	-	1	-	1	-	-	-	-	-	-	-	-
France (5)	-	1	-	-	-	-	-	-	-	3	1	-

SS31789	pull. ×	18.6.65 c. 30.4.69	Golborne: 53°29'N, 2°36'W. (Lancashire) The Maze, Hillsborough (Down) 245 km WNW
SS06015	pull. ×	3.6.68 mid 2.69	Osterley: 51°29'N, 0°21'W. (Middlesex) Palmerstown (Dublin) 440 km WNW

There have been very few records of movements by Kestrels from Britain & Ireland. All foreign recoveries are shown on map 2 opposite.



MAP 2. All 61 foreign recoveries of British-ringed Kestrels *Falco tinnunculus*

when *Gallinula chloropus* (39: 8½ years)

area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
(29)	-	5	3	7	3	-	-	1	4	1	2	3
m (4)	-	-	-	3	-	-	-	-	-	-	-	1
(1)	-	-	-	-	1	-	-	-	-	-	-	-
(1)	-	-	-	1	-	-	-	-	-	-	-	-
y (1)	-	-	-	-	-	-	1	-	-	-	-	-
k (3)	-	-	1	-	2	-	-	-	-	-	-	-

SS84331	ad.	2.5.69	Fair Isle: 59°32'N. 1°37'W. (Sherland)
	×	28.5.69	Klitmøller: 57°02'N. 8°31'E. (Jylland) Denmark (6th)
SS61741	1st W.	18.10.67	Peakirk: 52°39'N. 0°13'W. (Northampton)
	×	29.3.69	Forlev: 55°23'N. 11°17'E. (Sjælland) Denmark (7th)
AJ93454	ad.	10.1.67	Dover: 51°08'N. 1°19'E. (Kent)
	×	8.5.69	Bajlum: 56°42'N. 8°56'E. (Jylland) Denmark (8th)
SS50361	ad.	15.2.69	Fordingbridge: 50°56'N. 1°48'W. (Hampshire)
	×	22.4.69	Ramskappelle: 51°19'N. 3°15'E. (West Vlaanderen) Belgium (1st)
SS86440	ad.	15.10.68	Poole Harbour: 50°42'N. 2°00'W. (Dorset)
	×	3.7.69	Jeddeloh: c. 53°05'N. 8°00'E. (Niedersachsen) Germany (2nd)

Coot *Fulica atra* (26: 9 $\frac{1}{2}$ years)

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0-10 km (9)	-	1	1	2	2	2	-	-	-	1	-	-
11-100 km (10)	1	3	1	1	-	-	1	-	-	-	2	-
101-250 km (3)	1	1	-	-	-	-	-	-	-	-	-	-
France (2)	-	1	-	-	-	-	-	-	-	-	-	-
Denmark (1)	-	-	-	-	-	-	-	-	-	-	1	-
Finland (1)	-	-	-	-	1	-	-	-	-	-	-	-

AJ48688	ad.	7.3.63	Loch of Strathbeg: 57°37'N. 1°53'W. (Aberdeen)
	×	c.3.5.69	Vehmaa: 60°41'N. 21°40'E. (Turku ja Pori) Finland (1st)

Oystercatcher *Haematopus ostralegus* (209: 20 $\frac{4}{12}$ years)

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0-10 km (64)	5	10	5	2	3	7	3	6	9	6	7	1
11-100 km (64)	8	3	5	1	2	1	4	22	8	1	8	1
101-250 km (5)	1	-	1	1	1	-	-	-	-	-	1	-
250+ km (41)	2	3	4	5	2	8	3	4	6	2	2	-
Spain (2)	-	1	-	-	-	-	-	-	-	-	1	-
France (6)	-	-	-	-	-	-	-	3	1	-	1	1
Netherlands (2)	-	-	-	-	-	1	-	-	-	-	1	-
Iceland (2)	-	-	-	-	-	1	1	-	-	-	-	-
Faeroe Islands (2)	-	-	-	-	1	-	1	-	-	-	-	-
Norway (20)	-	-	-	3	3	5	6	2	-	-	-	-
U.S.S.R. (1)	-	-	-	-	-	-	-	1	-	-	-	-

SS75523	f.g.	22.10.67	Heacham: 52°55'N. 0°30'E. (Norfolk)
	×	30.8.69	Verkhnyaya Toyra: 62°14'N. 45°00'E. (Arkhangel) U.S.S.R. (1st)

SS06658	pull.	31.5.63	Skokholm: 51°42'N. 5°16'W. (Pembroke)
	+	15.2.69	Ria de Arosa: c. 42°30'N. 8°55'W. (Pontevedra) Spain (13)

SS48178	pull.	13.6.69	Skokholm
	+	1.11.69	Sanlúcar: 36°46'N. 6°21'W. (Cádiz) Spain (14th)

Lapwing *Vanellus vanellus* (39: 4 $\frac{11}{12}$ years)

278386	pull.	31.5.67	Bleasdale: 53°55'N. 2°40'W. (Lancashire)
	+	14.12.69	Tzelatza: c. 35°27'N. 5°40'W. Morocco (12th)
DS09619	juv.	9.9.68	Abberton: 51°49'N. 0°49'E. (Essex)
	×	25.6.69	Ryazan: 54°38'N. 39°45'E. U.S.S.R. (12th)
DS08209	1st W.	14.8.66	Kemsley Marsh: 51°23'N. 0°43'E. Sittingbourne (Kent)
	×	30.4.69	Lazisk: 52°06'N. 18°00'E. (Poznan) Poland (2nd)
DS56163	f.g.	21.2.69	Brownsea Island: 50°42'N. 1°58'W. (Dorset)
	/?/	(4.9.69)	Volozhin: 54°05'N. 26°32'E. (Minsk) U.S.S.R. (13th)

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0 km (16)	-	-	-	2	2	7	4	1	-	-	-	-
100 km (3)	1	-	-	-	-	-	-	1	-	1	-	-
land (4)	-	1	-	-	-	-	-	-	-	-	1	2
in (2)	2	-	-	-	-	-	-	-	-	-	-	-
rocco (1)	-	-	-	-	-	-	-	-	-	-	-	1
nce (8)	-	1	-	-	1	-	-	-	-	-	-	6
herlands (1)	-	-	1	-	-	-	-	-	-	-	-	-
mark (1)	-	-	-	1	-	-	-	-	-	-	-	-
and (1)	-	-	-	1	-	-	-	-	-	-	-	-
S.R. (2)	-	-	-	-	-	1	-	-	1	-	-	-

Ringed Plover *Charadrius hiaticula* (8: 250 km: 8 $\frac{2}{12}$ years)

67775	juv. +	7.9.67 (6.9.69)	Point of Air: 53°21'N, 3°19'W. (Flint) Barrinha: 40°57'N, 8°38'W. (Douro Litoral) Portugal (1st)
67349	juv. +	7.9.69 (17.10.69)	Sutton Bridge: 52°44'N, 0°10'E. (Lincoln) Valdoviño: 43°36'N, 8°08'W. (Coruña) Spain (5th)
46214	pull. ×	26.7.69 25.9.69	Bainton: 52°38'N, 0°23'W. (Northampton) Étang de Lacanau: 44°58'N, 1°07'W. (Gironde) France
1159	juv. ×	1.9.62 23.8.67	Stoke: 51°27'N, 0°38'E. (Kent) Kópavogur: 63°07'N, 21°54'W. (Gullbringusýsla) Iceland (1st)
116S	1st W. ×	16.10.62 13.5.69	Dawlish Warren: 50°35'N, 3°28'W. (Devon) near Blokhus: 57°19'N, 9°38'E. (Jylland) Denmark (2nd)

Key Plover *Pluvialis squatarola* (6: 120 km: 5 $\frac{5}{12}$ years)

28248	ad. ×	23.11.68 (18.12.69)	Heacham: 52°55'N, 0°30'E. (Norfolk) Anneville: 49°07'N, 1°35'W. (Manche) France (4th)
74369	ad. +	21.11.68 1.12.68	Snettisham: 52°53'N, 0°30'E. (Norfolk) Les Veys: 49°19'N, 1°09'W. (Manche) France (5th)

Golden Plover *Pluvialis apricaria* (5: 10 km: 7 $\frac{3}{12}$ years)

11065	f.g. +	11.11.61 15.2.69	Harty: 51°22'N, 0°55'E. (Kent) Le Mesnil-Vigot: 49°08'N, 1°17'W. (Manche) France (3rd)
30948	ad. +	23.9.67 16.2.69	Harty Luanco: 43°39'N, 5°50'W. (Oviedo) Spain (3rd)

Greenstone *Arenaria interpres* (13: 15 km: 6 years)

25-15	f.g. ×	Aug/Sep 63 18.6.69	The Wash: c. 52°50'N, 0°14'E. Hylkiriutta: 61°39'N, 21°20'E. (Turku ja Pori) Finland (1st)
32080	juv. ×	23.8.66 15.5.69	Gibraltar Point: 53°06'N, 0°21'E. (Lincoln) Rihtniemi: 61°03'N, 21°19'E. (Turku ja Pori) Finland (2nd)
11549	ad. +	9.3.69 (13.8.69)	Snettisham: 52°53'N, 0°30'E. (Norfolk) Wimereux: 50°46'N, 1°37'E. (Pas de Calais) France (3rd)

25-15 first-mentioned ring was partly illegible, but it proved possible to narrow recovery to one of two birds, both ringed at localities on the Wash, in August and September respectively.

Snipe *Gallinago gallinago* (46: 8 years)

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0-10 km (16)	6	-	-	1	-	-	-	-	3	2	2	2
11-100 km (8)	1	2	-	-	-	-	-	-	1	-	2	2
101-250 km (2)	-	-	-	-	-	-	-	-	1	-	-	1
250+ km (2)	-	1	-	-	-	-	1	-	-	-	-	-
Ireland (2)	-	-	-	-	-	-	-	-	-	-	1	1
Spain (2)	2	-	-	-	-	-	-	-	-	-	-	-
France (8)	4	2	-	-	-	-	-	-	-	-	2	-
Germany (1)	-	-	-	-	-	-	-	-	1	-	-	-
Denmark (3)	-	-	-	-	-	-	-	-	2	-	1	-
Finland (1)	-	-	-	1	-	-	-	-	-	-	-	-
Baltic States (1)	-	-	-	-	-	-	-	1	-	-	-	-

Jack Snipe *Lymnocyptes minimus* (2: 2 $\frac{1}{2}$ years)

<i>CV92237</i>	f.g.	14.1.67	Hornsea: 53°55'N. 0°10'W. (York)
	+	26.12.69	Keele (Stafford) 170 km SW
<i>CR48911</i>	f.g.	21.12.68	Killamarsh: 53°19'N. 1°19'W. (Derby)
	+	18.10.69	Kurskogo Bay: c. 55°00'N. 21°00'E. (Kaliningrad) U.S.S.R. (1st)

Curlew *Numenius arquata* (36: 10 $\frac{7}{12}$ years)

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0-10 km (23)	2	-	1	2	-	-	1	1	3	4	6	3
11-100 km (4)	-	-	-	1	-	-	-	-	1	1	-	1
Ireland (3)	1	-	-	-	-	-	1	1	-	-	-	-
France (2)	-	-	-	-	-	-	1	-	-	-	-	1
Netherlands (1)	-	1	-	-	-	-	-	-	-	-	-	-
Denmark (1)	-	-	-	-	-	-	-	1	-	-	-	-
Sweden (1)	-	-	-	-	-	-	1	-	-	-	-	-
Finland (1)	-	-	-	-	1	-	-	-	-	-	-	-

Green Sandpiper *Tringa ochropus* (2: 60 km: 3 $\frac{4}{12}$ years)

<i>CK32918</i>	ad.	14.8.67	Fair Isle: 59°32'N. 1°37'W. (Shetland)
	!/?	23.12.67	Venansault: 46°41'N. 1°31'W. (Vendée) France (4th)

Common Sandpiper *Tringa hypoleucos* (4: 10 km: 5 years)

<i>BA07930</i>	ad.	23.8.64	Abberton: 51°49'N. 0°49'E. (Essex)
	+	16.5.69	Ekse: 60°50'N. 6°15'E. (Hordaland) Norway (5th)
<i>BA89828</i>	ad.	12.8.66	Abberton
	×	6.7.69	Vilhelmina: 64°38'N. 16°40'E. (Västerbotten) Sweden (3rd)
<i>BC63682</i>	f.g.	7.8.66	Frampton on Severn: 51°46'N. 2°22'W. (Gloucester)
	×	28.7.69	Hyllestad: 61°10'N. 5°18'E. (Sogn og Fjordane) Norway (6th)

Redshank *Tringa totanus* (36: 7 $\frac{8}{12}$ years)

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0-10 km (15)	-	1	6	1	-	1	-	-	2	2	1	1
11-100 km (4)	1	1	-	-	-	-	-	-	-	-	1	1
101-250 km (2)	1	-	-	-	-	-	-	-	-	-	-	1
250+ km (2)	-	-	-	-	1	-	-	-	-	-	-	1
Sénégal (1)	-	-	-	-	-	-	-	-	-	-	-	1
France (7)	-	1	1	-	-	-	-	2	1	-	2	-
Iceland (5)	-	-	-	1	1	2	1	-	-	-	-	-

<i>DS78608</i>	f.g.	16.8.68	Harty: 51°22'N. 0°55'E. Sheppey (Kent)
	+	14.12.69	Gandiol: 15°53'N. 16°30'W. Sénégal (1st)

Redshank *Tringa erythropus* (1: 1½ year)

1960	f.g.	24.8.69	Cantley: 52°34'N. 1°32'E. (Norfolk)
	+	4.10.69	Étang de la Brenne: 46°45'N. 1°15'E. (Indre) France (2nd)

Redshank *Tringa nebularia* (3: 3½ years)

1926	juv.	17.8.65	Sutton Bridge: 52°44'N. 0°11'E. (Lincoln)
	+	(4.8.69)	Grand Couronne: 49°21'N. 1°01'E. (Seine Maritime) France (3rd)
1840	f.g.	21.7.67	Farlington: 50°50'N. 1°02'E. (Hampshire)
	+	8.8.69	Baie de Somme: 50°13'N. 1°38'E. (Somme) France (4th)
1938	ad.	17.9.67	Farlington
	+	15.8.68	Bures: 49°12'N. 0°10'W., Troarn (Calvados) France (5th)

Redshank *Calidris canutus* (53: 9 years)

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	?
1930 (5)	1	-	-	2	-	-	-	-	1	-	-	1	-
1930 km (36)	2	1	2	3	4	2	-	3	14	2	1	2	-
1930 km (6)	2	-	-	1	-	-	-	1	2	-	-	-	-
1930 (1)	-	-	-	-	-	-	-	-	-	-	-	1	-
1930 (3)	-	1	-	-	-	-	-	-	2	-	-	-	-
1930 und (1)	-	-	-	-	-	-	-	-	-	-	-	-	1
1930 (1)	-	-	-	-	-	-	1	-	-	-	-	-	-

1930	ad.	27.8.68	North Wootton: 52°47'N. 0°26'E. (Norfolk)
	v	19.7.69	Ujście Wisły: 54°21'N. 18°57'E. (Gdańsk) Poland (2nd)

Redshank *Calidris alpina* (76: 8½ years)

Recoveries in 1969 and overseas recoveries in 1968 and 1969 are consolidated in a single table.

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	?
1930 (13)	-	2	2	-	1	-	-	3	-	-	1	4	-
1930 km (11)	1	-	-	1	2	-	-	3	1	-	1	2	-
1930 km (8)	-	1	-	-	-	-	-	5	1	1	-	-	-
1930 km (4)	-	-	-	-	-	-	-	2	1	-	-	1	-
1930 (1)	-	-	-	-	-	-	-	1	-	-	-	-	-
1930 (1)	-	-	-	1	-	-	-	-	-	-	-	-	-
1930 (2)	-	-	-	-	1	-	-	-	-	-	-	1	-
1930 il (1)	-	-	-	-	-	-	-	1	-	-	-	-	-
1930 (21)	2	-	6	-	-	-	2	1	1	2	2	5	-
1930 sands (6)	-	-	1	2	-	-	-	1	1	1	-	-	-
1930 rk (5)	-	-	-	-	-	-	3	-	1	1	-	-	-
1930 und (1)	-	-	-	-	-	-	1	-	-	-	-	-	-
1930 (14)	-	-	-	-	-	-	13	-	1	-	-	-	-
1930 (5)	-	-	-	-	2	-	3	-	-	-	-	-	-
1930 (4)	-	-	-	-	-	-	4	-	-	-	-	-	-
1930 l. (2)	-	-	-	-	1	-	-	-	-	-	-	-	1

204	ad.	15.5.69	Point of Air: 53°21'N. 3°19'W. (Flint)
	+	16.7.69	Danmarkshavn: 76°45'N. 18°45'W. Greenland (1st)

Redshank *Calidris alba* (17: 2½ years)

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1930 (5)	-	-	-	-	2	-	-	2	1	-	-	-
1930 km (2)	-	-	-	1	-	-	-	-	-	-	-	1
1930 km (6)	-	-	-	-	4	-	1	1	-	-	-	-
1930 (1)	-	-	-	-	-	-	-	1	-	-	-	-
1930 (3)	-	1	-	-	-	-	-	1	-	-	1	-

BE65007	ad. ()	6.8.67 16.8.69	Hoyleake: 53°53'N. 3°11'W. (Cheshire) Zenata: 33°41'N. 7°27'W. Morocco (1st)
CP66086	f.g. +	15.5.69 (29.8.69)	Hoyleake Brignogan: 48°40'N. 4°20'W. (Finistère) France (2nd)
BE68128	juv. +	26.8.68 16.2.69	Point of Air: 53°21'N. 3°19'W. (Flint) estuary of R. Moulouya: 35°06'N. 2°22'W. Morocco (2nd)
BB44124	ad. !/?	18.5.69 23.11.69	Snettisham: 52°53'N. 0°30'E. (Norfolk) Moulay-Abdallah: 33°13'N. 8°37'W. Morocco (3rd)

Ruff *Philomachus pugnax* (3: 10 km: 1 $\frac{0}{12}$ years)

DS24972	f.g. ♂ ×	4.8.67 23.6.69	Sutton Bridge: 52°44'N. 0°11'E. (Lincoln) Ustka: 54°35'N. 16°50'E. (Koszalin) Poland (1st)
DS40011	ad. ♂ +	19.8.67 (25.2.69)	Sutton Bridge Lodi: 45°19'N. 9°30'E. (Milano) Italy (8th)

Arctic Skua *Stercorarius parasiticus* (1: 2 years)

AT80037	pull. +	7.7.61 17.7.63	Foula: 60°08'N. 2°05'W. (Shetland) Qutdligssat: 70°00'N. 53°00'W. Greenland (3rd)
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Great Skua *Stercorarius skua* (46: 8 $\frac{1}{2}$ years)

British recoveries in 1969 and overseas recoveries in 1967, 1968 and 1969 consolidated in a single table.

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0-10 km (1)	-	-	-	-	-	-	-	1	-	-	-	-
11-100 km (8)	-	-	-	-	2	2	1	1	-	2	-	-
251-980 km (6)	-	-	-	-	-	1	-	4	-	-	-	-
Ireland (2)	-	-	-	-	-	-	-	1	-	1	-	-
Morocco (1)	-	-	-	-	-	-	-	-	1	-	-	-
Spain (3)	-	-	-	-	-	-	-	-	2	-	-	1
Portugal (9)	2	1	1	1	-	-	-	-	-	1	-	-
Biscay (2)	-	-	-	-	1	-	-	-	-	1	-	-
France (19)	4	-	4	-	1	-	-	-	1	1	7	-
Belgium (1)	-	-	-	-	-	-	-	-	-	-	-	1
Netherlands (5)	-	-	-	-	-	-	-	-	1	2	1	-
Germany (3)	-	-	1	-	-	-	-	-	-	2	-	-
Denmark (7)	-	-	-	-	-	-	-	1	-	2	4	-
North Sea (2)	-	-	-	-	-	1	-	-	-	-	-	-
Faeroe Islands (1)	-	-	-	-	-	1	-	-	-	-	-	-
Norway (4)	-	-	-	-	-	1	-	-	-	3	-	-

HW22559	pull. v	6.7.69 (10.9.69)	Noss: 60°08'N. 1°01'W. (Shetland) Tan Tan la Plage: c. 28°10'N. 12°00'W. Morocco (1st)
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HW16367	pull. ×	5.7.69 7.9.69	Foula: 60°08'N. 2°05'W. (Shetland) Tilbury (Essex) 980 km SSE
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HW19263	pull. ×	9.7.69 29.10.69	Foula Bertnes: 67°17'N. 14°36'E. (Nordland) Norway (6th)
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Great Black-backed Gull *Larus marinus* (45: 10 $\frac{10}{12}$ years)

419381	pull. +	20.7.65 17.3.69	Fair Isle: 59°32'N. 1°37'W. (Shetland) Hvitanes: 62°03'N. 6°46'W. (Stremoy) Faeroe Islands (1st)
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419967	ad. +	6.11.66 0.8.67	Fair Isle Fáskrúdsfjörður: 64°56'N. 14°01'W. (Sudur-Múlasýsla) Iceland (1st)
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ery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
cm (11)	-	-	-	1	3	1	2	1	2	-	-	1
o km (21)	3	-	2	2	2	-	7	1	-	2	1	1
50 km (4)	1	-	-	-	-	1	-	-	-	1	-	1
km (5)	2	1	-	-	-	-	1	-	-	-	-	1
Islands (1)	-	-	1	-	-	-	-	-	-	-	-	-
d (1)	-	-	-	-	-	-	-	1	-	-	-	-
ay (2)	-	-	-	1	-	-	1	-	-	-	-	-

ser Black-backed Gull *Larus fuscus* (164: $91\frac{2}{3}$ years)

ish recoveries in 1969 and overseas recoveries in 1967, 1968 and 1969 are consolidated in a single table.

ery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	?
m (29)	-	-	1	1	3	4	2	8	5	1	-	-	4
km (49)	-	2	-	6	6	5	5	10	6	4	4	-	1
o km (21)	-	1	2	1	3	1	3	-	4	4	-	-	2
km (7)	-	-	1	-	1	-	-	-	2	2	1	-	-
el Islands (1)	-	-	-	-	-	1	-	-	-	-	-	-	-
: (24)	2	2	-	3	-	1	4	4	2	1	4	-	1
(1)	-	-	-	1	-	-	-	-	-	-	-	-	-
(60)	5	9	4	6	-	-	1	4	11	8	8	4	-
al (71)	8	3	2	3	-	3	1	7	15	7	13	8	1
co (18)	4	1	1	2	2	-	-	1	-	3	3	1	-
h West Africa (4)	-	2	-	-	-	-	-	-	-	-	1	1	-
ania (2)	-	-	1	-	1	-	-	-	-	-	-	-	-
t)	-	-	-	-	-	-	-	-	-	-	-	1	-

1973 pull. () 20.7.69 Roeburndale: 54°03'N. 2°35'W. (Lancashire)
2.12.69 River Niger, Mali (2nd)

recovery locality of this bird was said to be '750 km east of Gao', but this is proved to be incorrect.

ring Gull *Larus argentatus* (319: $12\frac{5}{12}$ years)

ery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	?
n (63)	2	1	2	3	4	9	14	16	5	1	2	2	2
km (162)	9	9	12	21	18	4	15	36	10	11	8	7	2
o km (69)	8	5	1	5	9	5	5	8	6	9	6	1	1
cm (20)	3	1	2	3	1	-	1	2	1	4	1	1	-
lands (2)	-	-	-	-	2	-	-	-	-	-	-	-	-
ay (2)	-	-	-	1	-	-	-	-	-	-	1	-	-
y (1)	-	-	1	-	-	-	-	-	-	-	-	-	-

There have been no previous recoveries of Herring Gulls in Germany.

imon Gull *Larus camus* (25: $7\frac{7}{12}$ years)

ery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
l (6)	1	-	-	-	-	-	2	3	-	-	-	-
km (7)	-	1	3	-	-	-	2	1	-	-	-	-
km (5)	-	1	-	-	-	-	-	1	-	1	-	2
(1)	1	-	-	-	-	-	-	-	-	-	-	-
'k (2)	-	-	-	-	-	-	-	2	-	-	-	-
' (3)	-	-	-	-	-	-	3	-	-	-	-	-
' (1)	-	-	-	-	-	-	-	-	-	1	-	-

73 ad. + 21.1.67 Rainham: 51°31'N. 0°12'E. (Essex)
5.10.69 Volot: 57°56'N. 30°41'E. (Novgorod) U.S.S.R. (1st)

Black-headed Gull *Larus ridibundus* (247: 15 $\frac{4}{12}$ years)

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0-10 km (75)	1	2	4	4	10	5	21	10	7	4	3	3
11-100 km (85)	4	12	5	3	6	9	6	19	8	3	5	5
101-250 km (35)	1	8	4	2	2	1	3	4	2	2	2	4
250+ km (14)	5	2	1	1	-	-	3	-	-	2	-	-
Morocco (1)	-	-	-	-	-	-	-	-	-	-	-	-
Spain (1)	-	-	-	-	-	-	-	-	-	-	-	-
France (2)	-	1	-	-	-	-	-	-	-	-	-	1
Belgium (1)	-	-	-	-	-	-	-	-	-	-	-	1
Netherlands (5)	-	1	-	1	2	-	-	1	-	-	-	-
Germany (4)	-	-	-	-	2	-	-	-	1	-	1	-
Czechoslovakia (1)	-	-	-	-	-	-	-	-	1	-	-	-
Denmark (9)	-	-	1	-	-	-	4	-	-	2	1	1
Sweden (4)	-	-	-	-	1	2	1	-	-	-	-	-
Finland (9)	-	-	-	3	1	3	1	-	-	-	-	-
U.S.S.R. (1)	-	-	-	-	-	1	-	-	-	-	-	-

EC89769 1stW. 1.11.65 Deeping St James: 52°40'N. 0°17'W. (Lincoln)
 × 30.9.69 Tábor: 49°25'N. 14°40'E. (České Budějovice) Czechoslovak (9th)

EC92643 1stW. 17.11.66 Deeping St James
 () 24.6.69 Leningrad: 59°55'N. 30°25'E. U.S.S.R. (1st)

It is interesting to note that, although over 200 Black-headed Gulls ringed the Baltic States have been recovered in Britain and Ireland, we know of 1 recovery of one ringed in Russia.

Kittiwake *Rissa tridactyla* (42: 10 $\frac{10}{12}$ years)

Recoveries in home waters in 1969 and overseas recoveries in 1968 and 1969 are consolidated in a single table.

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0-10 km (6)	-	-	1	-	3	1	-	1	-	-	-	-
11-100 km (9)	-	-	1	1	2	1	1	1	-	-	-	-
101-250 km (3)	-	-	-	-	-	1	-	2	-	-	-	-
250+ km (7)	2	1	1	-	3	-	-	-	-	-	-	-
Italy (1)	-	-	-	-	-	-	-	-	-	-	1	-
Biscay (2)	-	-	-	-	-	-	-	-	-	-	2	-
France (4)	-	-	1	-	-	-	-	-	-	1	1	1
Belgium (2)	1	-	-	-	-	-	-	1	-	-	-	-
Netherlands (4)	1	-	-	-	1	-	-	1	1	-	-	-
Germany (2)	-	-	-	-	-	-	-	-	-	-	1	1
Denmark (1)	-	-	-	-	-	-	-	-	-	1	-	-
U.S.S.R. (1)	-	-	-	-	-	-	1	-	-	-	-	-
North Sea (2)	-	-	-	-	-	1	-	1	-	-	-	-
Faeroe Islands (1)	-	1	-	-	-	-	-	-	-	-	-	-
Greenland (7)	1	-	-	-	1	-	1	-	3	-	-	-
Labrador (1)	-	-	-	-	-	-	1	-	-	-	-	-
Newfoundland (5)	1	-	1	-	-	-	-	1	-	-	2	-

ED92971 pull. 4.7.69 Bullers of Buchan: 57°25'N. 1°50'W. (Aberdeen)
 + 0.11.69 Gragnano-Trebbiense: 45°01'N. 9°36'E. (Piacenza) Italy (2nd)

EC51245 pull. 17.7.66 Bass Rock: 56°04'N. 2°38'W. (East Lothian)
 () 4.7.69 Seven Islands: 68°49'N. 37°20'E. (Murmansk) U.S.S.R. (2nd)

ED36506 pull. 10.7.67 Farne Islands: 55°37'N. 1°37'W. (Northumberland)
 + 7.7.68 off Forteau Bay: 51°28'N. 56°59'W. Labrador (2nd)

Sandwich Tern *Sterna sandvicensis* (145: $7\frac{1}{2}$ years)

British recoveries in 1969 and overseas recoveries in 1968 and 1969 are consolidated in a single table.

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	?
0-10 km (6)	-	-	-	-	1	1	-	3	-	-	-	-	1
11-100 km (9)	-	-	-	-	-	-	8	-	1	-	-	-	-
101-250 km (11)	-	-	-	-	-	2	1	6	2	-	-	-	-
250+ km (4)	-	-	-	-	1	1	1	-	1	-	-	-	-
Germany (7)	-	1	1	-	-	-	-	-	1	1	-	1	2
Netherlands (2)	-	-	-	-	-	-	1	1	-	-	-	-	-
France (18)	-	-	1	1	-	-	4	2	6	2	1	1	-
Spain (5)	-	-	-	-	-	-	-	1	2	-	-	2	-
Portugal (8)	-	-	-	-	-	-	1	-	5	1	-	-	1
Italy (3)	-	-	-	-	-	-	1	1	1	-	-	-	-
Morocco (4)	-	-	1	-	-	-	-	-	1	-	2	-	-
Spanish West Africa (2)	-	-	-	-	-	-	-	-	-	-	1	1	-
Mauritania (2)	-	-	-	-	-	1	-	-	-	-	1	-	-
Sénégal (25)	3	-	1	2	2	-	-	-	3	7	2	4	1
Guinea (3)	-	-	1	-	-	-	-	-	-	2	-	-	-
Sierra Leone (34)	7	3	3	1	2	-	-	-	2	10	3	3	-
Liberia (9)	5	-	1	1	-	-	-	-	-	1	1	-	-
Ivory Coast (37)	5	8	5	3	5	2	-	-	1	1	3	3	1
Ghana (57)	15	6	4	2	2	2	-	-	3	4	7	12	-
Dahomey (2)	-	1	-	-	1	-	-	-	-	-	-	-	-
Nigeria (3)	2	-	-	-	1	-	-	-	-	-	-	-	-
Gabon (1)	-	-	-	-	-	-	-	-	-	-	-	-	1
Congo (1)	-	-	1	-	-	-	-	-	-	-	-	-	-
Angola (3)	-	-	-	-	-	1	-	1	-	-	-	1	-
South Africa (3)	1	-	-	-	-	-	-	-	-	1	-	1	-

Razorbill *Alca torda* (59: $9\frac{1}{2}$ years)

Recoveries in home waters in 1969 and overseas recoveries in 1967, 1968 and 1969 are consolidated in a single table.

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	?
0-10 km (3)	-	-	-	-	-	1	1	1	-	-	-	-	-
11-100 km (6)	1	2	1	-	-	1	-	-	1	-	-	-	-
101-250 km (10)	-	2	-	-	-	-	1	-	6	-	1	-	-
250+ km (16)	-	3	2	-	1	1	-	2	2	2	-	2	1
Faeroe Islands (3)	-	-	-	-	2	1	-	-	-	-	-	-	-
Norway (5)	-	-	-	-	-	1	-	-	1	3	-	-	-
Germany (2)	1	-	1	-	-	-	-	-	-	-	-	-	-
Netherlands (10)	3	4	-	1	-	-	1	-	-	-	-	1	-
Belgium (3)	1	-	-	1	-	-	1	-	-	-	-	-	-
France (23)	2	4	3	4	-	1	-	-	2	2	3	2	-
Channel Islands (1)	1	-	-	-	-	-	-	-	-	-	-	-	-
Biscay (1)	-	-	-	-	-	-	-	-	-	1	-	-	-
Spain (13)	2	3	2	-	1	-	1	-	-	-	2	2	-
Portugal (1)	-	-	-	-	-	-	-	-	-	-	1	-	-
Morocco (1)	-	-	-	-	1	-	-	-	-	-	-	-	-

SS72015	pull.	5.7.67	Tonga: 60°49'N. 0°56'W. Unst (Shetland)
	+	20.5.69	Tangafjordhur: 62°05'N. 6°47'W. Faeroe Islands (2nd)
SS68690	pull.	22.6.68	Fair Isle: 59°32'N. 1°37'W. (Shetland)
	()	28.5.69	off Agadir: c. 30°30'N. 9°40'W. Morocco (1st)
SS09955	pull.	21.7.66	Foula: 60°08'N. 2°05'W. (Shetland)
	+	20.5.69	Haraldsund: 62°16'N. 6°36'W. (Bordoy) Faeroe Islands (3rd)
SS50660	ad.	10.7.66	Fair Isle
	+	23.6.69	Sorvaag Fjord: 62°05'N. 7°23'W. (Vagar) Faeroe Islands (4th)



PLATE 21. Robin *Eritbacus rubecula* posturing, with throat feathers erected, at a stuffed one above out of the picture, Surrey, February 1971 (Frank I. Blackburn) (pages 187-189)



PLATE 22. Upper, Curlew *Numenius arquata* in song flight, Sutherland, June 1968 (Stephen Dalton). Lower, Greenshank *Tringa nebularia* incubating by dead stump and walking across its moorland territory, Sutherland, June 1968 (Andrew M. Anderson)

PLATE 23. Sand Martin *Riparia riparia* and young, Norfolk, July 1970 (H. A. Hems)





PLATE 24. Above, Pectoral Sandpiper *Calidris melanotos*, Isles of Scilly, October 1970, one of many American waders during that autumn (Keith Atkin). Below, winter Grey Plover *Pluvialis squatarola*, Cornwall, November 1969 (J. B. and S. Bottomley)





PLATE 25. Above, Red-throated Diver *Gavia stellata* swimming on its breeding loch with two small young, Outer Hebrides, June 1969 (D. A. P. Cooke). Below, Wood-pigeon *Columba palumbus* drinking, Worcestershire, August 1970 (R. J. C. Blewitt)





PLATE 26. Upper, female Peregrine *Falco peregrinus* on favourite perch near eyrie, Dorsetshire, May 1970 (William S. Paton). Lower, female Kestrel *Falco tinnunculus* at nest with four eggs on the ground among heather, Orkney, May 1969 (Arthur Gilpin)

PLATE 27. Male Willow Tit *Parus montanus* bringing food to female at entrance to typical nest hole excavated in dead birch stump, Surrey, May 1968 (R. K. Murton)





PLATE 28. Above, adult Green Woodpecker *Picus viridis* searching for food on the ground, Worcestershire, February 1970 (P. D. I' Weaving). Below, adult Red Grouse *Lagopus lagopus scoticus* walking in tall grass, Perthshire, July 1969 (K. W. Padley)



Little Puffin *Uria aalge* (44: 12 $\frac{8}{2}$ years)

Recoveries in home waters in 1969 and overseas recoveries in 1968 and 1969 are consolidated in a single table.

Area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	?
0 km (10)	1	-	2	1	-	-	-	1	-	2	-	3	-
50 km (13)	-	3	3	-	1	-	-	1	-	4	-	1	-
100 km (12)	1	-	1	1	2	-	-	-	-	6	1	-	-
Faroe Islands (2)	-	-	-	-	1	1	-	-	-	-	-	-	-
Denmark (5)	1	1	1	-	-	-	-	1	1	-	-	-	-
Netherlands (2)	-	-	1	-	-	-	-	-	-	-	1	-	-
Sweden (6)	2	1	1	-	-	-	-	-	-	1	1	-	-
Other Islands (1)	-	-	-	1	-	-	-	-	-	-	-	-	-

5113	ad.	5.7.65	Fair Isle: 59°32'N. 1°37'W. (Shetland)
	+	30.5.69	Trindholm: 62°04'N. 7°25'W. (Vagoy) Faeroe Islands (2nd)
676	ad.	19.6.68	Fair Isle
	+	23.6.69	Stora Dimun: 61°42'N. 6°45'W. Faeroe Islands (3rd)

Black-throated Diver *Fratercula arctica* (53: 15 $\frac{2}{2}$ years)

Area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0 km (6)	-	-	1	-	1	-	3	1	-	-	-	-
50 km (21)	-	4	11	4	1	1	-	-	-	-	-	-
100 km (21)	-	2	14	3	-	-	1	1	-	-	-	-
150 km (3)	-	1	1	1	-	-	-	-	-	-	-	-
Netherlands (1)	-	1	-	-	-	-	-	-	-	-	-	-
Denmark (1)	-	-	-	-	-	-	-	-	-	-	1	-

Exceptional numbers of recoveries in March were caused by an oiling disaster on the east coast of Scotland. The recovery in the Netherlands was the first in that country.

Rock Dove *Columba palumbus* (75: 11 $\frac{7}{2}$ years)

Area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	?
0 km (48)	-	11	8	3	3	-	1	8	3	4	-	7	-
50 km (22)	1	7	6	2	1	1	1	-	-	1	2	-	-
100 km (2)	-	1	-	-	-	-	1	-	-	-	-	-	-
Denmark (1)	-	-	-	-	-	-	-	-	-	-	1	-	-
France (2)	-	-	-	-	-	-	-	-	-	-	-	1	1

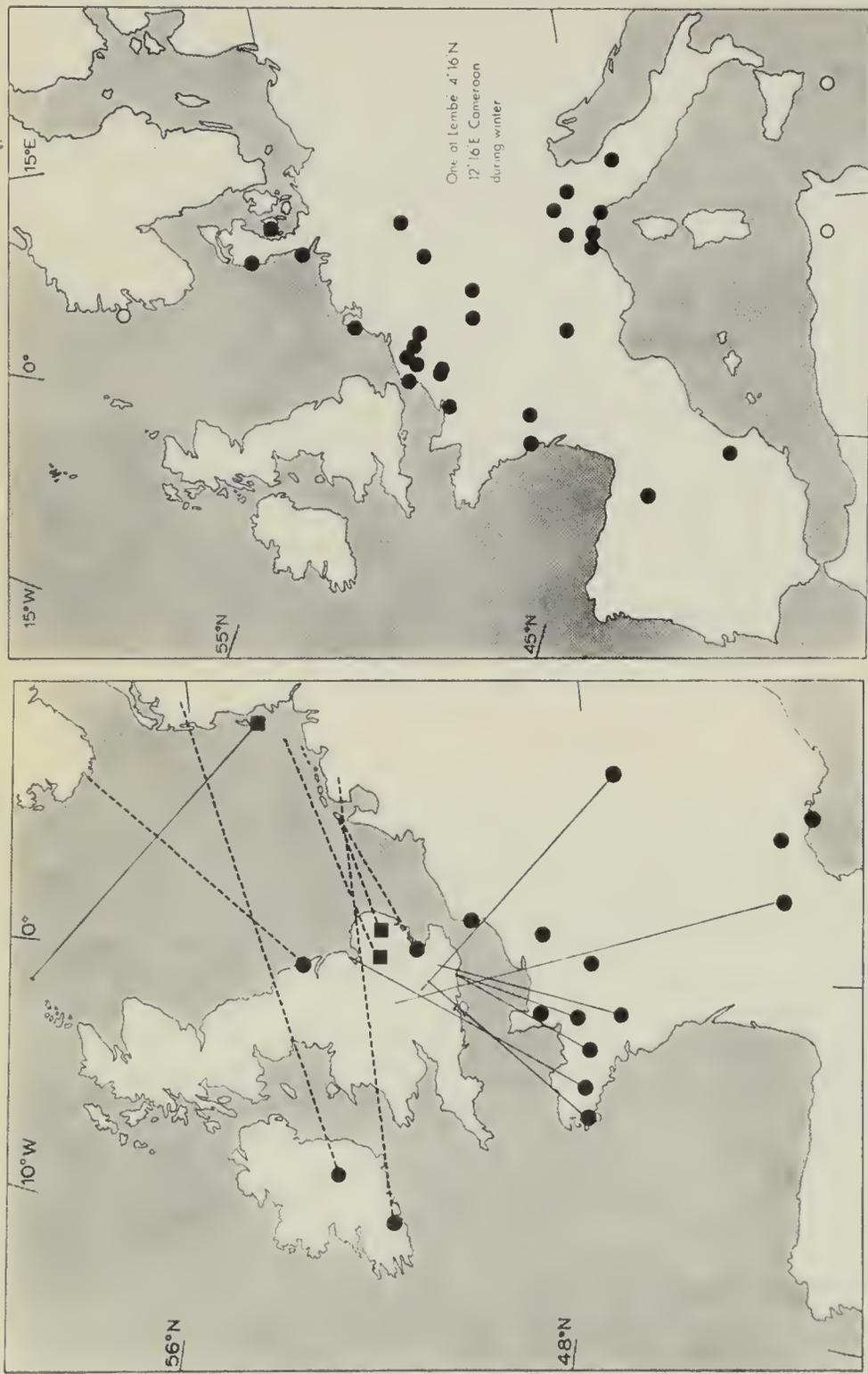
72	pull.	10.9.64	Weston Colville: 52°09'N. 0°22'E. (Cambridge)
	+	28.12.69	Istres: 43°30'N. 4°59'E. (Bouches du Rhône) France (11th)
33	pull.	3.9.68	Stourton: 52°02'N. 1°34'W. (Warwick)
	+	(20.10.69)	? Valence d'Albigeois (Tarn) France (12th)

Ring 3104833 was found on a pigeon bought at Valence d'Albigeois on the 20.10.69 and it seems likely that the bird was killed in the vicinity shortly after. All 20 recoveries of Woodpigeons showing movement to or from Britain and Ireland are shown on map 3 overleaf.

Rock Dove *Streptopelia turtur* (4: 1 $\frac{3}{2}$ years)

10	f.g.	25.4.69	Skokholm: 51°42'N. 5°16'W. (Pembroke)
	×	30.5.69	Gort (Galway) 280 km WNW

In addition, there were three recoveries in Spain in September.



MAP 3 (left). All 20 recoveries of Woodpigeons *Columba palumbus* showing movement to or from Britain and Ireland. Recovery localities of the 17 ringed as pulli are marked by solid circles and of the three ringed as adults by solid squares. The six from abroad recovered in Britain or Ireland are linked to their points of ringing by dotted lines. The six foreign recoveries without a corresponding unbroken line linking to the point of origin had been ringed by the Ministry of Agriculture, Fisheries and Food at Weston

Collared Dove *Streptopelia decaocto* (28: 3 1/2 years)

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0 km (18)	-	1	4	1	1	1	2	-	2	1	-	-
100 km (2)	1	6	-	-	-	-	-	-	-	-	-	-
5 km (1)	-	-	-	-	-	-	-	1	-	-	-	-
5+ km (3)	-	-	-	-	1	-	2	-	-	-	-	-
land (2)	-	-	-	-	-	-	-	-	-	1	1	-
Belgium (1)	-	-	-	-	-	-	-	-	-	-	-	1
Germany (1)	-	-	-	-	-	-	-	-	-	-	-	1

- D03646 ad. 5.5.69 Trafford Park: 53°28'N. 2°19'W. (Lancashire)
 v 22.12.69 Kain: 50°38'N. 3°22'E. (Hainaut) **Belgium (1st)**
- D48745 f.g. 9.3.68 Ellesmere Port: 53°17'N. 2°54'W. (Cheshire)
 x (17.12.69) Nordholz: 53°33'N. 8°35'E. (Niedersachsen) **Germany (1st)**

The only previous foreign recovery of this species was in France, and concerned a bird ringed in Essex. The above two records are remarkable in that the ringing localities are in the west of Britain.

Cuckoo *Cuculus canorus* (1: 1 1/2 year)

- S343699 pull. 21.6.69 Bardsey: 52°46'N. 4°48'W. (Caernarvon)
 v 18.8.69 Vendeuve de Poitou: 46°44'N. 0°19'E. (Vienne) France

All foreign recoveries are shown on map 4 opposite.

Horn Owl *Tyto alba* (31: 5 7/8 years)

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0 km (18)	3	-	2	1	1	1	-	3	3	-	2	2
100 km (13)	3	2	1	2	1	1	1	-	-	1	1	-

Hawny Owl *Strix aluco* (29: 10 3/8 years)

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0 km (27)	1	2	3	1	2	4	5	1	1	3	2	2
100 km (2)	-	-	2	-	-	-	-	-	-	-	-	-

H Swift *Apus apus* (113: 12 years)

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	?
0 km (68)	-	-	-	-	23	24	16	4	-	1	-	-	-
100 km (39)	-	-	-	-	12	2	25	-	-	-	-	-	-
5 km (1)	-	-	-	-	1	-	-	-	-	-	-	-	-
5 km (1)	-	-	-	-	-	1	-	-	-	-	-	-	-
100 km (2)	-	-	-	-	1	-	-	-	1	-	-	-	-
100 km (1)	-	-	-	-	-	-	-	-	-	-	-	-	1
100 km (1)	-	-	-	-	-	-	-	-	-	-	-	1	-

- 02319 ad. 24.5.67 Attenborough: 52°54'N. 1°14'W. (Nottingham)
 + 31.12.69 Mwanza: 15°40'S. 34°34'E. Malawi (6th)
- 037439 f.g. 7.5.67 Hoddesdon: 51°47'N. 0°00' (Hertford)
 x Sep/Nov 69 Bena Makima: 05°00'S. 21°07'E. (Kasai) **Congo (9th)**
- 00943 ad. 18.6.64 Barn Elms Reservoir: 51°28'N. 0°13'W. (Surrey)
 /?/ (20.5.69) Tata: 29°44'N. 7°56'W. **Morocco (1st)**
- 00724 f.g. 9.7.62 Mitcham: 51°24'N. 0°09'W. (Surrey)
 + 22.9.69 El Kelaa: 32°02'N. 7°23'W. (Marrakech) **Morocco (2nd)**

Swallow *Hirundo rustica* (180: $4\frac{9}{12}$ years)

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	?
0-10 km (45)	-	-	-	-	9	2	16	9	8	-	-	-	1
11-100 km (65)	-	-	-	1	9	5	7	23	19	-	1	-	-
101-250 km (19)	-	-	-	1	3	1	2	-	12	-	-	-	-
250+ km (5)	-	(1)	-	-	1	1	-	-	1	-	-	-	1
Ireland (2)	-	-	-	-	1	-	1	-	-	-	-	-	-
Netherlands (2)	-	-	-	-	1	1	-	-	-	-	-	-	-
France (2)	-	-	-	-	1	-	-	-	-	1	-	-	-
Spain (3)	-	-	-	1	-	-	-	-	-	2	-	-	-
Morocco (1)	-	-	-	1	-	-	-	-	-	-	-	-	-
Algeria (1)	-	-	-	1	-	-	-	-	-	-	-	-	-
Tunisia (1)	-	-	-	-	1	-	-	-	-	-	-	-	-
Ghana (1)	-	-	-	-	-	-	-	-	-	1	-	-	-
Nigeria (2)	-	-	-	-	-	-	-	-	-	2	-	-	-
Congo (2)	-	-	-	-	-	-	-	-	-	2	-	-	-
South West Africa (1)	-	1	-	-	-	-	-	-	-	-	-	-	-
South Africa (28)	2	6	8	2	-	-	-	-	-	-	3	7	-

House Martin *Delichon urbica* (18: 50 km: $3\frac{10}{12}$ years)

HP17572 ad. 30.5.69 Harrogate: $53^{\circ}59'N$. $1^{\circ}33'W$. (York)
 v 7.10.69 Javali Viejo: $37^{\circ}59'N$. $1^{\circ}08'W$. (Murcia) Spain (1st)

Sand Martin *Riparia riparia* (254: $5\frac{8}{12}$ years)

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	?
0-10 km (47)	-	-	-	-	5	7	25	8	1	-	-	-	1
11-100 km (133)	-	-	-	1	11	40	53	22	6	-	-	-	-
101-250 km (30)	-	-	-	1	1	7	13	4	3	1	-	-	-
250+ km (9)	-	-	-	-	1	2	3	1	1	1	-	-	-
Ireland (3)	-	-	-	-	2	1	-	-	-	-	-	-	-
Netherlands (1)	-	-	-	-	-	-	-	1	-	-	-	-	-
Belgium (1)	-	-	-	-	-	-	1	-	-	-	-	-	-
France (8)	-	1	-	-	1	-	1	4	-	1	-	-	-
Spain (1)	-	-	-	-	-	-	-	-	1	-	-	-	-
Italy (1)	-	-	-	1	-	-	-	-	-	-	-	-	-
Morocco (2)	-	-	-	-	-	2	-	-	-	-	-	-	-
Algeria (3)	-	-	1	-	2	-	-	-	-	-	-	-	-
Tunisia (1)	-	-	-	1	-	-	-	-	-	-	-	-	-
Libya (1)	-	-	-	1	-	-	-	-	-	-	-	-	-
Cape Verde Islands (1)	-	-	-	-	-	-	-	1	-	-	-	-	-
Sénégal (12)	-	-	8	4	-	-	-	-	-	-	-	-	-

The twelve recoveries in Sénégal, the first from south of the Sahara for this species, were all controlled near Richard Toll: $16^{\circ}25'N$. $15^{\circ}42'W$.

HC73006 ad. 6.7.66 Calceby: $53^{\circ}15'N$. $0^{\circ}08'E$. (Lincoln)
 × 25.8.69 Tarrafal: $15^{\circ}17'N$. $23^{\circ}45'W$. São Tiago, Cape Verde Islands (1st)

HP80737 ad. 24.7.68 Waltham Chase: $50^{\circ}56'N$. $1^{\circ}11'W$. (Hampshire)
 () 3.5.69 Djanet: $24^{\circ}34'N$. $9^{\circ}30'E$. Algeria (10th)

These are both unusually interesting recoveries. HC73006 was apparently only the second record of the species for the Cape Verde archipelago. Djanet is a Saharan oasis; this bird, which was very tired, was caught alive and released without its ring.

Carrion/Hooded Crow *Corvus corone* (22: $1\frac{7}{12}$ years)

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0-10 km (18)	-	1	1	2	-	3	3	4	1	3	-	-
11-100 km (4)	1	-	-	-	-	2	-	-	-	1	-	-

ook *Corvus frugilegus* (46: $9\frac{8}{12}$ years)

recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	?
0 km (34)	-	2	7	5	5	6	3	-	1	1	2	1	1
100 km (12)	1	2	2	2	-	-	-	3	-	-	1	-	1

ackdaw *Corvus monedula* (24: 14 years)

recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0 km (19)	-	1	4	2	3	-	5	-	2	2	-	-
100 km (4)	-	1	1	-	-	-	-	-	-	1	1	-
Belgium (1)	-	-	-	-	-	1	-	-	-	-	-	-

12903 ad. 16.12.61 Minsmere: $52^{\circ}14'N$. $1^{\circ}37'E$. (Suffolk)
 + 5.6.69 Stene: $51^{\circ}46'N$. $3^{\circ}28'E$. (West Vlaanderen) **Belgium (1st)**

There have been only two previous foreign recoveries, both in the Netherlands, 1934 and 1960.

y *Garrulus glandarius* (24: $15\frac{0}{12}$ years)

recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0 km (22)	2	5	-	4	2	1	1	3	-	1	-	3
50 km (2)	-	1	-	-	1	-	-	-	-	-	-	-

reat Tit *Parus major* (116: $8\frac{0}{12}$ years)

recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	?
0 km (105)	6	3	5	14	23	19	11	5	2	6	6	4	1
50 km (8)	-	-	-	1	1	-	1	-	1	1	1	2	-
100 km (3)	-	1	-	-	1	-	-	-	-	-	1	-	-

ue Tit *Parus caeruleus* (320: $8\frac{4}{12}$ years)

recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	?
0 km (277)	22	34	52	38	28	24	11	6	8	20	17	16	1
10 km (41)	4	5	8	3	3	-	2	3	2	6	2	3	-
100 km (2)	-	-	-	1	-	-	-	-	-	-	-	1	-

ng-tailed Tit *Aegithalos caudatus* (11: 60 km: $2\frac{7}{12}$ years)

4014 f.g. 21.9.68 High Halstow: $51^{\circ}27'N$. $0^{\circ}34'E$. (Kent)
 v 4.4.69 Walton Reservoirs (Surrey) 64 km W

ren *Troglodytes troglodytes* (43: $4\frac{4}{12}$ years)

recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0 km (38)	2	4	7	6	4	1	2	1	2	4	4	1
5 km (4)	-	1	-	-	1	-	-	-	1	1	-	-
100 km (1)	-	-	-	-	-	-	-	-	-	1	-	-

arded Tit *Panurus biarmicus* (5: 120 km: $1\frac{1}{12}$ years)

42057 ad. 10.9.68 Stodmarsh: $51^{\circ}19'N$. $1^{\circ}13'E$. (Kent)
 v 9.12.69 Farlington (Hampshire) 160 km WSW

Mistle Thrush *Turdus viscivorus* (46: $6\frac{1}{2}$ years)

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0-10 km (39)	3	-	5	4	5	10	4	5	-	1	-	2
11-50 km (6)	-	1	1	-	1	-	1	-	-	-	1	1
Belgium (1)	-	1	-	-	-	-	-	-	-	-	-	-

CX88000 f.g. 11.11.65 Stockbury: 51°20'N. 0°39'E., Sittingbourne (Kent)
v 16.2.69 Silly-Engnien: 50°39'N. 3°55'E. (Hainaut) **Belgium (1st)**

There have been 17 previous foreign recoveries of this species, all in France.

Fieldfare *Turdus pilaris* (50: $5\frac{1}{2}$ years)

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	?
0-10 km (16)	-	7	8	1	-	-	-	-	-	-	-	-	-
11-50 km (5)	-	3	-	2	-	-	-	-	-	-	-	-	-
Turkey (1)	-	-	-	-	-	-	-	-	-	-	1	-	-
Jugoslavia (1)	1	-	-	-	-	-	-	-	-	-	-	-	-
Italy (2)	-	1	-	-	-	-	-	-	-	-	-	1	-
France (5)	-	1	-	-	-	-	-	-	-	-	1	3	-
Belgium (1)	-	-	-	-	-	-	-	-	-	-	-	-	1
Germany (1)	-	-	1	-	-	-	-	-	-	-	-	-	-
Austria (1)	-	-	-	-	-	-	-	-	-	-	-	1	-
Norway (11)	-	-	-	-	-	7	1	-	-	1	2	-	-
Sweden (1)	-	-	-	-	-	-	1	-	-	-	-	-	-
Finland (5)	-	-	-	-	2	-	2	-	-	1	-	-	-

CR65660 f.g. 27.12.68 Roslin: 55°51'N. 3°11'W. (Midlothian)
× 16.6.69 Myrlandshaugen: 68°47'N. 17°11'E. (Nordland) **Norway**

CV95079 f.g. 3.1.67 Spurn Point: 53°35'N. 0°06'E. (York)
() (22.1.69) Orah: 43°14'N. 17°24'E. (Dalmacija) **Jugoslavia (2nd)**

CS81925 f.g. 25.2.68 Cleethorpes: 53°34'N. 0°02'W. (Lincoln)
+ 23.11.69 Sandikli: 38°28'N. 30°16'E. (Afyon) **Turkey (1st)**

CV78764 f.g. ♂ 17.11.68 Gibraltar Point: 53°06'N. 0°21'E. (Lincoln)
+ mid 12.69 Klagenfurt: 46°38'N. 14°20'E. (Kärnten) **Austria (1st)**

The first recovery is from unusually far north: the others provide further evidence that individuals may move south-west one winter, south-east the next.

Song Thrush *Turdus philomelos* (436: $10\frac{2}{3}$ years)

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	?
0-10 km (314)	12	34	46	30	45	48	37	17	11	9	10	15	2
11-50 km (46)	1	11	10	4	2	9	2	1	2	1	2	1	-
51-100 km (13)	2	3	2	1	1	1	1	-	-	1	1	-	-
101-250 km (11)	1	2	6	-	1	-	-	-	-	-	1	-	-
250+ km (8)	1	2	-	1	-	1	1	-	-	-	1	1	-
Germany (2)	-	-	-	-	-	2	-	-	-	-	-	-	-
Netherlands (1)	-	-	1	-	-	-	-	-	-	-	-	-	-
France (15)	2	4	2	1	-	-	-	-	-	2	1	3	-
Spain (12)	5	-	-	-	-	-	-	-	-	-	5	2	-
Portugal (1)	-	1	-	-	-	-	-	-	-	-	-	-	-

CX04839 f.g. 4.6.67 Wolferton: 52°50'N. 0°28'E. (Norfolk)
× 8.6.69 Furth im Wald: 49°19'N. 12°51'E. (Bayern) **Germany**

CP44183 pull. 21.5.69 Digswell: 51°49'N. 0°13'W. Welwyn (Hertford)
+ 16.12.69 Marignanc: 43°25'N. 5°13'E. (Bouches du Rhône) **France**

The movement of CX04839 must be regarded as highly aberrant; it is also unusual for British-bred Song Thrushes to move so far south-east as CP44183.

Swing *Turdus iliacus* (64: 5½ years)

Very area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
5m (20)	1	13	2	1	-	2	-	-	-	-	-	1
5 km (5)	1	3	-	-	-	-	1	-	-	-	-	-
50 km (6)	-	3	2	-	-	-	1	-	-	-	-	-
50 km (2)	-	1	1	-	-	-	-	-	-	-	-	-
(1)	1	-	-	-	-	-	-	-	-	-	-	-
(5)	-	-	-	-	-	-	-	-	-	1	3	1
ria (1)	-	1	-	-	-	-	-	-	-	-	-	-
(1)	1	-	-	-	-	-	-	-	-	-	-	-
gal (1)	1	-	-	-	-	-	-	-	-	-	-	-
ce (12)	1	2	2	-	-	-	-	-	-	1	4	2
im (1)	-	-	-	-	-	-	-	-	-	-	1	-
d (2)	-	-	-	2	-	-	-	-	-	-	-	-
ay (3)	-	-	-	-	1	-	-	-	-	1	1	-
.R. (4)	2	1	-	-	-	1	-	-	-	-	-	-

- 05916 f.g. 17.10.67 Spurn Point: 53°35'N. 0°06'E. (York)
 + 27.2.69 Uri: 40°37'N. 8°29'E. (Sassari) Sardinia (3rd)
- 1831 1stW. 16.12.67 Frankby: 53°23'N. 3°08'W. (Cheshire)
 + 26.1.69 Réthemnon: 35°23'N. 24°28'E. Crete (1st)

Ag Ouzel *Turdus torquatus* (8: 5½ years)

Very area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1 (1)	-	-	-	-	-	-	-	-	-	1	-	-
2 (4)	-	-	-	-	-	-	-	-	-	1	2	1
(1)	1	-	-	-	-	-	-	-	-	-	-	-
2)	-	-	1	-	-	-	-	-	-	-	1	-

- 8148 ad. ♂ 23.4.68 Fair Isle: 59°32'N. 1°37'W. (Shetland)
 /?/ 2.11.69 Verona: 45°27'N. 11°00'E. Italy (1st)
- 7290 ad. ♀ 7.5.69 Torry: 57°08'N. 2°05'W. (Kincardine)
 + 6.10.69 Vollöre-Montagne: 45°47'N. 3°41'E. (Puy de Dôme) France
- 7456 1stW. ♂ 15.9.68 Holme: 52°58'N. 0°33'E. (Norfolk)
 + 25.3.69 Fosso della Moletta: 41°34'N. 12°31'E. (Roma) Italy (2nd)
- 7377 ad. ♀ 20.10.68 Holme
 + 24.11.69 Hauteville Lompnes: 45°58'N. 5°36'E. (Ain) France
- 7495 ad. ♀ 7.11.64 Fulbourn Fen: 52°11'N. 0°14'E. (Cambridge)
 () 31.12.69 Blégiers: 44°11'N. 6°25'E. (Basses Alpes) France

tendency for this species to move SSE is particularly apparent in this series recoveries.

Blackbird *Turdus merula* (1,745: 9½ years)

Very area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	?
m (1420)	58	136	181	210	205	222	169	72	43	36	41	45	2
km (74)	1	15	19	12	9	1	3	2	1	1	6	4	-
50 km (44)	4	12	7	3	3	2	2	1	-	1	4	5	-
km (29)	4	10	7	-	-	1	1	-	-	1	3	2	-
(1)	-	-	1	-	-	-	-	-	-	-	-	-	-
(4)	2	-	-	-	-	-	-	-	-	-	1	1	-
(18)	2	3	-	-	-	-	-	-	-	1	5	6	1
m (6)	1	-	2	-	-	-	1	-	-	1	-	1	-
lands (10)	-	-	1	1	2	1	-	-	-	1	-	4	-
ny (25)	-	2	4	4	3	3	2	3	-	1	1	1	1
ark (18)	2	-	1	4	3	1	1	1	-	-	2	3	-
ly (61)	-	-	-	10	4	2	3	2	1	17	21	1	-
n (25)	-	-	1	3	5	2	4	4	4	2	-	-	-
d (10)	-	-	-	3	1	1	2	3	-	-	-	-	-

74755	f.g.	27.4.69	Fair Isle: 59°32'N. 1°37'W. (Shetland)
	v	22.5.69	Hesselø: 56°12'N. 11°43'E. Kattegat, Denmark (4th)
86157	f.g.	29.9.69	North Ronaldsay: 59°23'N. 2°26'W. (Orkney)
	×	2.11.69	East Runton, Cromer (Norfolk) 750 km SE
176745	f.g.	25.10.68	Spurn Point: 53°35'N. 0°06'E. (York)
	v	18.12.69	Wilhelmshaven: 53°31'N. 8°08'E. (Oldenburg) Germany (10th)
12511	juv.	31.7.66	Ewhurst: 51°09'N. 0°26'W. (Surrey)
	×	18.4.69	Klosters: 46°54'N. 9°54'E. (Graubünden) Switzerland (1st)

would be difficult to imagine a more unlikely recovery than a British Robin (such it must surely have been) in Switzerland in mid-April.

Asshopper Warbler *Locustella naevia* (2: 10 km: 1 year)

23869	f.g.	20.4.69	Copeland: 54°40'N. 5°32'W. (Down)
	×	6.6.69	Magheraveely, Enniskillen (Fermanagh) 120 km WSW

Reed Warbler *Acrocephalus scirpaceus* (89: 10-1½ years)

Very area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
10 km (32)	-	-	-	-	1	6	14	4	7	-	-	-
10 km (34)	-	-	-	1	5	7	9	9	3	-	-	-
85 km (8)	-	-	-	-	1	3	2	2	-	-	-	-
10 km (1)	-	-	-	-	-	1	-	-	-	-	-	-
10 km (1)	-	-	-	-	1	-	-	-	-	-	-	-
10 km (2)	-	-	-	-	-	-	-	1	-	1	-	-
10 km (9)	-	-	-	-	-	-	-	1	4	3	-	1
10 km (1)	-	-	-	1	-	-	-	-	-	-	-	-
10 km (1)	-	-	-	-	-	-	-	-	-	-	-	1

55526	1st W.	6.9.65	Tetney Lock: 53°29'N. 0°01'W. (Lincoln)
	()	20.4.69	St Louis: 16°01'N. 16°29'W. Sénégal (1st)
8938	f.g.	27.7.68	South Ockendon: 51°32'N. 0°18'E. (Essex)
	×	24.5.69	Gatteville: 49°41'N. 1°17'W. (Manche) France (14th)
65792	juv.	10.8.69	Thatcham: 51°24'N. 1°15'W. Newbury (Berkshire)
	×	7.12.69	Asrema: 05°55'N. 0°11'W. Ghana (1st)
56926	pull.	29.6.68	Elmley: 51°22'N. 0°47'E. Sheppey (Kent)
	v	13.6.69	Zwin: 51°22'N. 3°22'E. (West Vlaanderen) Belgium (2nd)

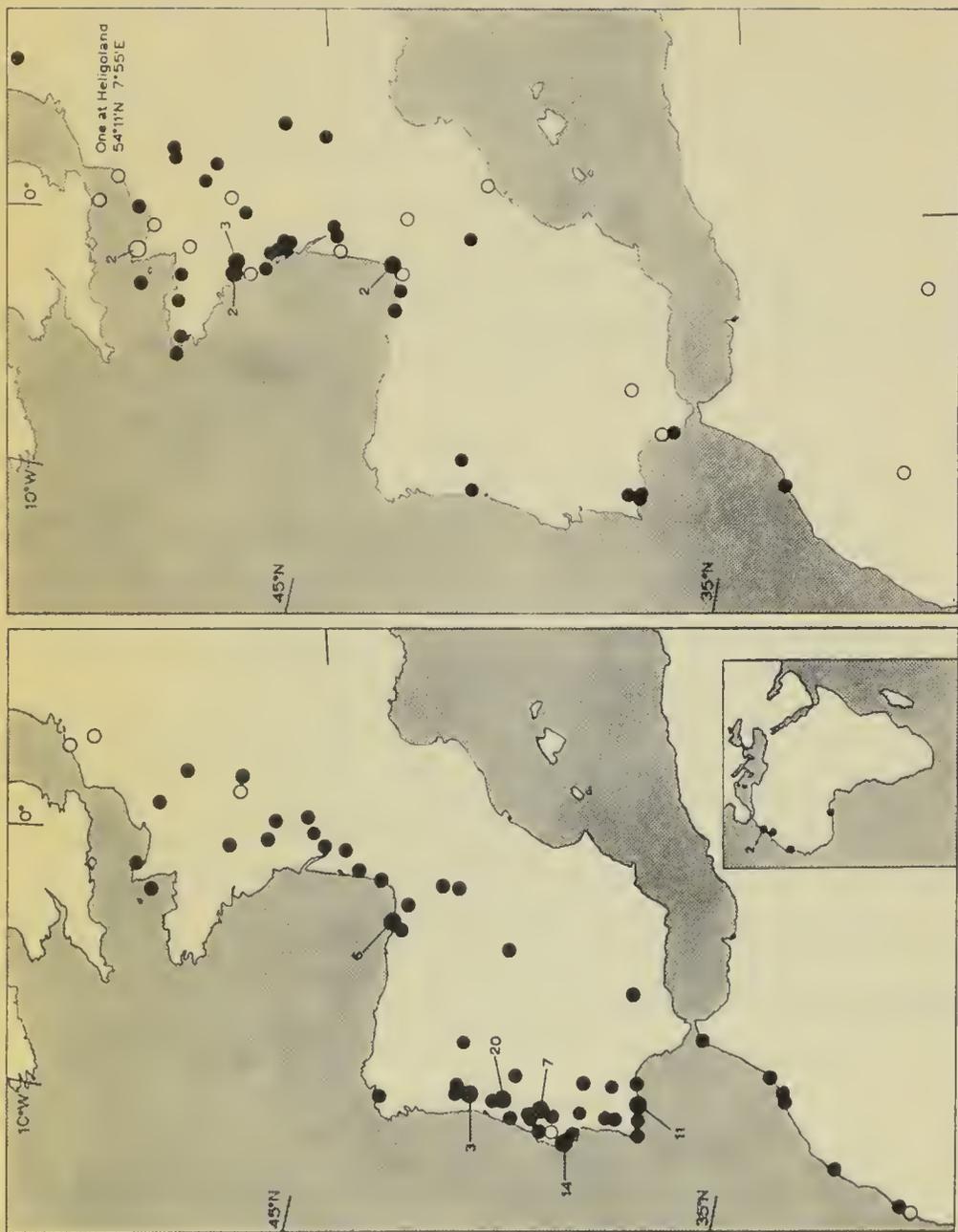
In the recoveries in Ghana and Sénégal, the Reed Warbler joins the very small list of passerine species which have been recovered south of the Sahara. Foreign recoveries are shown on map 5 overleaf.

Reed Warbler *Acrocephalus schoenobaenus* (30: 4-1½ years)

Very area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
10 km (8)	-	-	-	-	-	2	3	2	1	-	-	-
10 km (10)	-	-	-	-	3	3	-	4	-	-	-	-
10 km (8)	-	-	-	-	1	1	1	4	1	-	-	-
10 km (1)	-	-	-	-	-	-	-	1	-	-	-	-
10 km (3)	-	-	-	-	-	-	-	2	1	-	-	-

52514	ad.	26.8.69	Armthorpe: 53°32'N. 1°03'W. (York)
	×	8.9.69	La Rochelle: 46°10'W. 1°09'W. (Charente Maritime) France
6933	juv.	23.7.69	Wilstone: 51°49'N. 0°41'W. (Hertford)
	v	21.8.69	Nantes: 47°13'N. 1°33'W. (Loire Atlantique) France
57131	1st W.	2.8.69	Murston: 51°22'N. 0°46'E. Sittingbourne (Kent)
	×	22.8.69	Nantes, France

Foreign recoveries are shown on map 6 overleaf.



MAP 5 (left). All 117 foreign recoveries of British-ringed Reed Warblers *Acrocephalus scirpaceus*. The five in spring are marked by open circles and the 112 in autumn by solid ones. Five of the latter outside the area of the main map are shown only on the inset. MAP 6 (right). All 55 foreign recoveries of British-ringed Sedge Warblers *A. schoenobaenus*. The 16 in spring are marked by open circles and the 39 in autumn by solid ones.

Blackcap *Sylvia atricapilla* (25: 4 $\frac{1}{2}$ years)

every area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
5 km (4)	-	-	-	1	-	1	-	2	-	-	-	-
10 km (6)	-	-	-	-	2	1	1	1	-	1	-	-
20 km (4)	-	-	-	1	-	1	-	-	2	-	-	-
50 km (1)	-	-	-	-	-	-	-	-	-	-	1	-
100 km (1)	-	-	-	-	-	-	-	-	1	-	-	-
150 km (2)	-	-	-	-	-	-	-	-	1	1	-	-
200 km (2)	1	-	-	1	-	-	-	-	-	-	-	2
250 km (2)	-	-	-	-	-	-	-	-	-	1	1	-
300 km (1)	-	-	-	-	1	-	-	-	-	-	-	-

86135	1stW. ♂	25.9.69	North Ronaldsay: 59°23'N. 2°26'W. (Orkney)
	+	30.10.69	Diano San Pietro: 43°55'N. 8°02'E. (Imperia) Italy (3rd)
7385	1stW. ♀	20.9.69	Low Hauxley: 55°19'N. 1°33'W. (Northumberland)
	+	3.11.69	Lerici: 44°04'N. 9°56'E. (La Spezia) Italy (4th)
2094	ad. ♂	6.10.69	Spurn Point: 53°35'N. 0°06'E. (York)
	+	22.11.69	Arstad: 58°20'N. 6°18'E. (Rogaland) Norway (1st)
6298	f.g. ♀	5.11.68	Anderby Creek: 53°16'N. 0°17'E. Alford (Lincoln)
	v	16.9.69	Liedekerke: 50°52'N. 4°05'E. (Brabant) Belgium (3rd)
11537	f.g. ♂	17.9.68	Stiffkey: 52°57'N. 0°56'E. Wells (Norfolk)
	/?/	6.5.69	Marjayoun: 33°22'N. 35°34'E. Lebanon (4th)
7998	juv.	30.7.68	Tong: 52°41'N. 2°18'W. Shifnal (Shropshire)
	/?/	2.4.69	Al Hoccima: 35°14'N. 3°56'W. Morocco (8th)
5560	ad. ♀	29.6.68	North Weald: 51°43'N. 0°10'E. (Essex)
	×	(13.1.69)	Méknès: 33°53'N. 5°37'W. Morocco (9th)
1781	f.g. ♀	9.10.69	Beachy Head: 50°45'N. 0°16'E. (Sussex)
	v	14.10.69	St Pryvé-St Mesmin: 47°53'N. 1°52'E. (Loiret) France

Among the recoveries published in full is one showing a remarkable northward movement to Norway in late autumn (see page 141).

Garden Warbler *Sylvia borin* (4: 25 km: 3 $\frac{8}{12}$ years)

1229	f.g.	24.8.65	Ewhurst: 51°23'N. 0°22'W. (Surrey)
	×	5.5.69	Tønsberg: 59°16'N. 10°25'E. (Vestfold) Norway (1st)
1064	ad.	13.9.67	Sandwich: 51°17'N. 1°20'E. (Kent)
	×	(9.5.68)	Argelès: 42°33'N. 3°01'E. (Pyrénées Orientales) France (7th)
1156	1stW.	31.8.69	Portland Bill: 50°31'N. 2°27'W. (Dorset)
	v	12.9.69	Tynemouth (Northumberland) 510 km N

Whitethroat *Sylvia communis* (6: 25 km: 1 $\frac{1}{2}$ year)

1980	1stW.	18.8.69	Dover: 51°08'N. 1°19'E. (Kent)
	+	22.9.69	Biarritz: 43°29'N. 1°34'W. (Basses Pyrénées) France
234	1stW.	8.9.68	Beachy Head: 50°44'N. 0°16'E. (Sussex)
	×	(10.8.69)	Campbeltown (Argyll) 650 km NW
261	1stW.	5.9.69	Portland Bill: 50°31'N. 2°27'W. (Dorset)
	()	18.9.69	Cazères: 43°13'N. 1°05'E. (Haute Garonne) France

Great Whitethroat *Sylvia curruca* (10: 50 km: 2 years)

134	f.g.	11.8.67	Bloxham: 52°02'N. 1°22'W. (Oxford)
	+	0.9.69	Ikingi: c. 31°05'N. 29°50'E. Lake Maryut, Egypt (2nd)

HR77264	ad. /?/	21.4.68 (6.5.69)	Brightlingsea: 51°49'N. 1°02'E. (Essex) Xylophagou: 34°57'N. 33°52'E. Larnaca, Cyprus (2nd)
HR87337	f.g. /?/	10.8.69 (8.12.69)	Chigborough: 51°44'N. 0°44'E. (Essex) Capo di Ponte: 46°02'N. 10°21'E. (Brescia) Italy
HJ97200	juv. /?/	19.7.68 13.5.69	Chew Lake: 51°20'N. 2°38'W. (Somerset) Latakia: 35°31'N. 35°47'E. Syria (1st)
HX55323	ad. +	23.8.69 10.10.69	Seaford Head: 50°46'N. 0°06'E. (Sussex) Ikingi, Egypt (3rd)

Willow Warbler *Phylloscopus trochilus* (30: 2 $\frac{9}{12}$ years)

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0-10 km (5)	-	-	-	-	2	-	1	1	1	-	-	-
11-100 km (6)	-	-	-	2	1	3	-	-	-	-	-	-
101-250 km (5)	-	-	-	-	1	1	1	2	-	-	-	-
250+ km (4)	-	-	-	1	-	1	-	1	1	-	-	-
Norway (1)	-	-	-	-	1	-	-	-	-	-	-	-
France (3)	-	-	-	2	-	-	-	-	1	-	-	-
Spain (4)	-	-	1	-	-	-	-	-	2	1	-	-
Portugal (1)	-	-	-	-	-	-	-	-	-	1	-	-
Algeria (1)	-	-	-	1	-	-	-	-	-	-	-	-

P52387	f.g. +	12.5.67 12.4.69	North Ronaldsay: 59°23'N. 2°26'W. (Orkney) Aoulef: 27°00'N. 1°04'E. Algeria (3rd)
PN9527	f.g. v	7.9.68 29.5.69	Isle of May: 56°11'N. 2°33'W. (Fife) Store Faerder: 59°04'N. 10°32'E. (Vestfold) Norway (1st)
P66127	pull. v	13.7.66 19.4.69	Keir: 55°14'N. 3°48'W. Thornhill (Dumfries) Dungeness (Kent) 560 km SE
PX5482	juv. ×	15.7.69 8.8.69	Silverdale: 54°10'N. 2°49'W. (Lancashire) Westbourne, Bournemouth (Hampshire) 390 km S
PX2724	juv. ×	13.8.69 20.9.69	Millwood: 54°09'N. 3°12'W. (Lancashire) Rousdon, Seaton (Devon) 380 km S
PB7404	juv. v	20.7.67 20.4.69	Barrow in Furness: 54°07'N. 3°14'W. (Lancashire) St André: 43°07'N. 2°50'E. (Aude) France
PS5347	f.g. ×	8.5.69 23.7.69	Bardsey: 52°46'N. 4°48'W. (Caernarvon) Kirk Langley (Derby) 220 km E
PI4147	f.g. +	21.8.69 2.9.69	Beachy Head: 50°44'N. 0°16'E. (Sussex) Irun: 43°20'N. 1°48'W. (Guipúzcoa) Spain
PK5624	1st W. v	22.8.68 (1.6.69)	Dungeness: 50°55'N. 0°59'E. (Kent) Kippax, Leeds (York) 350 km NW

Several of the recoveries given in full provide an interesting indication of the direction of passage through Britain.

Chiffchaff *Phylloscopus collybita* (19: 1 $\frac{1}{12}$ years)

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0-10 km (9)	-	-	-	3	2	1	-	2	1	-	-	-
11-100 km (3)	-	-	2	1	-	-	-	-	-	-	-	-
101-250 km (4)	-	1	-	1	1	-	-	-	-	1	-	-
France (2)	-	-	-	-	-	-	-	-	-	-	-	1
Morocco (1)	-	-	-	-	-	-	-	-	-	-	-	1

PJ8238	juv. ×	22.7.68 25.12.68	Barrow in Furness: 54°07'N. 3°14'W. (Lancashire) La Cotinière: 45°55'N. 1°22'W. (Charente Maritime) France (10th)
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8979	f.g. /?	4.4.69	Calf of Man: 54°03'N. 4°49'W. c. 5.12.69 Casablanca: 33°39'N. 7°35'W. Morocco (5th)
1175	juv. ×	21.9.69	Warsop: 53°13'N. 1°07'W. (Nottingham) c. 5.12.69 Nesmy: 46°35'N. 1°24'W. (Vendée) France (11th)

Idcrest *Regulus regulus* (8: 5 km: 1½ years)

4371	f.g. ♂ v	7.10.68	Spurn Point: 53°35'N. 0°06'E. (York) Copeland (Down) 390 km WNW
803	f.g. ♀ v	28.10.68	Happisburgh: 52°50'N. 1°32'E. (Norfolk) Akerøya: 59°02'N. 10°53'E. (Østfold) Norway (1st)
702	f.g. ♀ v	24.9.69	Walberswick: 52°18'N. 1°38'E. (Suffolk) Theddlethorpe (Lincoln) 150 km NW

otted Flycatcher *Muscicapa striata* (15: 50 km: 5½ years)

12017	ad. +	15.6.68	Seaton Delaval: 55°04'N. 1°31'W. (Northumberland) 11.1.69 Mirandela: 41°29'N. 7°11'W. (Tras os Montes) Portugal (13th)
71725	juv. ×	31.7.69	Hartlepool: 54°42'N. 1°11'W. (Durham) (10.10.69) Bordeaux: 44°50'N. 0°34'W. (Gironde) France (9th)
69919	1st W. ×	30.8.68	Bardsey: 52°46'N. 4°48'W. (Caernarvon) 7.3.69 Kei Road: 32°42'S. 27°33'E. (Cape Province) South Africa (1st)
15916	pull. +	9.7.66	Woodmancote: 51°56'N. 2°02'W. (Gloucester) 17.12.69 Jerez: 36°41'N. 6°08'W. (Cádiz) Spain
0958	juv. ×	17.8.66	Skokholm: 51°42'N. 5°16'W. (Pembroke) 14.6.69 Riedlingen: 48°09'N. 9°29'E. (Baden Württemberg) Germany (1st)
75349	1st W. /?	16.9.69	Portland Bill: 50°31'N. 2°27'W. (Dorset) (1.10.69) Villamartin: 36°52'N. 5°38'W. (Cádiz) Spain

69919 is the first British-ringed passerine other than a Swallow to be recovered th of the equator. Note also that HR12017 and AX15916 were apparently tering in Iberia.

d Flycatcher *Ficedula hypoleuca* (13: 120 km: 1½ years)

45047	pull. ()	8.6.69	Prion: 53°09'N. 3°25'W. (Denbigh) 24.8.69 Lugo: 43°00'N. 7°33'W. Spain (19th)
52180	f.g. ×	10.8.69	Blakeney Point: 52°59'N. 0°59'E. (Norfolk) 2.9.69 Astrain: 42°49'N. 1°45'W. (Navarra) Spain (20th)
30283	pull. ×	16.6.69	Maentwrog: 52°57'N. 3°59'W. (Merioneth) (19.8.69) Pont-Aven: 47°51'N. 3°44'W. (Finistère) France (14th)
8827	pull. ×	14.6.68	Blakeney: 51°46'N. 2°29'W. (Gloucester) 6.5.69 Pitallas: 42°26'N. 1°38'W. (Navarra) Spain (21st)
3514	pull. ×	22.6.69	The Dinas: 51°06'N. 2°47'W. Rhandirmwyn (Carmarthen) (20.9.69) Ruiloba: 43°22'N. 4°15'W. (Santander) Spain (22nd)

nnock *Prunella modularis* (161: 6½ years)

ery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	?
m (154)	11	16	18	24	17	18	14	5	10	7	4	8	2
km (7)	2	1	1	-	-	-	-	-	2	-	-	1	-

Meadow Pipit *Anthus pratensis* (10: $5\frac{2}{12}$ years)

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0-20 km (3)	-	-	-	-	-	-	-	-	2	-	1	-
France (2)	-	-	-	-	-	-	-	-	-	-	1	1
Spain (3)	-	-	-	-	-	-	-	-	-	2	1	-
Portugal (2)	-	1	-	-	-	-	-	-	-	-	-	1

Tree Pipit *Anthus trivialis* (1: $\frac{1}{12}$ year)

HN79874	pull. ()	9.6.68 (22.4.69)	Sutton Heath: $52^{\circ}04'N$, $1^{\circ}21'E$. (Suffolk) El Kelaa: $32^{\circ}02'N$, $7^{\circ}23'W$. (Marrakech) Morocco (1st)
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Pied/White Wagtail *Motacilla alba* (85: $3\frac{1}{12}$ years)

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	?
0-10 km (47)	5	7	5	5	6	7	3	3	1	1	-	4	-
11-1000 km (23)	-	-	-	4	3	2	2	1	-	5	1	4	1
101-250 km (6)	-	-	1	-	-	1	1	2	-	-	-	1	-
250+ km (5)	-	-	-	-	1	1	-	1	2	-	-	-	-
France (3)	-	-	-	-	-	-	-	-	-	2	-	1	-
Portugal (1)	-	1	-	-	-	-	-	-	-	-	-	-	-

11J75994	1stW. ♂ ×	23.9.67 10.10.69	Knaresborough: $54^{\circ}01'N$, $1^{\circ}28'W$. (York) Montils: $45^{\circ}39'N$, $0^{\circ}30'W$. (Charente Maritime) France
HN78446	pull. v	3.8.68 6.2.69	Hilbre: $53^{\circ}23'N$, $3^{\circ}14'W$. (Cheshire) Lisbon: $38^{\circ}44'N$, $9^{\circ}08'W$. (Estremadura) Portugal
11P73205	juv. ×	4.8.68 27.12.69	Hathersage: $53^{\circ}19'N$, $1^{\circ}38'W$. (Derby) Rennes: $48^{\circ}06'N$, $1^{\circ}40'W$. (Ille et Vilaine) France
HR03178	f.g. /?/	25.7.68 30.10.68	Minworth: $52^{\circ}31'N$, $1^{\circ}46'W$. (Warwick) Bayonne: $43^{\circ}29'N$, $1^{\circ}29'W$. (Basses Pyrénées) France
HN81171	f.g. ×	20.1.68 30.6.69	Sparkhill: $52^{\circ}27'N$, $1^{\circ}52'W$. Birmingham (Warwick) Kirkconnel, Sanquhar (Dumfries) 350 km NNW
HN22575	1stW. ♂ ×	17.12.67 19.9.69	Brockworth: $51^{\circ}51'N$, $2^{\circ}09'W$. (Gloucester) Penicuik (Midlothian) 450 km N
HN23788	1stW. ♂ ×	25.11.67 c. 2.8.69	Weston Turville: $51^{\circ}47'N$, $0^{\circ}46'W$. (Buckingham) Kelty (Fife) 520 km NNW

Grey Wagtail *Motacilla cinerea* (10: 70 km: $1\frac{6}{12}$ years)

HR08879	pull. ×	20.6.68 (28.12.69)	Northop: $53^{\circ}13'N$, $3^{\circ}08'W$. Mold (Flint) Shepton Mallet (Somerset) 260 km S
11P68411	juv. v	16.8.69 9.9.69	Freemans Marsh: $51^{\circ}26'N$, $1^{\circ}30'W$. Hungerford (Berkshire) Witnesham, Ipswich (Suffolk) 200 km ENE
HP28680	pull. ×	7.5.69 (13.12.69)	Brockenhurst: $50^{\circ}49'N$, $1^{\circ}34'W$. (Hampshire) Poitiers: $46^{\circ}35'N$, $0^{\circ}20'E$. (Vienne) France (2nd)

Yellow Wagtail ssp *Motacilla flava* (15: 4 years)

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0-10 km (5)	-	-	-	-	-	-	2	3	-	-	-	-
11-100 km (5)	-	-	-	-	2	-	-	1	2	-	-	-
125 km (1)	-	-	-	-	-	-	-	1	-	-	-	-
Spain (2)	-	-	-	1	-	-	-	-	1	-	-	-
Morocco (1)	-	-	-	1	-	-	-	-	-	-	-	-
Sénégal (1)	-	-	-	1	-	-	-	-	-	-	-	-

HP54700	juv. +	5.8.68 1.4.69	Leigh: $53^{\circ}30'N$, $2^{\circ}33'W$. (Lancashire) Boumalne du Dadès: $31^{\circ}20'N$, $6^{\circ}00'W$. Morocco (11th)
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31465	juv. ×	30.8.65 14.9.69	Abberton: 51°49'N. 0°49'E. (Essex) Axpco-Busturia: 43°23'N. 2°42'W. (Vizcaya) Spain
31438	juv. ×	28.8.67 (15.4.69)	Abberton Dakar: 14°38'N. 17°27'W. Sénégal (3rd)
6367	juv. ×	26.8.67 20.4.69	Chew Lake: 51°20'N. 2°38'W. (Somerset) Roquetas: 40°50'N. 0°30'E. (Tarragona) Spain

ling *Sturnus vulgaris* (972: 10_{1/2} years)

ish recoveries in 1969 and overseas recoveries in 1968 and 1969 are consolidated in a single table.

ery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	?
m (560)	23	36	65	77	121	92	52	22	16	15	11	30	-
km (210)	16	21	31	22	26	19	19	10	4	12	10	20	-
o km (50)	3	11	7	5	6	-	2	-	-	2	7	7	-
km (12)	-	1	3	-	-	-	1	-	-	-	3	4	-
l (6)	-	2	1	-	-	-	-	-	-	1	1	1	-
Sca (1)	-	-	-	-	-	-	-	-	-	-	1	-	-
(4)	1	-	-	-	-	-	-	1	-	-	-	2	-
m (26)	1	1	-	-	-	-	-	-	-	9	12	3	-
lands (39)	4	4	8	8	4	1	1	2	3	1	1	2	-
ny (57)	-	-	6	10	11	10	5	5	6	2	1	-	1
rk (28)	-	-	4	4	3	3	7	-	4	1	1	-	1
y (28)	-	1	1	9	7	3	2	1	1	2	-	-	1
l (21)	-	-	1	3	6	2	4	3	1	1	-	-	-
l (14)	-	-	-	2	3	1	3	4	-	1	-	-	-
(26)	-	-	2	4	8	4	3	1	1	3	-	-	-
itates (5)	-	-	-	1	3	1	-	-	-	-	-	-	-
l. (36)	-	-	1	8	11	5	5	1	1	3	-	-	1

572	1stW. [?]	4.1.69 26.10.69	Warmsworth: 53°30'N. 1°10'W. (York) Berezovka: 47°12'N. 30°52'E. (Ukraine) U.S.S.R.
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recovery is from unusually far to the south-east, but a more easterly one, azakhstan, was reported in 1960.

finch *Carduelis chloris* (570: 11 years)

ery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
(367)	29	40	43	57	54	47	42	15	7	8	12	13
n (133)	13	18	16	19	14	12	14	5	3	1	5	13
m (41)	2	9	6	2	4	5	2	4	1	-	1	5
km (22)	3	5	2	5	1	1	-	2	1	-	1	1
3)	1	1	-	-	-	-	-	-	-	-	-	1

894	ad. ♂ ×	2.3.68 14.2.69	Ballaugh: 54°19'N. 4°32'W. Isle of Man Over Alderley (Cheshire) 200 km SE
22	juv. v	30.8.68 23.1.69	Orford: 52°06'N. 1°31'E. (Suffolk) Laval: 48°04'N. 0°45'W. (Mayenne) France
121	ad. ♂ ×	5.3.67 9.2.69	Brent Reservoir: 51°34'N. 0°15'W. (Middlesex) Abbeville: 50°06'N. 1°51'E. (Somme) France
83	1stW. ♂ v	20.5.69 (5.12.69)	Sutton: 51°11'N. 1°20'E. (Kent) Abbeville, France

finch *Carduelis carduelis* (39: 6_{1/2} years)

ery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	?
(11)	-	1	-	1	5	1	-	-	2	-	-	1	-
m (3)	-	-	-	1	1	-	-	-	1	-	-	-	-
cm (4)	-	-	-	1	-	-	1	2	-	-	-	-	-
r)	1	4	-	-	-	-	-	-	-	1	-	-	1
l)	2	1	1	2	1	-	-	-	-	4	-	2	1

Siskin *Carduelis spinus* (6: 100 km: 3½ years)

HB88955	f.g. ♀	15.1.66	Colchester: 51°53'N. 0°53'E. (Essex)
	×	25.2.69	San Sebastian: 43°19'N. 1°59'W. (Guipúzcoa) Spain (1st)
HJ06267	f.g. ♀	28.2.67	Weybridge: 51°22'N. 0°28'W. (Surrey)
	()	20.2.69	Salduero: 41°54'N. 2°49'W. (Soria) Spain (2nd)
HN11854	f.g. ♀	23.3.69	Weybridge
	v	11.5.69	Falun: 60°36'N. 15°40'E. (Kopparberg) Sweden (2nd)
HN11871	f.g. ♀	2.4.69	Weybridge
	v	22.10.69	Col de Bretolet: 46°09'N. 6°47'E. (Valais) Switzerland (1st)
HR80430	f.g. ♂	9.3.69	Frensham: 51°10'N. 0°48'W. (Surrey)
	v	8.4.69	Zwin: 51°22'N. 3°22'E. (West Vlaanderen) Belgium

Some of the above recoveries are discussed on page 142.

Linnet *Acanthis cannabina* (49: 8½ years)

British recoveries in 1969 and overseas recoveries in 1967, 1968 and 1969 are consolidated in a single table.

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0-10 km (19)	-	-	-	3	3	2	6	3	-	-	1	-
11-100 km (8)	1	4	-	1	-	1	-	-	1	-	-	-
101-200 km (2)	-	-	1	1	-	-	-	-	-	-	-	-
Denmark (1)	-	-	-	-	-	-	-	1	-	-	-	-
Netherlands (1)	-	-	-	-	-	-	-	-	-	1	-	-
France (62)	4	3	1	-	-	-	1	-	1	25	19	8
Spain (27)	4	2	4	1	-	-	-	-	-	9	5	1

HP91719	f.g.	18.9.68	Ossett: 53°41'N. 1°35'W. (York)
	v (= ♀)	27.10.69	Kennemerduinen: 52°25'N. 4°34'E. (Noord Holland) Netherlands (3rd)
H3N0007	f.g. ♂	9.9.67	Hollesley: 52°03'N. 1°26'E. (Suffolk)
	v	26.8.69	Hesselø: 56°12'N. 11°43'E. Kattegat, Denmark (1st)

Redpoll *Acanthis flammea* (35: 3½ years)

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0-10 km (7)	-	-	2	-	-	2	-	-	2	1	-	-
11-100 km (10)	1	-	-	2	2	-	1	1	1	-	1	1
101-550 km (11)	1	-	1	2	2	-	1	1	1	1	1	1
Netherlands (1)	-	-	1	-	-	-	-	-	-	-	-	-
Belgium (3)	-	-	-	-	-	-	-	-	-	3	-	-
France (3)	-	-	1	-	-	-	-	-	-	1	-	1

HE41449	pull.	16.6.67	St Andrews: 56°20'N. 2°48'W. (Fife)
	v (= ♀)	9.3.69	Trent Park, Enfield (Middlesex) 550 km SSE
AS57278	juv.	25.7.65	Gosforth: 55°02'N. 1°37'W. (Northumberland)
	v (= ♂)	9.3.69	Nieppe: 50°42'N. 2°50'E. (Nord) France
HX72474	pull.	15.6.69	Lamplugh: 54°34'N. 3°25'W. (Cumberland)
	v (= ♂)	21.9.69	Thorndon Park, Brentwood (Essex) 420 km SE
HS02637	ad. ♂	6.9.68	Walberswick: 52°18'N. 1°38'E. (Suffolk)
	v	26.10.69	Hondainville: 49°21'N. 2°18'E. (Oise) France
HR04549	1st W. ♂	11.2.68	Colchester: 51°53'N. 0°53'E. (Essex)
	v	9.3.69	Tilburg: 51°32'N. 5°07'E. (Noord Brabant) Netherlands
HS41860	f.g. ♀	19.4.69	Ringshall: 51°49'N. 0°34'W. (Hertford)
	×	29.8.69	near Edinburgh (Midlothian) 490 km NNW

193	f.g.	21.3.68	Mill Green: 51°42'N. 0°21'E. Ingatestone (Essex)
	×	(21.1.69)	Douglas West (Lanark) 510 km NW
663	juv.	24.8.69	Coopersale: 51°41'N. 0°09'E. Epping (Essex)
	×	(31.12.69)	Theillay: 47°18'N. 2°02'E. (Loir et Cher) France
115	1st W. ♂	3.3.68	Ripley: 51°18'N. 0°29'W. Woking (Surrey)
	×	2.11.69	Hamsterley (Durham) 380 km NNW

finch *Pyrrhula pyrrhula* (85: 6 $\frac{8}{2}$ years)

area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	?
(79)	9	10	6	4	5	13	14	4	1	6	2	4	1
m (5)	2	-	1	-	-	1	-	-	-	-	-	1	-
(1)	-	-	-	-	-	-	-	-	-	-	-	1	-

187	juv. ♀	31.8.69	Gibraltar Point: 53°06'N. 0°21'E. (Lincoln)
	×	31.12.69	Sherington, Newport Pagnell (Buckingham) 135 km SSW

finch *Fringilla coelebs* (112: 9 $\frac{1}{2}$ years)

Recoveries in 1969 and overseas recoveries in 1967, 1968 and 1969 are consolidated in a single table.

area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	?
(70)	7	4	8	14	8	11	2	2	7	3	1	3	-
m (8)	1	1	1	-	1	2	-	-	-	1	-	1	-
km (7)	2	1	1	1	-	-	-	-	-	-	-	2	-
(1)	-	-	-	-	-	-	-	-	-	1	-	-	-
(42)	-	1	-	-	-	-	-	-	-	26	10	4	1
nds (6)	-	-	-	2	-	-	-	-	-	3	-	1	-
(10)	-	-	2	2	-	1	-	-	-	5	-	-	-
(4)	-	-	-	1	1	-	1	-	-	1	-	-	-
(11)	-	-	-	3	2	2	-	1	1	2	-	-	-
(14)	1	-	-	3	8	-	1	-	-	-	1	-	-

88	f.g. ♀	9.11.68	Hinstock: 52°51'N. 2°28'W. (Shropshire)
	×	15.10.69	Rappenhagen: 54°04'N. 13°34'E. (Rostock) Germany

28	1st W. ♂	15.2.69	Peplow: 52°48'N. 2°36'W. (Shropshire)
	()	26.4.69	Stormyrbränna: 64°22'N. 20°12'E. (Västerbotten) Sweden

Two recoveries published in full are respectively the most easterly and the north-easterly.

bling *Fringilla montifringilla* (19: 2 $\frac{9}{2}$ years)

area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	?
(3)	1	1	-	-	-	-	-	-	-	1	-	-	-
n (3)	1	-	2	-	-	-	-	-	-	-	-	-	-
(1)	-	1	-	-	-	-	-	-	-	-	-	-	-
()	-	-	-	-	-	-	-	-	-	-	-	1	-
(1)	-	-	-	-	-	-	-	-	-	1	-	-	-
ids (2)	-	-	-	-	-	-	-	-	-	1	-	1	-
(3)	-	-	-	2	-	-	-	-	-	1	-	-	-
(2)	-	-	-	-	1	-	-	-	-	1	-	-	-
(1)	-	-	-	-	-	-	-	-	-	1	-	-	-
(1)	-	-	-	-	-	-	-	-	-	1	-	-	-

11	f.g.	1968	North Ronaldsay: 59°23'N. 2°26'W. (Orkney)
	v (= ♀)	21.10.69	Haan-Schönholz: 51°12'N. 7°01'E. (Düsseldorf) Germany (6th)

HR16298	ad. ♀	24.2.68	Rixton: 53°27'N. 2°27'W. (Lancashire)
	×	9.4.69	Bippen: 52°35'N. 7°43'E. (Osnabrück) Germany (7th)
HH61463	f.g. ♀	15.1.67	Burton: 53°16'N. 3°02'W. (Cheshire)
	×	(17.10.69)	Oskarshamn: 57°16'N. 16°25'E. (Kalmar) Sweden (2nd)
HS74759	1st W. ♂	16.2.69	Whitegate: 53°13'N. 2°34'W. (Cheshire)
	v	1969	Forgária nel Fruili: 46°14'N. 12°58'E. (Udine) Italy (6th)
HS74095	ad. ♂	21.2.69	Connah's Quay: 53°13'N. 3°03'W. (Flint)
	×	9.5.69	Stange: 60°40'N. 11°05'E. (Hedmark) Norway (5th)
HS58653	1st W. ♂	21.10.68	Dersingham: 52°51'N. 0°29'E. (Norfolk)
	×	28.12.69	Cazoulès: 44°53'N. 1°26'E. (Dordogne) France (16th)
HJ47950	f.g. ♀	26.2.68	Hinstock: 52°51'N. 2°28'W. (Shropshire)
	v	2.10.69	Revtangen: 58°45'N. 5°30'E. (Rogaland) Norway (6th)
HH60719	f.g. ♂	22.4.67	Chillesford: 52°07'N. 1°29'E. Orford (Suffolk)
	v	(6.10.69)	Lokka: 67°49'N. 27°44'E. (Lappi) Finland (2nd)
HC42970	1st W. ♂	26.3.67	Capel St Andrew: 52°05'N. 1°27'E. (Suffolk)
	×	2.4.69	Lindau: 47°33'N. 9°41'E. Bodensee, Germany (8th)

Yellowhammer *Emberiza citrinella* (18: 5 $\frac{1}{2}$ years)

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0-10 km (14)	-	2	-	2	1	4	1	-	2	-	-	1
11-100 km (3)	-	-	-	1	1	-	1	-	-	-	-	-

HR61251	f.g. ♂	9.2.69	Boyton: 52°04'N. 1°29'E. Orford (Suffolk)
	v	4.5.69	Blakeney Point (Norfolk) 105 km NNW

Reed Bunting *Emberiza schoeniclus* (57: 6 $\frac{4}{2}$ years)

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0-10 km (42)	-	3	9	5	6	2	4	2	5	2	2	2
11-100 km (9)	-	1	1	1	1	-	-	-	1	3	-	1
101-250 km (4)	-	2	-	-	-	-	-	1	1	-	-	-
350 km (1)	-	-	-	-	-	-	-	-	-	1	-	-
Sweden (1)	-	-	-	1	-	-	-	-	-	-	-	-

HX84341	f.g. ♀	4.10.69	Hilbre: 53°23'N. 3°14'W. (Cheshire)
	v	21.10.69	Thurlestone (Devon) 350 km S

AN84984	ad. ♂	7.3.65	Ipswich: 52°04'N. 1°10'E. (Suffolk)
	×	25.4.69	Säbyviken: 59°29'N. 17°01'E. (Södermanland) Sweden (2nd)

House Sparrow *Passer domesticus* (381: 8 $\frac{8}{2}$ years)

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0-10 km (366)	27	50	35	37	34	65	45	26	13	13	11	10
11-50 km (13)	1	-	-	3	1	2	-	1	1	1	2	1
51-100 km (2)	-	-	-	-	-	-	1	-	-	1	-	-

Tree Sparrow *Passer montanus* (36: 3 $\frac{1}{2}$ years)

Recovery area	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0-10 km (27)	1	3	3	2	5	5	6	1	-	-	1	-
11-50 km (6)	1	-	-	-	1	-	2	1	-	1	-	-
51-100 km (3)	-	1	1	-	-	1	-	-	-	-	-	-

More examples of the best recent work by British bird-photographers

Plates 21-28

This is the twelfth annual selection of contemporary photography. The final choice of 13 was made from a short-list of nearly 100 prints, some of which had been submitted individually and others gathered and initially sifted by the honorary secretaries of the Zoological Photographic Club, the Nature Photographic Society and the Nature Photographers' Portfolio: we are grateful to all concerned.

As usual, most of the prints were of a high standard and the selection was far from easy. Once again, however, where other things were equal, we tended to give preference to species and photographers not previously featured. Eight species and three photographers are new to the series, bringing the grand total in twelve years to 163 photographs of 112 species by 62 people. The species which are new, surprisingly in some cases, are Peregrine *Falco peregrinus*, Red Grouse *Lagopus lagopus scoticus* (this journal's emblem), Grey Plover *Pluvialis squatarola*, Pectoral Sandpiper *Calidris melanotos*, Green Woodpecker *Picus viridis*, Sand Martin *Riparia riparia*, Willow Tit *Parus montanus* and Robin *Erithacus rubecula* (Britain's national bird). On the other hand, we are not averse to repeating species where the standard is sufficiently high and the Kestrel *Falco tinnunculus* has now appeared five times in the series.

Another of our aims is to encourage photography away from the nest, particularly of display or behaviour. Of these 13 photographs, only four show the bird at the nest, although one or two more are obviously taken in the vicinity. The fixing of suitable perches close to feeding tables or the setting up of stuffed birds often makes photography of aggressive behaviour possible. In this connection, we particularly like Frank V. Blackburn's posturing Robin (plate 21); note how its throat feathers are erected and its mandibles just parted.

The two photographs on plate 22 are both highly evocative. The Curlew *Numenius arquata* in song flight (plate 22a) is a fine study in detail, showing the pattern of the under-wing and the spread tail, as well as the slenderness of the mandibles. This was taken by Stephen Dalton, who specialises in aerial and natural history photography and whose work is now selected just one year after a picture by his father, D. N. Dalton, first appeared in the series. The clouds were printed in from another negative: although we disapprove of any retouching of birds, we see no objection to such superimposing provided it is as effective and tasteful as this. Andrew M. Anderson's Greenshank *Tringa nebularia* (plate 22b) is the same nest as on plate 35a

of the 1969 selection, but we have taken the unusual step of choosing this second photograph because it illustrates the breeding habitat in such an effective and aesthetically pleasing way, while at the same time driving home the species' tendency to nest by some landmark in an often rather uniform territory. The Sand Martins (plate 23) are typical of H. A. Hems's outstanding work and this photograph is one of the best we have seen of this species. It emphasises the gentle expression which will be familiar to all ringers and illustrates how the tunnel is dug in the stone-free sand. This particular colony was at the stage when many juveniles were making short flights together for two or three minutes before returning to their nests to be fed; this period usually lasts for several days and Mr Hems commented that the young seemed able always to relocate their own nest holes.

The next four pictures show birds by or on water. Keith Atkin is another photographer new to the series: indeed, he took his first photographs in March 1970, yet already he has produced a Pectoral Sandpiper (plate 24a) which is well worth inclusion and which typifies autumn 1970 when at least 60 of this American species, more than ever before (*cf. Brit. Birds*, 64: 93-103), were recorded in Britain and Ireland. Mr Atkin sent us many other prints and says that he began using a camera as a result of the article on 'Bird-photography by stalking' (*Brit. Birds*, 61: 546-549, plates 63-74). The authors of that and the outstanding exponents of this technique, Brian and Sheila Bottomley, have now sent us a superb selection yet again, from which we chose their Grey Plover (plate 24b) as this is one of the less approachable and so less photographed waders and one which has not previously appeared in the series. It is, as we have come to expect from the Bottomleys, a perfect portrait—clean, sharp and yet soft in its feather texture. Nearly all photographs of divers show them sitting tight on their nests and we therefore congratulate Dr D. A. P. Cooke on his superb Red-throated Diver *Gavia stellata* with two small young (plate 25a). Another unusual aquatic study is R. J. C. Blewitt's Woodpigeon *Columba palumbus* drinking (plate 25b); this species is notoriously shy to photograph at its nest and, unless the very greatest care is taken, it will often desert, but Woodpigeons frequently drink regularly at places where it may not be too difficult to erect a hide.

In this year when there is another census of Peregrines (see page 199), we are glad to have an opportunity of publishing William S. Paton's unusual and superbly stereoscopic study of one perched in a tree (plate 26a). Arthur Gilpin, so long one of our foremost photographers, continues to set a high standard and his female Kestrel by her eggs at a ground site in heather (plate 26b) is certainly a wonderful example of good nest photography; note also the ring of pellets. Dr R. K. Murton is probably better known for his ecological studies of pigeons, though he has taken and published some remarkable

pictures of Wood pigeons at the nest where, as already mentioned, they are very shy to photograph. His Willow Tits (plate 27) illustrate the male about to feed the female; these birds are always difficult to portray as they usually dive quickly into their holes, but here the presence of the female has prevented this. P. D. V. Weaving is the third photographer new to this series with his Green Woodpecker seeking food, probably ants (plate 28a); there are many portraits of this species at or near its nest hole, but to photograph one foraging on the ground is more unusual. Finally, K. W. Padley's Red Grouse (plate 28b) is made particularly attractive by the surrounding grass which gives it a natural effect so often missing when gardening has to be done at a nest site.

Three of the species in this selection—Greenshank, Red-throated Diver and Peregrine—are on Schedule 1 of the Protection of Birds Act 1967 and it therefore seems timely to remind photographers that, in order to avoid committing an offence, they must first obtain approval from The Nature Conservancy, 19 Belgrave Square, London SW1, before they disturb any Schedule 1 birds at or near the nest. We published a list of the species concerned in May 1968 (*Brit. Birds*, 61: 215), but in 1970 a further twelve were added:

Spotted Crake	Kingfisher	Redwing	Firecrest
Wood Sandpiper	Woodlark	Bluethroat	Serin
Little Tern	Fieldfare	Savi's Warbler	Crossbill

Once again, we appeal to all bird-photographers using black-and-white to let us see their best results. Prints for next year's selection should reach us by 12th February 1972.

ERIC HOSKING and I. J. FERGUSON-LEES

Evening Grosbeak on St Kilda: a species new to Britain and Ireland

N. Picozzi

At 10.00 hours on 26th March 1969, in the old village on Hirta, St Kilda, I heard an unfamiliar call, which I noted as a metallic 'jink'. It came from a small bird perched on a dry-stone dyke and even at a range of 200 metres, using 8× binoculars in excellent light, I was impressed by its dumpy appearance and conspicuous white wing-patch. It soon set off strongly with an undulating flight towards the army

encampment, where it perched on an overhead cable; from a range of twelve metres I saw that it had a very heavy, pale lime-green beak and a predominantly dull yellow body. It dropped down to the ground, then fluttered against a Nissen hut window while attempting to perch on the narrow ledge; shortly afterwards it landed on the bucket of a diesel truck, although the engine was running noisily and the bucket vibrating. Next it flew a short distance to a wooden landing platform, where I was able to approach within five metres and take a colour photograph; I noticed that some feathers on its crown were missing and that its body feathering was very 'loose', giving the impression that it was in poor condition. It landed on the grass, but did not feed, and then flew off through the encampment; it was not seen or heard again.

In size and shape, the bird closely resembled a Hawfinch *Coccothraustes coccothraustes*. The head, nape and breast were rusty brown apart from a broad, yellow superciliary stripe (which extended around the forehead immediately above the base of the upper mandible) and a black crown (some of the feathers of which, as already noted, were missing). The back was mottled rusty brown and grey, and the belly and flanks were dull yellow. The primaries were black and the secondaries and tertials white, these forming a conspicuous patch; the rump was bright yellow and the tail black. The legs were red-brown and the heavy conical beak pale lime-green. From these details I identified the bird as a male Evening Grosbeak *Hesperiphona vespertina*, the first record of the species in Europe, and this was afterwards confirmed by the colour photograph.

The adult male Evening Grosbeak cannot be mistaken for any other species; the first-winter male can usually be distinguished from it by black or dark inner margins to the white tertials. (The St Kilda bird, with entirely white tertials, was therefore probably an adult.) The adult female is much duller, though still unmistakable: the upper-parts are mostly smoky grey, darkest on top of the head and palest on the rump; the back of the neck is tinged with greenish-yellow and the cheeks are grey (similar to the top of the head); the throat, belly and under tail-coverts are off-white with a dusky streak down each side of the throat; the breast and flanks are buffy grey with a tinge of yellow; the wings are mainly dull black, but the primaries (except the three outermost) are white at the base, forming a small white patch, and the tertials are grey, edged or tipped with white; the tail is black with the inner webs broadly tipped white. The juveniles resemble the female, but they are browner and their under-parts are paler and more buff with less sharply defined markings. The sexes can be distinguished even at this age: males have plain black tail-feathers, black primaries and a prominent whitish patch on the inner secondaries, while the females have a series of white spots near the

tips of the rectrices, black and white primaries and no whitish area on the secondaries; also, the body colour of young males is a yellow tan and that of young females is a grey tan (Speirs 1968). The first-winter plumage follows a partial post-juvenile moult of body-feathers and wing-coverts; the juvenile flight-feathers and tail are retained, though the tertials may be shed in some cases. The first breeding plumage is assumed by abrasion, supplemented possibly by a slight spring moult about the head and neck. The adult winter plumage is produced by a complete post-nuptial moult when the bird is more than one year old (Forbush 1929, Godfrey 1966).

Hesperiphona is one of two endemic New World genera of the sub-family Carduelinae in the family Fringillidae. According to Vaurie (1964), of the three Old World genera of finches with massive bills (*Coccothraustes*, *Eophona* and *Mycerobas*), *Hesperiphona* is most closely related to and weakly differentiated from *Eophona*—the Masked Hawfinch *E. personata* and the Black-tailed Hawfinch *E. migratoria*—of eastern Asia. Although Vaurie referred to two species of *Hesperiphona*, most authors regard them as subspecies—the darker, western *H. v. brooksi* and the lighter, eastern *H. v. vespertina*. *H. v. brooksi* breeds in western North America from the mountains of Canada to Mexico (though some authors distinguish the Mexican population as a third race *H. v. montana*). In winter it descends to the lowlands and is characterised by both erratic local and general migratory movements; the pattern of its winter occurrences varies, therefore, from year to year (Nichols 1936, Jewett *et al.* 1953). *H. v. vespertina*, which was formerly regarded as a bird of central Canada, was first recorded in the eastern part of the Great Lakes region at Toronto in 1854. Following an increasing number of records in Indiana between 1876 and 1887, and then in western Kentucky and New York in the latter year, there was a great eastward migration in winter 1889/90 in which some individuals penetrated to the coast of Massachusetts (Forbush 1929, Speirs 1968). Another big movement occurred in winter 1910/11 and thereafter the species was observed in New England every year. Presumably as a result of these irruptions, the still increasing summer range has now spread down into northern Michigan and as far east as Cape Breton Island, Nova Scotia. The species winters within much of its breeding area and erratically south and east to Missouri, Kentucky, Ohio, Virginia (rarely) and New England (Nichols 1936, Peterson 1947, Godfrey 1966).

In winter 1968/69, immediately preceding my observation on St Kilda, a quite unprecedented movement occurred and Dr I. C. T. Iisbet stated (*in litt.* to Dr J. T. R. Sharrock) that Evening Grosbeaks were more numerous than ever before in eastern North America. Some idea of the scale of this movement may be gained from the regional reports in *Audubon Field Notes* (June 1969) (see over):

Nova Scotia	Sensational numbers
Newfoundland	Remarkable numbers
New Brunswick	Much greater numbers than usual
New England	Almost universally abundant in early winter
Quebec	Major movement
New York and Connecticut	Generally distributed October to January
New Jersey and Virginia	Unquestionably the best year yet
North Carolina—Georgia	Tremendous numbers throughout
Florida	Thousands (no previous records of the species)

The northward return continued to early May, which is unusually late (*Audubon Field Notes*, August 1969).

Evening Grosbeaks feed mainly on the buds and seeds of many deciduous trees, in particular the Manitoba maple *Acer negundo*. Taverner (1934) suggested that the planting of this tree in many parts of Canada might affect the migratory habits of these birds. In winter they eat the seeds and fruit of a wide variety of other trees and shrubs, and at feeding stations (bird tables) their favourites are sunflower seeds. In summer they also take a proportion of animal food, particularly beetles and caterpillars (Gabrielson 1924).

What is known about the breeding of the Evening Grosbeak has been summarised by Speirs (1968). The eastern race is a late nester, occasionally starting to build in late May, but usually not laying until June or even July; even the more southerly western form often does not nest until June, although eggs have been found in the first half of May and even in late April. The species breeds in coniferous, deciduous and mixed woodland, and nests have been recorded at a variety of heights from six to 125 feet in such trees as balsam fir, Douglas fir, spruce, pine, white cedar, willow, poplar, birch, elm, juneberry and maple. The nest is frequently out on a horizontal limb, but also sometimes in a fork close to or in the main trunk, particularly when near the top of the tree. Built by the female alone, accompanied by the male, it is a rather loose structure of twigs broken off in the bird's bill; these are taken both from deciduous trees and, particularly the smaller inner ones, from conifers. Usually a little moss or beard lichen *Usnea* is woven in, and the whole structure is then lined with fine hair-like rootlets, shreds of bark, grass fibres and dead threads of lichen; the oval cup is 80 to 95 mm across. Two to five eggs are laid, but the usual clutch is three or four, and these are blue-grey, blue or bright blue-green (becoming paler and greener during incubation) blotched and spotted, particularly at the larger end, with various shades of olive, brown and grey and sometimes pencilled with black. The female alone incubates, perhaps beginning with the second egg, for eleven to 14 days. Both sexes feed the young, which spend 13 or 14 days in the nest. There may sometimes be two broods. Mountfort (1957) noted that the eggs and nestling down are very similar to those of the Hawfinch.

Escaped cagebird or genuine vagrant?

The tameness of the Evening Grosbeak on St Kilda and the feathers missing from its crown immediately suggested that it might have been an escape, but M. D. England and Derek Goodwin, who kindly pursued this possibility, knew of no instance of the species having been offered for sale in Europe for nearly 40 years. In irruption years Evening Grosbeaks are offered for sale in Europe, and not forgetting man, very often on window-ledge feeders, and this could explain the behaviour of the one on St Kilda at the Nissen hut window. These grosbeaks are very tame and, when crowded at feeders, the males in particular become aggressive and their fights involve much pecking of head feathers. They are also susceptible to colliding with windows and 'scalping' themselves on wires (such as those put over bird-feeders to keep out Grey Squirrels *Sciurus carolinensis*). A Massachusetts ringer, Mrs Dorothy W. Briggs (*per* Dr I. C. T. Nisbet *in litt.* to Dr J. T. R. Sharrock), has seen Evening Grosbeaks lose head feathers in such ways 'many times'; also in spring she has handled individuals with all the old crown feathers moulted and the new feathers in pin, which would look bare in the field.

When all the evidence is considered, particularly the fact that no Evening Grosbeaks are offered for sale in Europe, and not forgetting the unprecedented southward and eastward movements in North America in winter 1968/69 and their unusually late return in the following spring, it seems very probable that the one on St Kilda in March 1969 was indeed a genuine transatlantic vagrant.

ACKNOWLEDGEMENTS

I should like to express my gratitude to the members of the Rarities Committee of *British Birds* and the Records Committee of the British Ornithologists' Union who followed up this record so thoroughly, and in particular to Dr J. T. R. Sharrock for his correspondence on the subject. The members of both these committees have examined my colour photograph of the bird and agree that it proves the identification. I am also most grateful to Dr D. Jenkins and to I. J. Ferguson-Lees for their comments on a draft of this paper.

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Notes

Common Sandpiper eating apple On 20th June 1970 I was sitting in a car by a small loch in Ross-shire when two Common Sandpipers *Tringa hypoleucos* came foraging close. One of them discovered a portion of apple and, one by one, broke off and swallowed several fragments. The other sandpiper ignored the apple. J. FITZPATRICK
13 Beaconsfield Road, London N15

Long-tailed Skua feeding on inland refuse tip On 6th October 1970 T. Owen and R. W. Rhodes observed an adult Long-tailed Skua *Stercorarius longicaudus* at Pennington Flash, Leigh, Lancashire, which is 20 miles inland. It was not seen again until 10th, when F. R. Horrocks disturbed it from an adjacent refuse tip; it then alighted on the water and preened. On the following day several other observers and I watched it on the tip for over two hours. Twice it was seen to pick meat from an old bone among the refuse. The skua was extremely tame and we approached to within six feet of it on one occasion. When a dog appeared it uttered a single, loud, high-pitched call several times. It was not seen after that date. C. OWEN

64 Etherstone Street, Leigh, Lancashire

Woodpigeons nesting on lighthouse On 4th June 1970 a pair of Woodpigeons *Columba palumbus* was found to be building a nest on the lighthouse tower at Rattray Head, Aberdeenshire. The lighthouse stands on rocks a quarter of a mile out to sea and is isolated from land except at low tide. The adjacent shore consists of extensive dunes covered in marram grass *Ammophila arenaria*. The nest was situated on the base of the tower on a window-ledge facing south-east, about 30 feet above the rocks and 20 feet above mean high water mark. This window functions as the outlet for the diesel engine exhaust pipes on which the nest was built. From regular observations it was found that building took place for only about four hours each day between dawn and 07.00 GMT. Because of the frequent disturbance caused by the fog signal and the noise and fumes from the exhausts, building

was not completed until 29th June. During this period the pigeons had not roosted on the lighthouse, but on the night of 29th/30th the female remained on the nest and by dawn she had laid the first egg; a second was laid between 14.00 and 19.15 GMT on 1st July. One egg hatched on 19th, but three days later the other was found to be addled. The chick thrived until 27th July when, during a period of fog, its parents were absent from the nest and it appeared to be gasping for breath. It was found dead the next day, presumably overcome by carbon monoxide fumes from the exhausts. Indeed, the nest was slightly blackened by the gases.

On 1st August the pair started to build again, this time on a window-ledge facing north-west and at a similar level to the first. The eggs, laid on 5th and 6th August, both hatched on 22nd. On 23rd, however, one chick was found to be dead from unknown causes and was removed; the other survived, being last seen on 14th September. Two days later, on 16th, a new nest was begun on the original site, the previous nest having been removed. Very intense activity was noted, and the nest was soon completed; the clutch of two was laid on 18th and 19th, and both eggs hatched on 6th October. The young survived until 12th when they were asphyxiated by exhaust fumes during a further foggy period.

The nests were later found to be constructed entirely of the roots of marram grass, the foundations of coarse roots and the linings of finer ones. The first had 368 pieces of material, the second 229 and the third 347, a total of 944. (The second and third had been built entirely of fresh material carried from the shore; the birds did not take any roots from previous nests.) As each return journey to the dunes to collect a single piece of root involved flying at least half a mile, the pair must have covered a total distance of not less than 470 miles in nest-building. Incidentally, when incubating, the adult could be observed at very close quarters, leaving the nest only when the window was opened. Once the eggs had hatched, even this did not shift the bird, which would immediately attack with the wings, striking an out-stretched hand with considerable force.

The persistence with which these Woodpigeons bred on such an unusual site seems completely out of character with this basically woodland species (although it has been recorded nesting on other types of buildings) and shows how adaptable it can be. Breeding would no doubt have been more successful had the weather not been foggy at the crucial times.

MALCOLM R. WILLIAMS

Rattray Head Lighthouse, by Peterhead, Aberdeenshire AB4 7HA

Crag Martins nesting on house In view of the scarcity of records of Crag Martins *Hirundo rupestris* nesting on buildings (*Brit. Birds*, 63: 241), the following may be of interest. In August 1969 and again in August 1970 I observed a pair of Crag Martins feeding young in a

south-facing nest under the first floor window of an old house overlooking the River Lot at Espalion, Aveyron, France, a busy town 300 metres above sea-level. This particular house, at the end of a row, was the only one to have been recently modernised and replastered with concrete.

MARY WALLER

17 Embercourt Road, Thames Ditton, Surrey

J. D. Wood informs us that in August 1965 he saw several Crag Martins around the cathedral at Le Puy, Haute Loire, and later watched young being fed on a window-sill at St Enimie, Lozère, though in neither case did he see the actual nests. EDS

Pair of Blue Tits feeding young Coal Tits as well as their own young Whilst visiting my parents in Harrow Weald, Middlesex, at the end of May 1970, I watched an interesting sequence of events at the nest of a pair of Coal Tits *Parus ater* in a hole in the terrace wall. The Coal Tits were feeding their young, but a pair of Blue Tits *P. caeruleus* was also delivering food, mainly green caterpillars, to the same nest. I had ringed one of the Blue Tits as an adult in September 1969, and I had also ringed one of the Coal Tits, so I was able to confirm that all four birds were taking food to the nest. I then found that these same Blue Tits were also regularly feeding young of their own in another nest in the guttering of the house about 20 feet away. My father told me that only the Coal Tits had used the nest-hole before the young hatched; the Blue Tits first appeared there when the young were calling for food. I was told that the young Coal Tits subsequently flew.

This particular hole in the terrace wall has been regularly used for at least 20 years by Blue Tits and Great Tits *P. major*. Coal Tits first took it over in 1969. It is quite possible that one or both of the Blue Tits had been born in this hole or had previously raised a brood there, but there is no evidence either way. J. C. M. ROBERTSON
4 Gorey Hill, Gorey, Jersey, Channel Islands

Letters

Further notes on Nutcrackers in 1968 and 1969 In my paper on the invasion of Nutcrackers *Nucifraga caryocatactes* in autumn 1968 (*Brit. Birds*, 63: 353-373), I inadvertently omitted a reference to Norway from the brief national summaries of the situation in continental Europe (pp 355-357). This should have read as follows:

Norway Reports from nearly all provinces, mostly in August. At Revtangen, in the south-west, 205 were seen flying north on 27th August, 80 on 29th and smaller numbers in the first ten days of September (*per* M. Eriksson and J.-Å. Hansson).

In addition, I have since received some further observations on food and behaviour relating to the Nutcrackers in Britain. In Suffolk one was seen to eat the fruits of sloe or blackthorn *Prunus spinosa*, but it was not possible to be sure whether the stones were also consumed. Another in Hertfordshire fed continuously for two days by cracking the stones of wild cherries *P. avium* and eating the kernels; the soft parts of the fruit had already been consumed by Blackbirds *Turdus merula*. A third in Devon extracted seeds from the small cones of Lawson's cypress *Chamaecyparis lawsoniana*. One observer noted a further call, a plaintive 'mew' resembling a squeaking door, from a Nutcracker in Kent in April 1969.

Several more observers have reported other species reacting adversely to the presence of a Nutcracker, but records of actual mobbing still number no more than ten, including one or two reports each of Collared Doves *Streptopelia decaocto*, Song Thrushes *Turdus philomelos*, Blackbirds and House Sparrows *Passer domesticus* flying at a Nutcracker as if to attack it.

J. N. HOLLYER

21 Temple Way, Worth, Deal, Kent

Grasshopper Warbler or Pallas's Grasshopper Warbler in Dorset?

We were not convinced by F. R. Clifton's note (*Brit. Birds*, 61: 269-270) on a bird trapped at Portland, Dorset, on 27th April 1967 and identified as a Grasshopper Warbler *Locustella naevia* despite certain resemblances to Pallas's Grasshopper Warbler *L. certhiola*. Why could not the reverse have been true? Buffish-white tips to the tail-feathers, with subterminal blackish areas, are diagnostic of *certhiola* and, as far as we know, have never been recorded in *naevia*. Surely shades of plumage tend to be more variable than distinctive patterning? The identification as *naevia* was made on two points: the shade of the rump and the streaking on the under tail-coverts. The former character, at least, is certainly variable.

The first of the two Fair Isle birds to which Mr Clifton referred (see Kenneth Williamson, *Brit. Birds*, 43: 49-51), a sight record, had inconspicuous spots on the tail, but it also had a rufous rump and therefore the identification was never in much doubt. The tail-spots of the Portland bird were, however, noticed by all five observers when the bird was released and were, in fact, very well marked when it was examined in the hand. While the streaked under tail-coverts were stated to be 'specifically those of *L. naevia*', the distinctive tail patterning was equally specifically that of *certhiola*. It would be interesting to know how many specimens of *naevia* have been recorded as showing the tail pattern diagnostic of *certhiola*, and at the same time how many specimens of the latter have lacked a rufous rump and/or had streaked under tail-coverts.

From the range of primary lengths given in *The Handbook* it seems

likely that a fourth primary shorter than the second is as indicative of *certhiola* as of *naevia*. Furthermore, the distribution and degree of streaking on the upper-parts of the Portland bird as described by Mr Clifton would certainly uphold a decision in favour of *certhiola*. From the description given, therefore, could not this bird have been a Pallas's Grasshopper Warbler showing a characteristic, but not diagnostic, feature of Grasshopper Warbler—the streaked under tail-coverts?

JOHN R. MATHER and DAVID M. BURN

44 *Aspin Lane, Knaresborough, Yorkshire*

I read F. R. Clifton's note with much interest, but feel that further discussion is called for. Is this instance unique, or are there other similar records; and what explanation does Mr Clifton suggest for the buffish-white tips and subterminal blackish on the tail-feathers? It seems conceivable that the bird may have been a Pallas's Grasshopper Warbler resembling a Grasshopper Warbler, or even possibly a hybrid between the two species. Surely the plumage of the under tail-coverts and rump are at least as subject to variation as the tips to the tail-feathers? The rufous rump stressed by Kenneth Williamson is referred particularly to two birds on Fair Isle, hardly a sufficient sample from which to draw a general conclusion. Moreover, unlike those on Fair Isle, the Portland bird was in spring.

I have a special interest in this matter, because on Cape Clear Island, Co. Cork, on 2nd September 1964 I flushed an unidentified warbler from short grass in an open peaty area. It was a little smaller than a Meadow Pipit *Anthus pratensis*, and suggested a Sedge Warbler *Acrocephalus schoenobaenus*, but its general coloration was more of a yellowish-green and it clearly showed dull whitish tips to the outer feathers of the moderately long tail. It flew up almost from under my feet with a weak, low, veering flight and alighted 15 yards away at the edge of a large reed-bed. I was sure it was not a Fan-tailed Warbler *Cisticola juncidis*, with which I am very familiar in southern France and Italy. At the time I thought it might have been a Pallas's Grasshopper Warbler, but I was deterred by the yellowish-green coloration and lack of rufous rump, and so noted it as *Locustella sp.* It now seems that it might have been in the same category as the bird described by Mr Clifton.

P. G. R. BARBIER

311 *Hillside Hostel, Mayberry Avenue, Hereford*

We regret the delay in the publication of these two letters which were put on one side pending an examination of skins. In fact, Kenneth Williamson and I together looked at a long series of both species in the British Museum (Natural History), but could reach no conclusion. We found one specimen of *naevia* with whitish tips to the tail-feathers, but these were indistinct and not contrasted with blackish sub-

terminally; we also found one *certhiola* with rudimentary streaking on the lower flanks, but not actually on the under tail-coverts. I.J.F.-L.

News and comment

Robert Hudson

B.T.O. enquiries into churchyard birds . . . Churchyards are small in extent, but there are many of them and they are widely dispersed. They constitute a distinctive type of habitat, being islands of well-spaced trees and shrubs (mainly coniferous) that generally contrast with their immediate surroundings. It has been suggested that churchyards must be important 'reservoirs' for wildlife, particularly in providing breeding sites, but in reality very little is known of their potential in this respect. To remedy the situation so far as birds are concerned, the Populations and Surveys Section of the British Trust for Ornithology is launching a survey as a small-scale extension of its Common Birds Census; 1971 will be a pilot year in which recording methods are tested. Initially, the Churchyard Survey will concentrate on breeding birds; investigations into the role of these habitats as bird breeding and winter roosting places will follow later. The survey is outlined in *B.T.O. News* no. 43; interested persons are invited to write to the B.T.O., Beech Grove, Tring, Hertfordshire.

. . . and Peregrines The National Peregrine Census of 1961, organised by Dr D. A. Ratcliffe on behalf of the B.T.O., was justly acclaimed for the case it provided against the use in agriculture of certain toxic chemicals. The national census of this species is to be repeated between April and August 1971, again under the direction of Dr Ratcliffe, and ultimately the results (current population levels, breeding success and toxic chemical residues) will be published in *Bird Study*. Information is required from each known breeding site as follows: is nesting occurring (if so, with what success), are Peregrines otherwise present, or is the site deserted? It is essential that participants first contact the B.T.O. (address above), since the Peregrine is a Schedule 1 bird and special approval to visit nests is needed as a result of the 'wilful disturbance' clause in the Protection of Birds Act 1967.

Values of extinct birds On 4th March Sotheby's Sale Room in London was the scene of an auction of natural history specimens which included the skins of a number of extinct birds. The keenest bidding was for a mounted Great Auk in summer plumage, from the collection of Count Raben of Nysted, Denmark; this is specimen 25 in Paul Hahn's *Where is that Vanished Bird?* (Toronto, 1963) and is reputed to have been killed in Iceland in 1821. It was the first Great Auk to appear on the open market since the 1939-45 war and, as specimens of this species had always commanded high prices, there was considerable interest to see how values had appreciated. In the event, this particular skin was knocked down for £9,000 to a group of Icelandic businessmen who bought it for presentation to the Reykjavik Museum. Such an exceptional sum is probably the highest ever paid for any natural history specimen. It will be interesting to see whether comparable prices are realised for the late Captain Vivian Hewitt's Great Auk specimens (at least three skins and twelve eggs), which are currently in the hands of a London dealer. Also in the same auction at Sotheby's were a pair of Huia's (an extinct New Zealand species), a Norfolk Island Parrot and a Carolina Parakeet which fetched £320, £190 and £180 respectively, and a Passenger Pigeon which was knocked down for a mere £65. The only bird egg on sale was a subfossil one of *epyornis*, a genus of giant ratites which existed in Madagascar during the Pleistocene; this was purchased by the firm of Quaritch for £1,000.

During the last three years or so, increased interest has been shown in London sale rooms for mounted birds (eggs may not be sold under the Protection of Birds Act 1954). Conservationists have an 'uneasy feeling' this interest could become the thin edge of a wedge.

Bird corpses for pollution studies For the past few years birdwatchers from many parts of Britain have contributed greatly to the pesticide work at Monks Wood Experimental Station by sending bird corpses for chemical analysis. More than 2,000 specimens have been received there, including 280 Kestrels, 170 Barn Owls, 30 Kingfishers and over 300 seabirds, mostly Guillemots. Following the voluntary bans on many agricultural uses of organochlorine pesticides, however, the emphasis of the work is gradually changing. While some analyses for organochlorine compounds will still be made in order to record the expected decline of these residues, new ones have been started to test for other pollutants such as toxic metals (for example, mercury, lead and cadmium) and industrial effluents (for example, the polychlorinated biphenyls).

The Nature Conservancy would therefore like to continue its long-standing appeal for birds found dead. The species still required are Great Crested Grebe, Heron, Golden Eagle, Sparrowhawk, Peregrine, Kestrel, Guillemot and Kingfisher. In addition, specimens of the rarer birds of prey and a limited number of corpses of a range of other seabird species, and also one mammal, the Otter, will be welcome. Autopsies will be carried out and the various tissues will often be analysed. Many may not be analysed immediately, but the tissues will be stockpiled in deep-freeze for future reference. Because some aspects of its pollution work must be given priority over others, and because of the high cost of analyses (£10-£100 per specimen, depending on the number of tissues examined and the pollutants being investigated), the Conservancy cannot promise to undertake any particular analysis or guarantee early results. The cost of postage will be refunded, however, and a copy of the autopsy findings sent. The collector will also be supplied with a copy of any results obtained from chemical analyses when these are carried out.

Specimens should be packed securely and sent by first-class letter post to A. A. Bell, Monks Wood Experimental Station, Abbots Ripton, Huntingdon. If a deep-freeze is available to the collector, they are best despatched in a frozen state. If in doubt whether specimens are needed (for example, in the case of large numbers of dead seabirds coming ashore), please telephone Mr Bell or J. L. F. Parslow at Abbots Ripton 381: charges may be reversed.

A correction In 'News and comment' for February (page 88) I referred to the Wild Creatures and Forest Laws Bill then before Parliament and likely to be passed unopposed by both Houses. In this I was premature, for during the committee stage the Earl of Cranbrook successfully moved an amendment for the retention of the royal prerogative to stranded cetaceans. This was done to ensure continuance of present arrangements between coastguards and the British Museum (Natural History) whereby museum zoologists have been able to obtain important research material.

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

'Recent reports' Owing to the postal strike, most of the records for December and January were considerably delayed, and the rest of the picture for those months (*cf. Brit. Birds*, 64: 135-136) will be summarised in the next issue.

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British Birds

Observations on a resident population of Stonechats in Jersey

E. D. H. Johnson

INTRODUCTION

Between 1950 and 1970 I studied a population of Stonechats *Saxicola torquata* in the area of St Ouen's Bay, Jersey, Channel Islands. In the course of this, nearly 1,000 individuals of all ages were ringed and, between 1951 and 1965, 660 of them were also colour-ringed. From October 1954 to May 1959 observation was maintained almost daily and during this time records were kept on a total of 510 colour-ringed and a few unringed birds; all the nests were found and all the young were ringed. Certain aspects of the pair relationship, based on this work, were discussed in a previous paper (Johnson 1961).

The study area (fig. 1) was a stretch of coastal plain four kilometres (2½ miles) long, varying in width from 200 to 800 metres (220 to 880 yards) and in altitude from five to 25 metres (16 to 80 feet) above sea level. It consisted largely of a marram-covered wasteland of disused sand pits and low dunes, with some derelict cultivation, reed beds bordering an area of fresh water, small sections of gorse *Ulex*, occasional stunted trees, neglected hedges and numerous barbed wire fences. It supported a maximum of twelve breeding pairs of Stonechats in any one year.

TERRITORIES AND HABITAT

Despite a superficial uniformity of vegetation and topography over the whole of the study area, Stonechats were usually to be found only within 14 well-defined territories, many of which were widely separated from one another. These territories were never occupied by more than one pair at a time, except during the periods when the pair bond was relaxed in spring and autumn (Johnson 1961). They varied in area

between 1.2 and 7.0 hectares (between 3 and 17 acres). This agrees fairly closely with the sizes of territories recorded in Devon (Parrinder and Parrinder 1945) and in the southern Netherlands (Agatho 1960-61), but Lebeurier and Rapine (1936) estimated the territorial requirement in Brittany as one hectare ($2\frac{1}{2}$ acres). This last, however, may refer only to the nesting territory, which is considerably smaller than that which a pair may occupy outside the breeding season. In Jersey, even in the largest of the 14 territories (T4 in fig. 1), the area occupied during the breeding season rarely exceeded 3 hectares.

Territorial boundaries usually followed well-defined topographical features, such as the sloping banks of a sand pit, a wall, a hedge or even a single strand of barbed wire. This use of such boundaries was also noted in Brittany by Lebeurier and Rapine. The boundaries in Jersey remained practically unchanged throughout the whole period of the study and, despite the fact that many of them were man-made, they were subject to very little human interference. Such features were regularly patrolled by the males during the early stages of pair formation in the autumn. It seems probable that, where population density is low, territory size is determined more by topography than by variations in territorial behaviour.

A Stonechat territory must contain certain essential topographical features, the most important of which is a regular scattering of lightly constructed perches up to 1.5 metres in height. This is dictated by the species' principal method of feeding, which is to drop on to an insect from immediately above, and also by the tactical relationship which exists between the pair for the greater part of the year, when the male and female are hardly ever out of visual contact with one another. Even when the territory is among gorse, more skeletal perches are often preferred, if available, as offering a more uninterrupted view of the ground. Small trees are seldom used, except as the long-range observation post which is a part of every breeding territory; but for this purpose a tall post or telephone wire is usually preferred. The Stonechat's preference for waste land probably stems from the fact that small shrubs and perennial weeds (e.g. sea radish *Raphanus maritimus* and various Umbelliferae) remain uncleared, their dried stems even providing suitable perches in winter. Similar continuity of vegetal perches is ensured by certain types of vineyard and maquis on the Continent and by palmetto scrub in North Africa.

Another essential of a Stonechat territory is that it should include undulations, gullies, walls, banks or other features to provide cover for the species' low, evasive flight when confronted by an intruder.

So essential is a raised perch to the Stonechat that it will often hover motionless, with legs dangling, several feet from the ground, if surprised by an intruder or by the sudden appearance of an attractive item of food when at a distance from a convenient twig or post.

undulating, disused sand pit with long and short grass, barbed wire fences, some water and scattered small trees. 2.0 ha (5 acres)

disused sand pits with banks, ridges and steep slopes, a high proportion of marram grass, and a few fences, wires and poles. 1.2 ha (3 acres)

undulating, disused sand pit with coarse grass, brambles, gorse, three small trees, many fences, overhead wires and poles. 3.0 ha (7½ acres)

hole of large, level, disused sand pit with numerous marram-covered ridges and two stone posts. 7.0 ha (17½ acres)

comparatively secluded sand pit, between ridges 6 metres high, with very uneven ground, permanent water, reeds, brambles, gorse, small trees, derelict fortification, piles of rubble and telephone pole. 2.5 ha (6 acres)

grassy hillside with dry-stone wall, barbed wire fences and large area of gorse. 0.7 ha (2 acres)

flat, open ground on either side of busy road, including part of large reed bed, with several overhead wires and telephone poles. 3.5 ha (9 acres)

largely waterlogged meadow, bisected by low stone wall and edged by reed bed, with poles and overhead wires. 1.4 ha (3½ acres)

derelict cultivation, overgrown by gorse and rounded by barbed wire fence, with overhead wires. 1.2 ha (3 acres)

disused sand pit in depression, sandy hummocks, overhead wires and poles, a small building, and patches of low gorse. 3.0 ha (7½ acres)

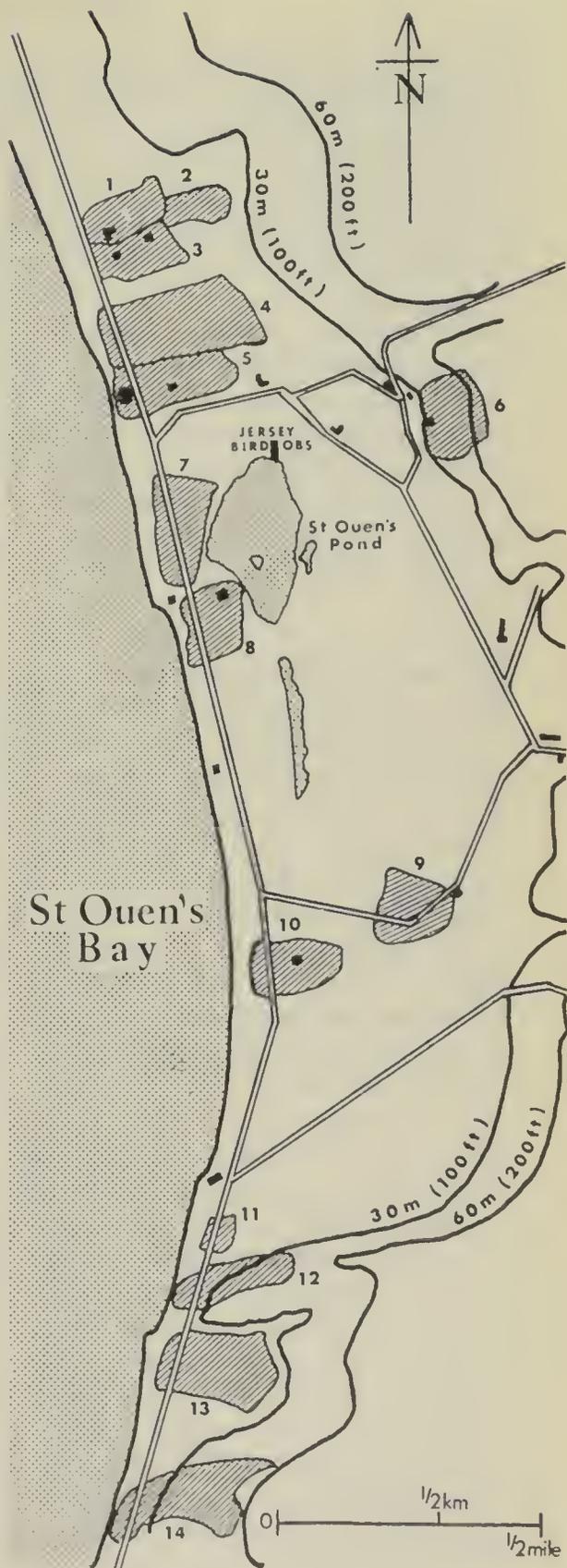
derelict, sandy cultivation, with marram grass and grassy dune 10 metres high to west, sheltered by tall earth bank from busy main road. 1.2 ha (3 acres)

irregular sandy depression 5 metres deep along foot of north-facing hillside, with long and short grass and some gorse. 2.5 ha (6 acres)

scattered, grassy valley, with scattered gorse on slopes facing west, and rugged rock outcrops providing observation posts to north. 5.3 ha (13 acres)

north-facing gorse-covered slope, extending from sea level wasteland to sea wall. 3.5 ha (9 acres)

Study area in St Ouen's Bay, Channel Islands, showing the 14 sites of Stonechats *Saxicola torquata* and a brief description of each; a total of twelve of these was occupied one year between 1950 and 1970



Moreover, it will face the intruder and call in alarm, or calmly watch its prey, exactly as it would from a rigid perch. When closely approached, it will drop like a stone to within a few inches of the ground and fly rapidly away behind cover, or across flat, open ground, as noted by Agatho, if no cover is convenient. Hovering flight frequently replaces feeding perches in winter, when the pairs may sometimes wander outside the limits of their normal territories on to more level, open ground.

Throughout the study, those territories which best satisfied the above topographical requirements were the most occupied and the same features were used, year after year, as observation posts, feeding perches and even, on some occasions, nest sites. A strong innate preference for certain topographical requirements accounts for the fact that Stonechats have been seen for decades on exactly the same perches, which undoubtedly gave rise to the old belief that they paired for life.

COMPOSITION OF THE POPULATION

In Jersey, at the beginning of January, pairs have been established in their territories for at least a month. Territorial behaviour is minimal, even where boundaries meet, and the birds spend their time feeding inconspicuously on the ground, a well developed pair bond ensuring that they move in close proximity to one another (Johnson 1961). Pairs may consist of old breeding birds of the previous season or seasons, which have remained paired; they may contain an adult and a first-winter bird, of which either the male or the female may have bred previously; or both may be in their first winter. First-winter birds may be either locally bred or migrants from elsewhere which arrived in the early part of the previous September. Since a reliable method of ageing Stonechats was evolved in the early stages of the study, not a single newly arrived autumn migrant was handled which proved to be an adult. These young birds either pair among themselves or compete for territories and mates with established adults, during a period extending from late August to early October, when the pair bond is greatly relaxed among established pairs. Whenever a movement of migrants occurs, there is vigorous competition between males, especially at dawn and dusk, for a few days until the newly paired couples settle down in their territories.

START OF THE BREEDING SEASON

At the end of January the pairs begin to behave less furtively, boundaries are patrolled and defended and the male resumes his dominant rôle, initiating each move of the pair within the territory (Johnson 1961). Males may begin to sing as early as the first week of February and are usually in full and regular song by the middle of that month.

This agrees closely with the dates given by Walpole-Bond (1938) for Stonechats in Sussex, although other British authors have suggested the middle of March as the start of the song period. In Jersey, song is never directly associated with courtship, but rather with advertisement and territorial defence. In years of low population density it is hardly heard at all and its frequency and intensity of utterance are repeatedly observed to be directly related to the proximity and approaches of other Stonechats in neighbouring territories, either male or female, but usually the former. This applies also to the short bursts of song which normally accompany the completion of certain acts of breeding behaviour, later in the year. In the southern Netherlands, Agatho found that unpaired males sing directly to females and, in fact, do not sing other than in the presence of a female. There, however, the Stonechat is principally a summer visitor, whereas in Jersey pairs are formed among the residents many weeks before the start of the breeding season proper, and no male is normally without a mate after late October. Therefore his song-requirement is to defend, jointly, a mate and a territory.

The vocalisation directly and invariably associated with courtship is a loud, irregular, excited series of 'chack-chack-chack, chack-chack' calls which a male will suddenly utter as he launches himself headlong at a perched female. He then proceeds to chase her around the territory, still calling loudly and, even while in flight, displaying the white patches on his neck, rump and wings which appear to 'glow' with increased brilliance. When she comes to rest, he perches or crouches on the ground in front of her with his back to her, bill open, head down and wings slightly drooped and trembling, while she remains unconcerned. After a few seconds the white patches cease to 'glow' and the male relaxes and flies to another part of the territory. This display increases in intensity and frequency throughout early March.

VERNAL RELAXATION OF THE PAIR BOND

At a time in March when courtship has reached an advanced state of intensity, the pair bond is dramatically relaxed, territorial boundaries are ignored and birds in adjacent territories intermingle. This was briefly discussed by Johnson (1961). This situation, which lasts for no more than three or four days, occurs almost simultaneously throughout the population. During this period, display is not seen unless the occasion coincides with the arrival of migrants, when some of these may engage in 'chacking-and-chasing' to acquire for themselves territories and mates from among the local population. When pair bonds are suddenly restored, some individuals have changed mates and/or territories and some newcomers have established themselves, although it is very unusual for the latter to include newly arrived

migrants, as any spring passage through Jersey is rare. Examples, however, from the four years of most intensive study include two such passages and serve to illustrate the phenomenon.

Eight pairs of Stonechats occupied territories in March 1955. A single migrant male was seen on 13th March and scattered males and females between 27th and 30th March. The pair bond collapsed about 30th March and by 3rd April two males had found new females from outside the area, one male had taken a second female with which he later bred polygynously, one female had taken a new male, two adjacent pairs had exchange mates and one pair had changed territory. One pair remained unchanged.

An exceptionally cold February in 1956 caused the loss of all the Stonechats from nine out of twelve occupied territories. Of the three pairs which remained, one (a 'constant' pair from 1955) was unchanged in the first week of March, one male took a new female and was then supplanted in turn by another male from outside the area, and the third male bred with his old mate of 1955, in their former territory, and simultaneously with two other females in another territory some 400 metres to the north (Johnson 1961). This polygynous *ménage* probably originated in a group of four or five unpaired females which had been wandering at the northern edge, and at times down the western side, of the study area during the winter. This and the effects of the cold weather prevented the exact determination of the date on which the pair bond was relaxed.

In 1957 ten pairs occupied territories when the relaxation occurred on 3rd March. Of these, four pairs remained unchanged, one pair moved to an adjacent territory, and a confused situation in another territory became another polygynous *ménage* in which a male newcomer from outside the study area consorted with the female which had occupied the territory throughout the winter and the three-year-old female which had been the regular mate of the polygynous male of 1956. Four pairs left the area, all of these being first-year birds, two pairs of which had spent the winter in topographically unsuitable and 'low priority' territories.

The year 1958 was notable for the largest spring migration of Stonechats ever recorded in Jersey. After a period of snow from 10th to 12th March, two passages took place, on 15th March and during 28th to 30th March, the latter coinciding with the relaxation of the pair bond. Only one of the 20-30 newly arrived migrants established itself in the study area, however: a bird of the previous year, it returned to the territory of its birth (T₄) and mated with its mother who had spent the winter paired with the 1957 breeding male from T₅. Of nine other pairs which occupied territories during the last week in March, five remained unchanged, one female took a new male and three left the study area.

Once the pair bond is reaffirmed, Stonechats remain constant to their mates throughout the breeding season. Only one change of mate was known to take place within the study area, when a male (in T8) which had been killed by a car was replaced the following day, 23rd May, by an unringed outsider which then continued immediately with his predecessor's rôle of caring for a brood of newly-fledged young.

Clearly, Stonechats do not, as a general rule, pair for life. As suggested by Johnson (1961), the relaxation of the pair bond probably has the function of ensuring, at a time when all individuals are in an advanced state of sexual development, that pairing takes place between sexually matched and 'compatible' birds, as well as affording an opportunity for the integration within the population of migrants and wanderers.

SPRING MIGRATION

Although spring migration of Stonechats through Jersey is a rare occurrence, the observer is left in no doubt of the fact when such a passage does occur. Such birds, as well as exhibiting the gregariousness, hunger and restlessness of migrants, are quite remarkably conspicuous for the advanced state of their plumage. On arrival they are invariably in a condition of breeding dress which will not be reached by the local residents until late May or early June—and by a few individuals not at all. The validity of the race *hibernans* (Tait 1924, Jouard 1935, Lebeurier and Rapine 1936, Meinertzhagen 1953, Meinertzhagen and Williamson 1953) is too suspect for this phenomenon to be explained on purely taxonomic grounds. With this in mind, the author made a leisurely journey by car down the western seaboard of France, across north-western Spain and into Portugal as far as Lisbon, examining every Stonechat seen *en route*. The outward and return journey took place between 29th January and 6th March 1956. The majority of the Stonechats in northern Spain and almost all of those in Portugal were paired and in a state of advanced plumage only to be seen in western France and the Channel Islands at the height of the breeding season. Unlike their more northerly counterparts, those in the Iberian Peninsula were in great density, in small territories and engaged in constant territorial activity. These observations have been repeated on several subsequent occasions, at the same season, in south-eastern Spain, where the density of wintering Stonechats is even higher than in Portugal.

The present study and that of Lebeurier and Rapine have shown that on the western seaboard of France and in the Channel Islands spring passage of Stonechats is quite exceptional, but that when such a passage does occur the birds, few if any of which remain in the areas concerned, are of a type clearly recognisable as originating

in the wintering grounds of Spain and Portugal. Van Hecke (1965) amply demonstrated that the Iberian Peninsula forms the principal wintering ground of western European Stonechats. Since the present study has shown that a large proportion of the young of each year migrate from Jersey and that only one has been known to return in spring, it seems reasonable to assume that such first-winter emigrants from Jersey return in spring as part of the movement out of Iberia to repopulate western continental Europe. This may also apply to autumn emigrants from the mainly sedentary populations of Britain and western France. Intense territorial activity in winter territories, as distinct from the entirely quiescent behaviour of the sedentary Jersey and Breton pairs (Lebourier and Rapine 1936, Johnson 1961) appears to produce an early assumption of breeding plumage and a comparatively precocious sexual maturity well adapted to the highly competitive situation they will encounter on arrival on the winter-vacated breeding grounds of inland western Europe. If such losses from the sedentary populations do in fact occur, a compensatory mechanism most certainly operates in autumn when large numbers of first-winter Stonechats regularly arrive in western France and the Channel Islands and join the local breeding stock.

AGE STRUCTURE OF THE BREEDING POPULATION

Table 1 shows the age structure and certain relationships which occurred within the 14 territories of the study area during the period of regular and frequent observation, between the autumn of 1954 and the spring of 1959. These data are further analysed in tables 2 and 3.

It is at once apparent from these figures that it is the general rule for Stonechats to breed in their first year. Also, it is not uncommon for individuals of unmatched age to pair, in which case either the male or the female may be the older. The greatest disparity of age occurred in 1957 between the first-year male in the polygynous *ménage* in T₃ and his fourth-year female. Of those birds shown as breeding in their second and third years, a high proportion are known also to have bred in their first year. Polygyny and the mother-and-son relationship have already been discussed above and by Johnson (1961). The brother-and-sister pair were among six first-winter birds to occupy territories after having been bred in the study area in summer 1957. This was at a time of very low population density owing to the cold spell of February 1956. Four of the six were from the same parents, three of them from the same brood of four. All six were also from two-year-old parents which had remained constantly paired. No other progeny from within the study area had previously been known to breed within it and only occasional scattered examples have occurred since.

Table 1. Age structure, polygyny and close family pairings in the breeding population of Stonechats *Saxicola torquata* in the 14 territories of the study area in St Ouen's Bay, Jersey, in 1955-59

The number against each male or female shows its age in years, except where a ? indicates that this was unknown; the small italic letters link the same individuals. P indicates polygyny between a male and either two or three females. The pair in T₁₀ in 1957 were brother and sister reared in T₁ in 1956, and the pair in T₃ in 1958 were son and mother

Territory	1955	1956	1957	1958	1959
T ₁	—	P♂ _{3a} =♀ _{3b} =♀ ₃ =♀?	—	—	—
T ₂	—	—	—	♂ ₁ =♀ ₁	—
T ₃	—	—	P♂ _{1f} =♀ _{4b} =♀ _{1g}	♂ ₁ =♀ _{2g}	♂ ₂ =♀ ₁
T ₄	♂ _{2a} =♀ _{2b}	—	♂ ₁ =♀ _{2e}	♂ _{2f} =♀ _{3e}	♂ ₂ =♀?
T ₅	♂ ₂ =♀ ₂	♂ ₁ =♀ _{1e}	♂ _{1b} =♀ _{1i}	♂ _{2b} =♀ _{2i}	♂ _{3b} =♀ _{3i}
T ₆	♂ _{1c} =♀ _{1d}	♂ _{2c} =♀ _{2d}	—	—	—
T ₇	—	—	—	♂ ₂ =♀ ₂	—
T ₈	♂ ₁ =♀ ₁	—	—	—	♂ ₁ =♀?
T ₉	♂ ₂ =♀ ₁	—	♂?=♀?	—	—
T ₁₀	♂ ₁ =♀ ₂	—	♂ ₁ =♀ ₁	—	—
T ₁₁	—	—	—	♂?=♀?	—
T ₁₂	♂ ₁ =♀?	—	♂ _{1j} =♀?	—	—
T ₁₃	P♂ ₁ =♀? =♀?	—	—	♂ _{2j} =♀?	—
T ₁₄	♂ ₂ =♀ ₁	—	—	—	—

Table 2. Analysis of the breeding population of Stonechats *Saxicola torquata* in the study area in St Ouen's Bay, Jersey, in 1955-59

The comparatively high figure for unaged females is due to their greater reluctance to enter traps and nets at any time and to their generally more retiring behaviour, especially during the late winter when most of the breeding birds were ringed

Total pairs including those which remained constant for two or more years		26
Instances of polygyny involving one male and two females		2
Instances of polygyny involving one male and three females		1
<hr/>		
Total males of known age	27	
Number breeding in first year	14	(52%)
Number breeding in second year	11	(41%)
Number breeding in third year	2	(7%)
<hr/>		
Total females of known age	23	
Number breeding in first year	10	(44%)
Number breeding in second year	8	(35%)
Number breeding in third year	4	(17%)
Number breeding in fourth year	1	(4%)
<hr/>		
Total males of unknown age	2	(7%)
Total females of unknown age	10	(30%)

Table 3. Age relationships in 23 pairings of Stonechats *Saxicola torquata* in which the ages of both birds were known in St Ouen's Bay, Jersey, in 1955-59

Four of these were polygynous pairings which are included in the totals but also indicated separately in brackets. All the pairings are shown in table 1

		FEMALES			
		1st year	2nd year	3rd year	4th year
MALES	1st year	7 (1)	3	—	1 (1)
	2nd year	3	5	1	—
	3rd year	—	—	3 (2)	—

RESUMPTION OF THE BREEDING CYCLE

Once the pair bond has been re-established, display and territorial activity are resumed with increased vigour and with more complex and varied behaviour patterns. Hovering flight becomes a more important component of all displays, even in territories well endowed with perches. Occasional song flights take place, when the male sings his simple little song while hovering at a height of 10-15 metres over the centre of the territory, in full view of his neighbours, with feet hanging down loosely, toes pointed backwards, rising and falling quite vertically through one or two metres as if suspended on an invisible string. From this position he may suddenly drop like a stone behind low cover, to be seen a few seconds later, flicking his wings

as he perches on the territorial boundary facing his nearest neighbours, where he continues singing.

In courtship display, the male will hover 2-4 metres directly above the female, for ten seconds or so, while she perches motionless on a fence or bush. Displaying his white patches, he may, if greatly excited, descend vertically to hover a few centimetres above her, or even facing her, calling incessantly with a steady 'whit-whit-whit-whit'. If the female is responsive, she will follow the male, flicking her wings and tail, when he suddenly flies to a nearby perch. In this event, the female crouches near the male with bill open and head lowered, showing her white patches while fluffing out her feathers, trembling her wings and occasionally shaking her body. The male hovers above her, bill gaping and white patches displayed, descending gently to her for two or three seconds. After this both usually fly away to different parts of the territory and resume feeding or other activities. At times the hovering may be replaced by passes by the male across the female in level flight. This was described by Agatho as normal courtship in Stonechats in the southern Netherlands, but in Jersey it is far less common than that described above.

Since Lebeurier and Rapine asked which of the sexes may take the initiative in a sedentary population such as that in Brittany, the following account of courtship display initiated by a female is of relevance here. On 7th March 1957, at the end of the pair bond relaxation, I found the female in T₃ hovering at a height of 10 metres over a male newcomer to the territory, and calling with an excited 'whit-chack, whit-chack' as she stayed motionless above him. She then flew to an electricity cable, to which he followed, perching without any display of white patches a short distance from her. This was a medium-intensity display pattern in which I would have expected the rôles of the sexes to be reversed. The birds remained paired thereafter and were later joined by a second female in a polygynous relationship.

A form of courtship display also occurs, at low intensity and early in the season, in which the male, with very little if any 'glowing' of his white patches, perches in front of the perched female, and slowly raises and lowers his tail to her while at the same time spreading and closing it fan-wise. When fully raised the tail is vertical and at right angles to the male's back.

NEST SITE AND NEST BUILDING

With the pair bond firmly re-established, the female begins nest building while the male sings to confirm the boundaries of the territory and chases intruders with an excited 'chacking' call. Agatho stated that the female chooses the nest site, examining suitable ground at every metre or so and exploring all likely recesses in banks and so on.

It is highly probable that this occurs in Jersey, although it was never witnessed in the present study. The female is, however, left very much to her own devices during this period, and the male approaches her only to court her or occasionally, when he sees that she is carrying nest-material, to chivvy her towards the nest site. The female, who remains very inconspicuous during building, may leave the territory completely to gather material from a suitable source, especially to visit a chicken-run or an old mattress for lining feathers and hair. The male by no means loses contact with her during these excursions and will usually watch from the observation post, changing his position and singing a snatch of song to divert attention to himself as she goes to the nest. Building usually takes place during the early morning and is rarely carried out with any great urgency. It can occupy a period of four to ten days. Sometimes the drive to build may be inhibited for several days by cold weather or by some other factor which it is not possible to determine. In such cases the pair may behave exactly as if the female were in fact incubating. She disappears for an hour or so at a time and is then seen to be closely accompanied by her mate as she feeds about the territory. This was described by Johnson (1961) and tentatively termed 'false incubation' behaviour. Its function is obscure.

Nest sites in the study area are most commonly at the foot of a north-facing slope, in a recess in a clump of marram grass *Psamma arenaria*, with the entrance facing between north-west and north-east. Other, less frequent, sites are the debris in the base of a clump or carpet of gorse or the fork of a gorse bush up to 60 cm (24 inches) above the ground. When entrances face other than in a generally northerly direction they are invariably sheltered from direct sunshine by a solid topographical feature. Use is often made of the shallow depressions afforded by old caved-in slit-trenches and other similar wartime defence works. The entrance to a Stonechat's nest is normally via a tunnel in the grass, gorse debris or other vegetation. This may be up to 25 cm (10 inches) in length and of just sufficient diameter for the bird to enter. In some cases the entrance is immediately above the nest, via a vertical shaft in a grass clump. The tunnel is never constructed, but is usually formed by the passage to and fro of the bird when building; or use may be made of a suitable existing feature. Often, a convenient low perch, such as a sprig of sea radish, is situated above or in front of the nest entrance.

The nest is composed usually of bents and dried grasses, with a lining of hair and feathers. Needles of pines *Pinus*, bracken *Pteridium aquilinum*, heather *Erica* and even strips of rag may be used in the body of the nest, with upholstery stuffing and the fur of Rabbits *Oryctolagus cuniculus* in the lining, according to local availability. The bulk of the nest fills the chosen recess and no attempt is made to

weave the material. The cup, formed simply through shaping by the female's body, feet, throat and bill (Agatho 1960-61), is about 8 cm ($3\frac{1}{8}$ inches) across and 5 cm (2 inches) deep. The loose, unwoven construction allows for expansion of the nest during the latter half of the fledging period, when the young are growing rapidly, and by the time they leave the nest they are often lying on, or overflowing, a flat pad of nest material. The rim of the nest is normally not decorated. The only exception to this rule was a nest in T4 in 1956, in which white chicken feathers were inserted evenly, edge to edge, curving upwards and inwards, around the rim of the cup.

The building of second-, third- and even fourth-brood nests is again almost entirely the responsibility of the female. By this time territorial boundaries are well established and rivalry almost non-existent. During this time, however, the male has the task of caring for and feeding the newly fledged young, which occupies him until incubation is resumed.

(To be concluded)

Studies of less familiar birds

165 Serin

Viking Olsson

Photographs by R. G. Carlson and A. N. H. Peach

Plates 29-34

Compared with its well-known relative, the Canary *Serinus canaria*, of the Canary Islands, Azores and Madeira, the Serin *S. serinus* is smaller and not so brightly coloured. In many ways it bears more resemblance to the Siskin *Carduelis spinus* and this applies particularly to the females of the two species. Its small size, sober plumage and inconspicuous way of life mean that it is often overlooked in new localities. The Serin's steady spread to the north and east for at least 200 years—indeed, for as long as we have written records—is one of the more notable ornithological events. Its original range seems to have been confined to north-west Africa and southern Europe, from Iberia to the southern Balkans, where the species is found mostly in gardens and cultivated land with olives and cork oaks, but also in thick maquis in mountain areas. With his thorough survey of the spread up to 1925, Mayr (1926) supplied the background to the changes in the last 50 years. Fig. 1 shows some stages of the expansion.

During its initial occupation of any new region, the Serin seems particular in selecting its habitat: hence colonisation has often been characterised by sudden appearances in good localities at advanced and isolated points, followed by a more gradual filling of intervening and presumably less attractive areas. Lowlands and river valleys have made the spread easier; open seas and highlands have slowed it down. The limits of a species expanding in this way are difficult to define and it is probably best to treat the edge of the range as a 'border zone' (cf. Kumerloeve 1956). The centre of this border zone in 1960 as shown in fig. 1 is based on Creutz (1962) with small corrections in the west and extreme south-east and north-east (Olsson 1969b). For a decade or two up to that time the rate of expansion seemed to have slowed down: on the whole front from the French coast to the Baltic the advance was surprisingly moderate. Towards the end of the 1950's, however, and above all in the 1960's, the situation altered considerably.

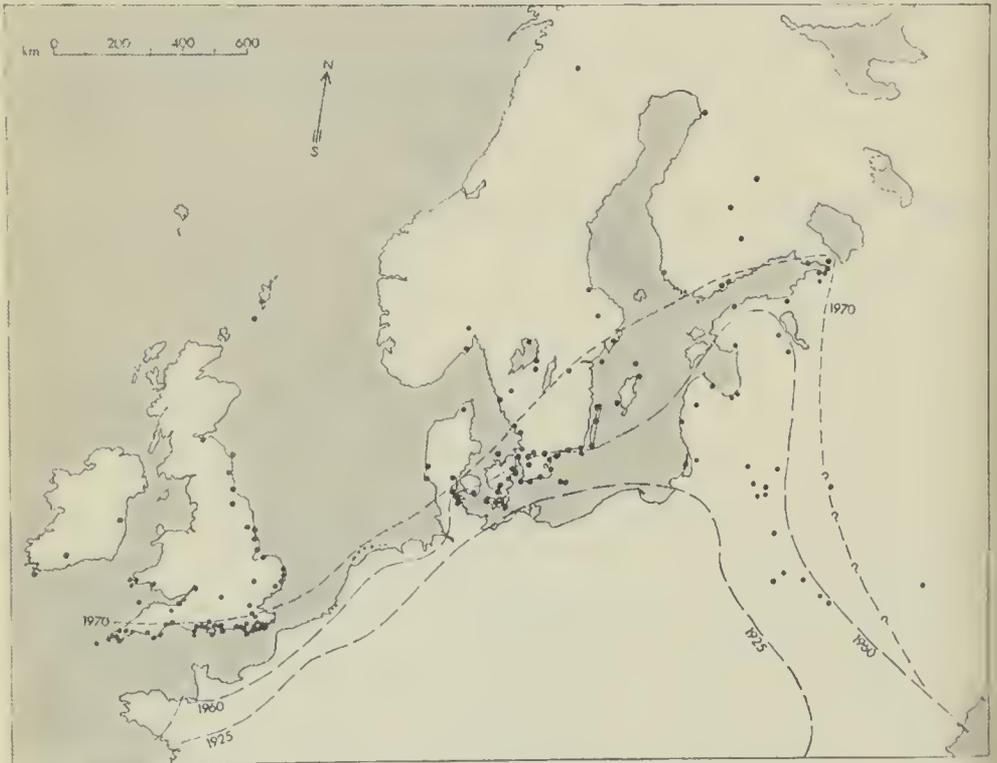


Fig. 1. Some stages of the expansion of the range of the Serin *Serinus serinus* in Europe. Approximate positions of the northern and eastern limits of the breeding area in 1925 and 1960 are indicated by broken lines. During the 1960's the species pushed still further forward, and the line of dashes for 1970 takes in the most advanced breeding localities known up to and including that year in England, Denmark, Sweden and Finland. In the U.S.S.R. the line is based on rather incomplete data, especially in the southern part. In addition, all localities where the species has been reported one or more times in the western U.S.S.R., Finland, Sweden, Norway, Denmark, Britain and Ireland are marked individually

Back in 1926 Mayr stressed the faster advance in the east than the west, and this tendency has prevailed, particularly in the north-east. Even down in Turkey, however, the spread is still going on and the Serin now probably breeds as far as the easternmost parts of that country (Kumerloev 1966); accidentals have been found in the Caucasus and south-western Iran (Vaurie 1959). In Romania, too, the species has increased considerably lately (Radu 1960, Popescu 1965). On the other hand, it is difficult to get a clear picture of the present situation in the western parts of the U.S.S.R. There are detailed reports in the literature from better investigated areas, while vast intervening regions are not even mentioned, probably due to inadequate knowledge. Real advance to the east there seems to have been moderate during the last two decades, but the density in already occupied areas has greatly increased, as is typical of the consolidating stages. Zhezherin (1961) mentioned the Serin as a breeding bird in Bessarabia by the end of the 19th century; yet in the early 1950's the Moldavian republic (which includes part of Bessarabia) was said to constitute its eastern limit at the Black Sea (Dementiev and Gladkov 1951-54) and the situation was still the same ten years later (Gladkov *et al.* 1964).

A little further north, in the westernmost Ukraine, the Serin has also increased markedly. Talpos (1969) reported a density of about 50 per square kilometre in Mukachevo where it was rarely seen around 1930. Special investigations during 1959-60 by Zhezherin (1961) in the north-west Ukraine showed that it had become a 'not all too rare' breeding bird there; Rovno was mentioned as the easternmost locality. In 1948 and 1949, indeed, the species was found as far east as Kiev, and Zhezherin obtained indications of breeding there in 1959 and 1960, but these are still considered isolated occurrences (Gladkov *et al.* 1964).

In a general survey of the recent situation in Litva (Lithuania), Ivanauskas (1961) wrote that 'one can meet the Serin in the whole republic', but that 'the occurrence east of Vilnius is very insignificant'. The first record in Belorussia, east of Litva, was made as late as 1950 (Fedyushin and Dolbik 1967), but since then there have been quite a number of reports from different localities and in 1960 one was seen in Minsk, the easternmost in that part to date. Information from areas further north relates mainly to Estonia where the first record was in 1927 and, according to Mank (1970), 'the Serin has after that been found now and again, mainly in the vicinity of the towns of Tartu, Võru, Tallinn and Pärnu'; ten to 16 pairs now breed in Pärnu annually (Sügav 1969).

Odintsova (1969) stated that the Serin had reached 'as far east as the Leningrad district' and further details were given by Noskov (1965, with additional data to 1970 *in litt.*). The first was found just south-west of Leningrad in 1960 and the magnitude of the advance

there is evident from the fact that about 50 have now been recorded, mostly in the southern suburbs, but also two to the north on the Karelian isthmus. The spring of 1964 was especially notable with nearly 20, the great majority males, but also some pairs and single females. The colonisation seems there to be definite, as Serins have also been recorded in November-January, and breeding may well have occurred already, although G. A. Noskov (*in litt.*) points out that no nests have yet been found further east than those in the vicinity of Narva, about 100 kilometres WSW of Leningrad, in 1968-70.

The records in Denmark and Sweden before 1949 show that the initial influx there must have come from the German coast to the south-west. Several breeding records from the Danish islands and Skane (southernmost Sweden) date from those years. During the 1950's and 1960's, however, no real increase occurred in that area, but occurrences in eastern Sweden and Finland multiplied. A survey of the records in the last two decades throughout the whole Baltic area (Olsson 1969b) strongly indicated that this rapid increase in eastern Fenno-Scandia was derived from the pronounced, though less spectacular, advance south-east and east of the Baltic Sea. During 1949-68 Serins were found in Finland in six widely scattered localities and at one of these breeding was proved in 1967: not unexpectedly, this was on the southern coast of Finland at Espoo, just opposite Tallinn in Estonia. In 1968 Serins were found nesting in Linköping about 300 kilometres to the north of earlier breeding places in Sweden (Olsson 1969a). The other records in Sweden have been summarised by Olsson (1969b) and these are all shown in fig. 1, together with a few new ones. In Fenno-Scandia the Serin has kept to lowlands, coastal plains and low islands, nowhere higher than 200 metres above sea level, except for an isolated record of a male at Kvikkjokk at 67°N in the mountains of Swedish Lapland on 30th June and 1st July 1964, which is also the northernmost known locality.

In western Denmark the species has not made much progress since the 1930's. The 1940's brought a pronounced increase a little farther south in Schleswig-Holstein in north Germany, but not until 1961 was breeding proved in Jutland, just north of the border, and not one Serin has been found in northern Jutland since 1934. It is obvious that the spread in this part of Europe is proceeding very slowly. Similarly, it is clear from fig. 1 that, compared with the progress in the east and especially the north-east, the advance has been very slow towards the English Channel and the North Sea. By the mid-1950's, however, the species had reached much of the Dutch and Belgian coast-line (Kumerloeve 1956), while along the French coast it was missing from little more than the outer parts of Brittany and Normandy (Kumerloeve 1957).

This spread has, of course, influenced the situation in Britain.

After the first record in Hampshire in 1852, the number gradually increased and even in those early stages there were occurrences in widely scattered parts of Britain and Ireland: during 1907-14, for example, Serins were found as far west and north as Dublin, Edinburgh and Fair Isle. As already mentioned, such surprisingly distant records have also characterised the early stages of the advance elsewhere, as, for example, in Finland and Sweden. In broad outline, however, the expansion in Britain has taken place steadily from the south, with a clear dominance of observations in the southernmost counties and diminishing frequency to the north (see fig. 2). Up to the end of the 1940's the pattern was scattered and irregular. During the 1950's Serins were found almost annually, but usually in only one locality each year. Then there seems to have been a clear turning point about 1960, after which more and more were seen, as the following table of records (not individuals) shows:

1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
1	5	4	0	5	7	9	12	14	17	11

In 1967 breeding was first proved in Dorset (Ferguson-Lees 1968 and *in litt.*). In 1969 at least three Serins were present in the same area and breeding was reported in another southern English county. Now that the obstacle of the Channel has been cleared and the species has gained a foothold in Britain, it seems likely that further breeding will take place in the immediate future and that in time the species will become firmly established here. Considering the great number of British and Irish records since the first in 1852 (87 to the end of 1966 and 141 to the end of 1970, involving at least 182 birds), it is strange that breeding was not proved until 115 years had passed. In Sweden and Finland, for example, the first breeding records were only the fourth and seventh observations of the species in those countries.

The steady advance of the Serin from country to country defies adequate explanation other than that of a genetic change in migratory habits. Climatic factors have been suggested, but, if this were so, surely many other species would have reacted in the same way? Furthermore, the climatic range of the Serin today extends from mild, humid, maritime conditions in the west to dry, continental weather in the east, from the summer heat of north Africa and Asia Minor to the cold of Sweden and Finland. Equally, it seems impossible to show that sufficiently extensive and uniform habitat changes have taken place to the benefit of the Serin.

On the other hand, the distribution of the records has given us clear information on the detailed mechanism of the spread. That northernmost observation in Swedish Lapland seems likely to have been a typical instance of prolonged migration or 'overshooting'.



Fig. 2. Distribution of records (not individuals) of *Serinus serinus serinus* in Britain and Ireland from the first in 1852 to the end of 1970. Some adjacent localities in southern England have had to be combined because they are too close to be shown separately with these large symbols: hence the slight discrepancies between that map and fig. 1. The dominance in the south of the recent records during 1961-70 (filled circles) is well illustrated

The many records in south-east Sweden, and even the regular breeding at Åhus in eastern Skåne, may have been due to abbreviated migration from the south-west to the Baltic States in spring. Post-juvenile dispersal in late summer has been proved on several occasions. Lastly, such records as one at Scalloway, Shetland, on 17th November 1968 were probably the result of drift. All these spreading mechanisms have played a part in the remarkable advance of the Serin through Europe. The distinct concentration along the southern coasts of Britain (fig. 2) shows that these have provided a landfall for birds coming from the south and south-east. The special significance of promontories is also interesting, while in only a few cases has the species penetrated far inland.

I have mentioned that the Serin is exacting in its habitat preferences. Most reports from new localities come from towns, villages and other densely settled areas, particularly parks, gardens, churchyards, orchards and tree-lined avenues. Along the coasts of the Baltic States, however, there appear to be some remarkable exceptions: the species there is said to choose mostly light, dry pine forests on sandy soil. Serins seem to depend almost totally on seeds and buds taken on or near the ground in large open areas with abundant weeds (plate 34a). Harbours, railway yards and allotment gardens are often noted as feeding places. Because of this dependence, the birds regularly fly, alone or in small groups, between thickly wooded areas and open ground.

The nest is usually well hidden in thick foliage, often in deciduous trees, but frequently in solitary evergreens among deciduous trees. The nest at Linköping (plate 34) was in a Norway spruce *Picea abies* among rich broad-leaved vegetation. In England the first nest was in a western red cedar *Thuja plicata* in a suburban garden, and in Litva Ivanauskas (1961) also reported many nests in *Thuja* bushes and firs in gardens and parks, where deciduous trees and bushes must have been abundantly available.

The nests on plates 29-33 were in a garden area near Castelo de Vide, Portugal. The one on plates 29-31a was in a palm tree on a ledge formed where one of the large fronds had been cut back; the other on plates 31b-33 was in a pollarded acacia. Many Serins were nesting in a plantation of these acacias, all at heights of about two metres. Dr R. G. Carlson (*in litt.* to I.J.F.-L.) noted that 'in these sites the nest was placed, in each case, flat on a horizontal branch'. Nests in recently colonised parts of Europe vary from one to ten metres above the ground. For instance, of 24 German nests reported by Jung (1955), twelve were higher than four metres and four of those as high as eight or nine metres. A site far out on the branches is also very characteristic: of Jung's nests, 17 were built in the outer half of the branch and eleven of them in the outermost quarter.

The nest in the acacia (plates 31b-33) was the more characteristic, in both situation and construction, of the two photographed in Portugal. Well hidden from view by rich foliage (tied back for the photography), it was a little round cup similar in shape to the nests of Goldfinches *Carduelis carduelis* or Chaffinches *Fringilla coelebs*, but remarkably small with an interior diameter of only about five centimetres. The material used by Serins varies according to what happens to be available, but the framework is usually formed of dry grass or weeds and the interior lined with roots, lichens, seed down, feathers, horse hair and string; at the left-hand side of the palm tree nest was a tangle of cotton (especially plate 30b).

Normally four eggs are laid, but clutches of three and five are not uncommon. The female alone incubates for some 13 days, being fed regularly by the male at intervals of about an hour. The male of the pair at Linköping, Sweden, which were kept under regular observation, announced his arrival with brief 'chirr' notes at a distance of 20 to 30 metres, and the female would at once answer with an intensive, rapid, begging 'chi-chi-chi-chi . . .' until he reached the nest. Sometimes she left for a minute or two to defaecate, but returned at once to receive the regurgitated food which he passed to her in small portions over 15 to 20 seconds. Feeding was preceded by a ceremony typical of most finches, in which the female pressed hard on to the nest but raised her head and bill and vibrated her wings rapidly. Plate 29 shows a phase in this ceremony, but the male usually tries to get into a position in front of the female.

With the two beside each other, the differences in the field between the sexes are very clear, but unfortunately they are difficult to see in black-and-white photographs. The male's bright yellow throat and breast are really striking and the conspicuous streaks on his flanks appear almost black against the yellow (plate 30b), though in fact they are brown. The cheek-patch of both male and female is distinctive, as also are the short, conical beak (plate 31b) and the notched tail (plate 33).

The male sings mostly from twigs just beneath the tree tops. The song, somewhat similar to that of the Siskin *Carduelis spinus*, is a fast, hissing 'tsi-tsu-peripi-pi-tsi-tsu-tsi-tsu-peri-pi . . .' and so on, with variations. Near the nest at Linköping one of his calls was like that of a Blue Tit *Parus caeruleus*: 'ti-ti-ti-chirr ti-ti-ti-chirr', or sometimes 'chiii, chi-chi-chi-chirr', the 'chirr' in both cases being sharp and distinct among the songs of all the other birds in the area. Between male and female one could hear a rather weak and short 'chuiip' and a 'chitt-itt'. An alarm call directed at a dog was a high, piercing, repeatedly uttered 'tsiiii'.

As nesting progressed, these Swedish Serins became much quieter and were soon so silent and retiring that it would have been difficult to

locate them at this stage, let alone find their nest. For many days after the young had hatched, the female hardly left them. The male passed all food to the female and, as soon as he had left, she regurgitated it to the young. This is beautifully illustrated at one of the Portuguese sites on plate 30a. The rim of the nest in that photograph is quite clean, as the female at first carefully eats all the droppings. When the chicks have reached an age of seven to nine days, however, the adults begin to leave the droppings (plate 32) which quickly accumulate (plate 33); by the time the young have left the nest, its rim and surrounding twigs are quite covered by faeces (plate 34b). At this stage it was possible to find the nest by searching for heaps of droppings on the ground beneath.

When the young are small, feeding takes place at intervals of an hour or more, but as they grow this is gradually reduced to about 15 minutes. At an early age (as on plates 30a and 31a), it is possible after a feed to see an astonishingly large yellowish-green ball of food, as big as a hazelnut kernel, through the thin skin of each nestling's throat. During the last few days before they leave, the young seem to lead a dangerous life, fluttering and jumping around on the rim of the nest which by now is far too small for them. At Linköping the female disappeared before the young flew and there the fledgling period was about 17 days; normally it seems to be about 13 days. Two broods are frequent.

In late summer Serins gather in small flocks, usually foraging on open weedy ground. Axelsson (1965) mentioned areas of docks *Rumex*, ragwort *Senecio* and tansy *Tanacetum* as typical August haunts in southern Sweden. Ivanauskas (1961) reported that *Thuja* seeds seemed to be the favourite autumn food in Litva. Winters are severe in most of the recently colonised range and Serins migrate south and south-west from the northern countries, probably in the main to their original home in the western Mediterranean. According to Odintsova (1969), the species is now a regular, though rare, migrant along the point of Kursskaya (formerly Kurische Nehrung); and it passes Windenburg in mid October (Ivanauskas 1961). In the spring the first Serins arrive at Windenburg in mid April, which is about the peak time for migration of the species in Belgium and other parts of western Europe (Rappe and Herroelen 1966). In Scandinavia very few have been seen in April; the majority appear in May, mostly in the latter half.

The monthly distribution of all records in Britain and Ireland is shown in fig. 3. Two peaks are clearly discernible. Serins are seen remarkably often in November and it seems that some attempt to winter in Britain. Numbers decrease to a minimum in March, suggesting that conditions are generally too hard in the latter part of the winter. There is then another marked peak in April and May when migrants reach British coasts from the south, followed by a sharp



Fig. 3. Monthly totals of records (not individuals) of Serins *Serinus serinus* in Britain and Ireland from 1852 to 1970. Stippling is used for records to the end of 1960 and black for those during 1961-70

decline in June, July, August and September before another build-up in October. But surely this decrease in summer must reflect less effective observation rather than a real decline in numbers? These small birds become much more inconspicuous in the rich foliage of summer. Surely many must already be breeding in new localities in England as well as in little-known corners of Europe?

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I am most grateful to Roger Gyllin for appreciable help with the translation of Russian literature, and also for many hints on papers on the recent spread of the Serin in the U.S.S.R. I have to thank G. A. Noskov for valuable information from the Leningrad area. I. J. Ferguson-Lees and P. F. Bonham revised the typescript and also produced a complete list of British and Irish records, from which Miss Karen Rayner drew figs. 2 and 3; the final form of much of the paper is largely a result of their work and I thank them for their time-consuming help.

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PLATE 29. Male Serin *Serinus serinus* feeding female on exposed nest on palm trunk, Portugal, June 1968. The fine streaks on her throat and breast are well shown; he has a yellow forehead, supercilium and breast. After a major spread in Europe this tiny finch appears to be colonising Britain (pages 213-223) (photo: A. N. H. Peach)

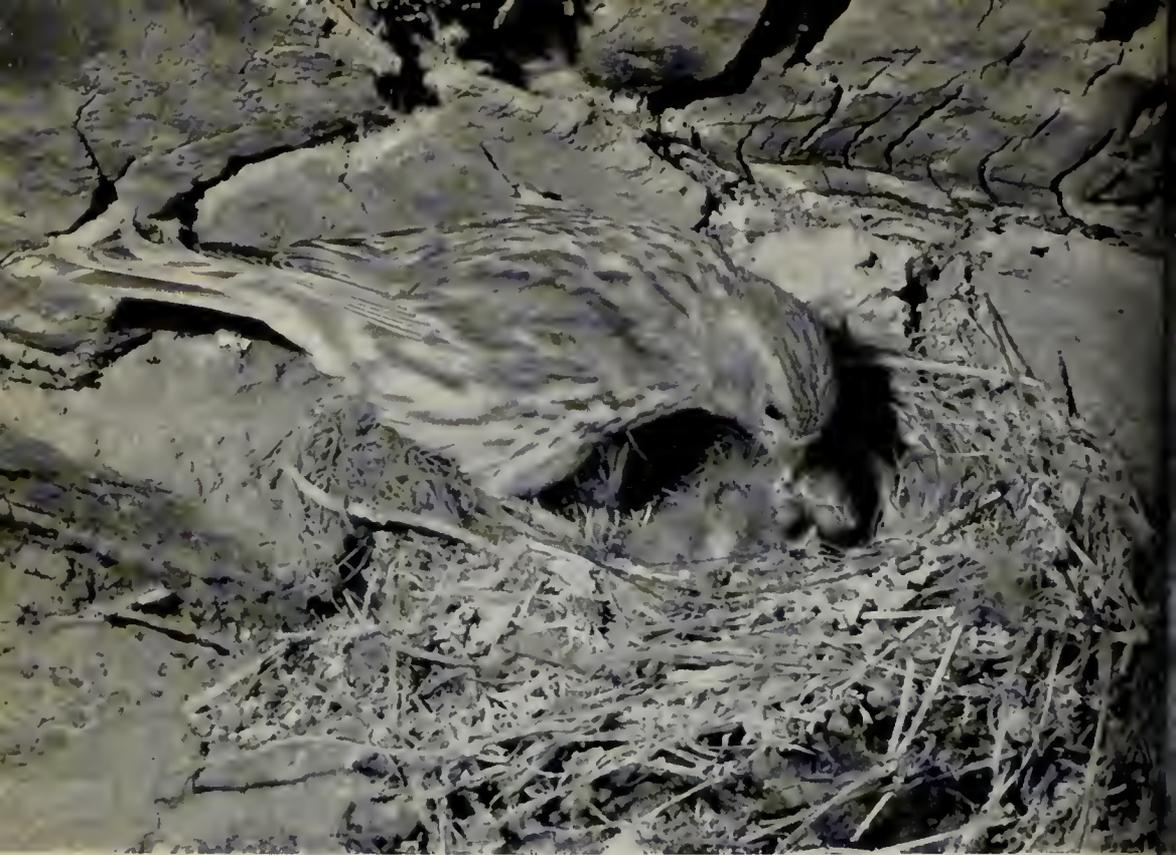


PLATE 30. Female Serin feeding newly hatched young at the same nest; note her dark cheek patch and light supercilium. At this stage she seldom leaves the chicks and then only for short intervals. Below, looking up at something overhead; this also shows a tangle of cotton on the left of the nest (page 220) (*photos: A. N. H. Peach*)





PLATE 31. Above, more general view of the exposed nest on a palm trunk (*photo: A. N. H. Peach*). Below, another Serin's nest in a more typical site on a horizontal acacia branch two metres above the ground and concealed by foliage, also Portugal, June 1968; note the species' short, conical bill (*page 220*) (*photo: R. G. Carlson*)





PLATE 32. Female Scrub Wren at the acacia nest with chicks a week old. She now leaves them for longer periods while she fetches food, often with the male. This nest was not only more typical in its site than that on plates 29-31a, but also in its neat and compact structure. The material depends on what is locally available—usually dry grass and weeds with a lining of rootlets, lichens, vegetable down, feathers and hair (page 220) (photo: R. G. Carlson)

PLATE 33. Another photo at the same site, depicting more clearly the position of the nest on a horizontal branch. The bright yellow rump (of both sexes) and the notched tail are well shown here. After the first week, as with most finches, the droppings of the young are left on the edge of the nest, usually on the side at which they are fed, and this accumulation is illustrated here by a comparison of these photos (page 221) (*photo: R. G. Carlson*)





PLATE 34. Serin habitat at Linköping, Sweden (page 219). The nest was in one of the spruces left of centre; note the limes, beeches, maples and hazels to the right, and the weed area in front. Below, after the young had left, the tiny nest (coin diameter 26 mm) with accumulated faeces on one side (*photos: I'iking Olsson*)





PLATE 35. Above, contour feathers of gulls *Larus spp.*, Flintshire and Lancashire, July-August 1970, illustrating abnormal wear on the distal barbs. Below, part of Guillemot *Uria aalge*, Co. Antrim, June 1970, showing abrasion and also fading of exposed wing feathers, particularly the primaries (page 236) (photos: G. Howson)





PLATE 36. James Maxwell McConnell Fisher (1912-70) on 6th September 1970 at the XV International Ornithological Congress in the Netherlands (*photo: Eric Hosking*)

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Obituary

James Maxwell McConnell Fisher, MA (1912-1970)

James Fisher lost his life in a motor accident at Hendon on 25th September 1970. Born on 3rd September 1912, he had just passed his 58th birthday and, if a man can reasonably look forward to the traditional three score and ten, he was denied at least a dozen active years and the world at least a dozen good books. Only a year earlier,

as if in premonition, he had confided that his one fear of dying was that certain books would not be written, books that he felt he was better qualified to write than anyone else. This was not egotism, but accurate assessment.

The news of James's death had an extraordinary impact on both sides of the Atlantic. He had been a driving force not only in his own country, but also in North America where many people wrote or telephoned me to express their sympathy, as though I had lost a brother. As recently as 1968 he was only the second recipient of the Arthur A. Allen Medal of the Laboratory of Ornithology at Cornell University for his outstanding contributions to the popularisation of ornithology. James took the view that scholarship is barren unless the fruits of its labours are communicated to the public. This he accomplished through many books with a total distribution of more than two million. In addition, over a period of 25 years, he made over 1,000 broadcasts (800 radio and 200 television). In Britain his influence in bringing authoritative natural history to the millions over the air was second only to that of Peter Scott.

This loss of one of my dearest friends has left me with a feeling of desolation. I had known James for just 20 years, having first met him in 1950 on a field excursion to the Swedish island of Gotland. At that time he was natural history editor of Collins, so I seized the opportunity to persuade him that they should publish *A Field Guide to the Birds of Britain and Europe*, on which Guy Mountfort and I were working. He thought well of the idea, but suggested that we include P. A. D. Hollom as a co-author because of his extensive knowledge of the distribution of European birds which he was then mapping. The resulting collaboration proved to be a happy one and, as editor, James became final arbiter when differences of opinion arose. So much did he show me of the English countryside during the many months we worked together that I proposed that I should guide him around my own continent. Our 30,000-mile journey in 1953, from Newfoundland to the Bering Sea via Mexico, resulted in our writing a book, *Wild America* (1956), that became a best-seller in the United States. In succeeding years we travelled together in at least 15 other countries gathering material for *The World of Birds* (1964).

James's father, Kenneth Fisher, was a devoted bird-watcher and, as headmaster of Oundle, had encouraged Leslie Brown, Peter Scott, Keith Shackleton and other boys who later became ornithological luminaries. Nevertheless, James revealed that it was his uncle, the late Arnold W. Boyd, a former editor of *British Birds*, who really sparked his interest. Instead of attending his father's school, James was educated at Eton, where he was a King's Scholar. From there he went up to Magdalen College, Oxford, to read medicine, but after being ornithologist on an expedition to Spitsbergen, which resulted in his first

major paper, with C. H. Hartley, on marine foods of birds (*J. Anim. Ecol.*, 5: 370-389), he changed to zoology.

Having graduated, he became a schoolmaster, but this was not his true niche. Sir Julian Huxley, then secretary of the Zoological Society of London, took an interest in the dynamic young Fisher and they soon became collaborators and lifelong friends. James was appointed assistant curator at London Zoo from 1936 to 1939 and it was during this time that he started to play a major part in the newly-formed British Trust for Ornithology. From 1937 to 1944 he held a series of honorary posts from assistant secretary and treasurer to secretary, and from 1951 to 1956 he served on council. In 1939 he and Huxley devised the Hatching and Fledging Enquiry (later to become the Nest Record Scheme and to provide a pattern for many similar schemes in other countries) and James also enrolled countless members for the Trust by including subscription forms in his successful paperbacks, *Watching Birds* (1941) and *Bird Recognition* (1947, 1951 and 1955).

Versatile and prolific, his writings had a profound influence on popular ornithology and he bridged the gap between the academic and the layman more effectively than any of his contemporaries. He also did much to establish the modern standards of field ornithology and to elevate it to a respectable zoological discipline. He knew how to employ the techniques of literature research more effectively than anyone I have ever known, absorbing ideas and details like a sponge, largely from his own library, the finest private ornithological reference collection in England. His card file was voluminous and meticulous. His paper on the spread of the Collared Dove in Europe (*Brit. Birds*, 46: 153-181) was a classic example of this thoroughness: it concluded with 8½ pages of references selected from the 448 titles that he had indexed.

During the 1939-45 war, James worked on the food of the Rook and organised a national survey of rookeries. This was for the Ministry of Agriculture, but he was based initially at the Bureau of Animal Population in Oxford and afterwards at the Edward Grey Institute. When W. B. Alexander retired from the directorship of the E.G.I., there was talk of James taking over, but the post went instead to Dr David Lack. This turn of events was the publishing world's gain: he affiliated himself with Collins and later with Aldus and Rathbone, achieving a brilliant record as both author and editor. He helped to launch the 'New Naturalist' series—a shelf of books covering many aspects of British natural history and with no comparable counterpart in any other country. *The Shell Bird Book* (1966) bears a title that gives us no hint that it is actually the best concise history of British birds and bird-watching ever written. As one reviewer commented, it was remarkable that Fisher could still say so many things that were new and fresh about the most thoroughly documented avifauna in the world.

James's main difficulty when writing was to keep his verbiage within practical limits. Facts and ideas poured out. He admitted that his monograph on *The Fulmar* (1952) could have been compressed into a book half the size. When preparing the section on falconry for *The World of Birds*, his space allowance was 1,000 words, but he wrote 12,000. So unable was he to face the task of cutting that it fell to me to perform the major surgery; the result he accepted with the utmost grace. He was not always as tolerant of editorial butchering, however, particularly when it distorted his meaning. Nor did he take criticism readily when he felt the reviewer knew less about the subject than he did. Instead of ignoring an unfair or unfavourable review, he would fire off a hot reply. To tangle with him in a verbal exchange was near hopeless, for not only did he have the facts, but he was also a master of one-upmanship. Even his friend, the late Stephen Potter who made the rules of this devastating game, was no match for James when they got together, as they often did, in London's Savile Club.

If asked to suggest the common denominator of all his diverse ornithological investigations, I would say that it was his historical sense. This inevitably led him to fossil birds and in recent years it became a crusade of his that no avifaunal list should omit those species known only from fossils. It was fascinating to hear him discuss his views with Drs Alexander Wetmore, Pierce Brodkorb and Hildegard Howard (the three most distinguished avian paleontologists in the United States). Although he was not himself a working paleontologist, these authorities respected him for his knowledge of their highly specialised and almost totally neglected field. Skilfully he sifted the evidence of the fossil past, fitting it together like a jigsaw puzzle and relating it to the flow of pre-history. Among the books that will not now be written is the one which he proposed to call *Early Birds*, a survey of the fossil record interpreted in layman's terms.

Like so many other obsessed naturalists, James Fisher became an ardent conservationist, aware that birds were far more than song-birds to admire and study or waterfowl and grouse to shoot (not that he did any shooting). They were, he pointed out, sensitive indicators of the environment, a sort of 'ecological litmus paper'. His contribution to conservation began at the interpretative level through his many books and broadcasts. Later he put his talents as a writer and a publicist at the service of various conservation organisations, including the International Union for the Conservation of Nature and the Royal Society for the Protection of Birds. Except for short breaks, he served on the council of the latter from 1943 to 1970 and was chairman of its Education Committee for eleven years. The R.S.P.B. awarded him its Gold Medal in 1961; then in 1966 he received the Tucker Medal of the B.T.O. and in 1968 the Union Medal of the British Ornithologists' Union, a unique triple achievement.

In 1966 he was appointed to the National Parks (later Countryside) Commission and after two years was made deputy chairman, a post that he was eminently qualified to fill because of his encyclopaedic knowledge of virtually every county in England and its natural history. As for the islands that ring Britain, he had at least seen every one and had landed on many. Although he never got round to a book on his beloved St Kilda, only James could have amassed 200 pages on the 70-odd feet of *Rockall* (1956). Seabirds fascinated him. In collaboration with R. M. Lockley he published an important book entitled, simply, *Sea-Birds* (1954) and he joined enthusiastically in the activities of the Seabird Group from its inception in 1966, becoming chairman of the census sub-committee which conceived and organised 'Operation Seafarer'. It was, however, the Fulmar and the Gannet which were the principal targets of his enquiry; indeed, he had hoped some day to follow his monograph on the Fulmar with one about the Gannet.

As was so aptly expressed in the obituary in *The Times*, he had 'a natural ability and a proper regard for the old English amateurs, the squire and the parson'. He was a devout admirer of Gilbert White—indeed he edited and annotated a special edition of *The Natural History of Selborne* in 1947—and his strong passion for the British countryside also drew him to Richard Jefferies and John Clare. But for some reason hard to fathom he was against W. H. Hudson: although he acknowledged Hudson's contribution to bird protection and his clear use of the English language, he could not forgive him for his faulty facts (as when he stated that the St Kilda Wren was extinct).

James's intimacy with the British Isles, far from being provincial, was almost matched by his knowledge of the geography and natural history of the rest of the world; he had a far better memory for places than any other person of my acquaintance. On our *Wild America* trip, as we travelled from state to state, he could name and locate without hesitation the capitals and other important cities, whether in Mississippi, New Mexico or Oregon; few Americans can attempt that without being tripped up. It was therefore a pity that he himself had not been able to travel more frequently. He planned to remedy that and we talked of an antarctic adventure as soon as his health would permit: because of long hours of sedentary desk work in recent years he had developed a painful arthritic hip condition. This trouble was corrected a few weeks before the accident by an operation and he was told that he could soon dispense with his walking stick.

Weekends at his pleasant manor house in Ashton, Northamptonshire, gave him the rejuvenation he needed to face the high pressure of his week in London. On Monday morning, after a respite in the country, he would look ten years younger than on Friday at the end of an exhausting stint in the city. As one would expect, his was an unusual

family. His own scholarship and creative ability was matched by that of his wife Margery (better known as 'Angus'), with whom he collaborated on several non-ornithological books. With his six children—three boys, three girls—there was delightful rapport. They regarded 'Pop' as one of them: there was no 'generation gap'.

During his last year, as a culmination of his work on the Survival Service Commission of the I.U.C.N., he collaborated with H.R.H. Prince Philip on their best-selling book, *Wildlife Crisis* (1970). When I last saw him, at the International Ornithological Congress in the Netherlands early in September 1970, less than three weeks before he died, we confirmed plans for a television series—four shows based on our book *Wild America*. We would repeat some of our travels and a producer in California would work out the details. We had many such plans, including two books which had been shelved temporarily because of other commitments.

The photograph of him at the International Congress on plate 36 was probably the last one ever taken. James was a vivid personality, a dynamo of energy and purpose. Although his career was brought to a close abruptly and prematurely, no other ornithologist of his generation was more productive. There has never been anyone quite like James Fisher, nor is there likely to be. ROGER TORY PETERSON

Notes

Display-flight of Sparrowhawks I was interested in the note by R. A. Hume and P. L. Garvey on the possible display-flight of four Sparrowhawks *Accipiter nisus* on 25th January 1970 (*Brit. Birds*, 63: 132). The unusual features were the number involved and the early date, compared with the one or two birds and the mid-March to mid-May period in *The Handbook*. Most of the data in that work were taken from J. H. Owen's account of Sparrowhawk behaviour (*Brit. Birds*, 10: 106-115). I should like to point out that J. E. Flynn (*Brit. Birds*, 35: 19) mentioned three females indulging in some form of communal display-flight on 3rd December 1940, although he gave few details; and M. N. and D. H. Rankin (*Brit. Birds*, 35: 60) described a single female displaying on 21st June 1941. Thus it appears that at least partial display-flight may be performed both earlier and later than suggested in *The Handbook*, and by several birds together.

I should also like to add two records of my own of partial display-flights in Co. Mayo in mid-February; transcripts of the relevant

entries in my diary are set out below, though unfortunately these include no estimates of altitude. It is interesting that in the first case I described the slow-wing-beat flight as suggestive of a harrier *Circus* sp—during 1924-44 I became very familiar with both Montagu's Harriers *C. pygargus* and Pallid Harriers *C. macrourus* wintering in the Sudan—since I find that this same comparison was made under the Goshawk *A. gentilis* in *The Handbook* (3: 74).

10th February 1947. On this first relatively calm day for some while, a female Sparrowhawk doing slow-wing-beat flight (suggestive of a harrier), interrupted by short dives. When first seen she was flying from W to E towards a nearby wood [where the species nested successfully later in the year]. A second bird came up out of the wood, but did not display, and may or may not have been a male. Both birds disappeared westwards fairly high. Sunny day, wind NE, light. Time 10 a.m.

18th February 1947. Female Sparrowhawk performing part display-flight, part soaring. Slow, regular wing-beats, tail feathers closed, but under tail-coverts spreading out beyond sides of tail. Only one dive noted, but several sudden short bursts of fast wing-beats. A male farther away, not so closely observed, but seemed only to soar. Both disappeared westwards. Wind NE, not so strong as recently; temperature below freezing point all day. Time 10.10 a.m.

The winter of 1946/47 was very severe in Britain, but the hard weather did not affect Co. Mayo until nearly the end of January. It then persisted until the end of the first week of March. During this period I saw at least four different female Sparrowhawks in the area, two adults (one dark, one very pale) and two immatures (one with a gap in one wing). It was the last-mentioned that was displaying on 18th February.

WILLIAM RUTTLEDGE

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Kestrel apparently robbing Weasel of vole On 18th October 1970 I was walking along the taxiway of the Royal Naval Airfield at Predanack, Cornwall. A male Kestrel *Falco tinnunculus* was hovering about 70 yards ahead when some 20 yards nearer to me a Weasel *Mustela nivalis* ran across the taxiway carrying a dead vole; as it reached the far side the bird swept down and attacked it. Unfortunately both were hidden by a clump of long grass, but after five seconds the Kestrel flew off carrying what was presumably the same vole in its talons. When I approached the spot I found the Weasel, apparently unharmed, circling round and chattering loudly.

D. ELLIOTT

Wardroom, H.M.S. Osprey, Portland, Dorset

Further examples of apparently abnormal feather wear Several Guillemots *Uria aalge* on which the distal barbs of certain feathers had been worn away, leaving the rachises bare for part of their length, were described by R.J.K. (*Brit. Birds*, 63: 34-36, plate 6b). Since then he has found some freshly moulted white contour feathers of gulls *Larus* spp, presumably from the under-parts, showing similar wear.

These were picked up at Llyn Helyg, Flintshire, and Southport, Lancashire, in late July and early August 1970. Three of them are shown on plate 35a. Microscopy established that breakage affected the distal barbules markedly more than the proximals in the right-hand two of these, but this was of course sufficient for the interlocking mechanism to be largely lost. Barbule wear lessened progressively away from the tips of the feathers where whole barbs were usually missing.

D.M. found a freshly dead Guillemot showing feather wear on the Skerry Islands, Co. Antrim, on 24th June 1970. The wear was at a more incipient stage than that previously described in this species by R.J.K. and others, and there were only slight indications of distally bare rachises, but barbule wear was similar to that described in gulls above. The parts of the wing feathers exposed when the wings were folded were all pale brown: this was most prominent on the primaries, where the feather tips and uncovered lateral edges were markedly pale (see plate 35b). The tail was badly worn and faded. From the absence of foot lesions it was unlikely that the birds had been 'rehabilitated'. The specimen is now in D.M.'s possession.

Thus this extreme wear is now known in two families of Charadriiformes and it would be interesting to know if it also occurs in others; in view of the extension of records of this wear to gulls, a natural explanation seems likely.

R. J. KENNEDY and D. MELVILLE

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A letter from Dr W. R. P. Bourne on this subject may be found on page 236. EDS

Carrion Crow attacking window panes and putty T. Simpson (*Brit. Birds*, 63: 254-255) recorded a Carrion Crow *Corvus corone* repeatedly banging on the windows of his cottage in Merioneth and even cracking a pane. During spring 1970 a Carrion Crow attacked two attic windows of my cottage at Lanhill, Chippenham, Wiltshire. I heard the loud banging almost daily between 06.00 and 09.00 during April and May, but not later in the summer when two adult and two juvenile crows were frequently observed feeding together by the cottage.

I assumed the banging to be a form of territorial defence against the bird's reflection. In late December 1970, however, I saw a Carrion Crow pecking violently both at the pane and at the base of the window around the wooden frame. It is unlikely that its reflection was visible in the glass as this was covered with frost and snow. A large amount of old, dry putty from the base of both windows was missing and peck marks were visible on the wood; it therefore seems very probable that one or more Carrion Crows were responsible for taking the putty. Perhaps the banging on the glass during the spring was incidental to the taking of the putty, or the removal of the

putty was incidental to the pecking of the reflection in the glass. The two occurrences may have been unrelated, however, the crow being first attracted by its reflection and only later finding that the putty was edible.

STEPHANIE J. TYLER

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Dippers perching in trees Raymond Hewson's paper on the Dipper *Cinclus cinclus* (*Brit. Birds*, 60: 244-252) referred to the use of trees as perches, adding that it was not recorded in other work on this species. In the Ewden Valley, south Yorkshire, Dippers breed by a rocky stream which flows through dense woodland in its lower reaches. There, in the mid 1950's, I often flushed them from the stream side during the breeding season, and after being disturbed three or four times they would take to the trees, standing rather than perching on thick branches at heights of 30 to 50 feet.

During the severe winter of 1962/63, a Dipper wintering on a semi-piped and highly polluted stream at Totley, near Sheffield, habitually perched with House Sparrows *Passer domesticus* in hawthorns *Crataegus monogyna*. There was no question of its merely standing on thick branches and it often seemed uncomfortable as it teetered on the slender twigs. The way in which it repeatedly flew into the hawthorns with the sparrows suggested that it might have acquired the habit through association with them.

MICHAEL CLEGG

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It is not unusual to see Dippers perched in trees in the Peak District of Derbyshire. About nine pairs breed along the six miles of the River Dove between Hartington and Ilam (*Brit. Birds*, 63: 158-163); they frequently take to the trees when disturbed by ramblers. In Beresford Dale, one of the most popular in the district, the pair which nest each year on a rock face often perch high in a tall tree with food in their bills, waiting for a break in the line of walkers before flying down and feeding their young. I have records of Dippers perching in trees in all parts of north-west Derbyshire, but it is commoner in the limestone dales than in the gritstone areas. Most of the gritstone territories are longer, the streams less thickly wooded and the footpaths usually farther from the streams. Lastly, in 1937 C. Hall noted a Dipper 'perched on the top of a fairly tall Alder by the Ecclesbourne on April 25th' (*J. Derbyshire Arch. and Nat. Hist. Soc.*, 1937: 118), from which it would appear that this is by no means a new habit.

PHILIP SHOOTER

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James Alder, who has made an intensive study of this species in Northumberland, has commented that Dippers of both sexes, young

and old, will perch in trees when excited by the presence of a human being or a predator near the nest (whether building or with eggs or young), when pursued, when flying up to roost in a high crag, or when fighting over territory, and in autumn as well as in the breeding season. Raymond Hewson adds: 'I should perhaps have made it clearer in my paper that it is not perching in trees which is uncommon, but simply that breeding Dippers perch much higher up. I agree with Mr Clegg's description of their standing on thick branches rather than perching on twigs. The winter association with House Sparrows seems to me quite unusual, although the Dipper may have been in an atypical habitat.' We have received other letters in similar vein and thank all who have written. At the same time we must apologise for the delay in publishing this correspondence. EDs

Polygamy in Reed Warblers According to Dr Lars von Haartman's recent review of polygamy among European passerines (*Ornis Fenn.*, 46: 1-12), the only published records involving *Acrocephalus* warblers have concerned Sedge Warblers *A. schoenobaenus* (P. E. Brown and M. G. Davies, 1949, *Reed-Warblers*) and Great Reed Warblers *A. arundinaceus* (Dr H. N. Kluyver, *Ardea*, 43: 1-50). Since 1966 I have studied colour-ringed populations of some 50-100 pairs of Sedge Warblers and a similar number of Reed Warblers *A. scirpaceus* at the Attenborough Nature Reserve, Nottinghamshire, and during 1967 I came across two cases which provided evidence of polygamy in the latter species.

In the first case I found a nest with three eggs in the territory of a colour-ringed male on 22nd May. The male was accompanied by a colour-ringed female and both gave alarm calls while repeatedly approaching me at the nest. A third, unringed, Reed Warbler carrying nesting material then appeared and joined the other two; this bird, presumably a female, was later found to be constructing a nest (about half built) only two metres from the first one. I observed the male in close proximity to the ringed female and her nest, and also saw him following and watching the unringed female as she built the second nest. The locations of the other territories in the small bed of *Phragmites* reeds, and the identities of their occupants, were known. The only other Reed Warblers seen near the territory under discussion were two colour-ringed pairs nesting in adjacent territories. I next visited the area on 26th May, only to find that the first clutch had disappeared (without damage to the nest), and there was no sign of the colour-ringed female. The second nest was then complete and the unringed female eventually laid four eggs. Incubation was shared by the male, but the nest was predated before hatching could occur.

The second case was similar in that two nests, again about two metres apart, were found in the territory of a colour-ringed male: on

22nd June an unringed female was building a nest which eight days later contained a clutch of four, while on 27th June another unringed female was building a second nest which contained three eggs by 30th. This particular territory was more isolated than the previous one, with no adjacent territories, and no other males were seen in the immediate area. Unfortunately, the first nest was predated before hatching. The male was later observed feeding young in the remaining nest, together with the female concerned.

In both instances it seems that one male simultaneously maintained pair bonds with two females for at least part of the nesting cycle. The proximity of two nests and two females in one territory may have led to the disappearance of the clutch mentioned in the first case, and possibly to the desertion of the female associated with it. Although there was no direct evidence to support such an explanation, Brown and Davies (*op. cit.*) suggested that such intraspecific interference can occur in this species. No polygamy has been confirmed in the Sedge Warblers at Attenborough and, although a few more cases have been suspected in both species and some may well have escaped detection, the incidence of polygamy in the population as a whole is clearly insignificant.

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Derek Goodwin comments that only the first record, where the male was seen attending both females, seems proven. Unpaired females of some species, for example Rooks *Corvus frugilegus* (*Brit. Birds*, 48: 97-105), may nest and lay, especially if in the presence of a male to which they are attracted, even though he does not reciprocate. EDS

Reactions of garden birds to animal models and other objects

From 10th November 1968 to 9th April 1969, in my garden at Brentry, Bristol, I tested the reactions of various birds to a model scorpion and a model snake and also to certain solid objects which had no resemblance to possible predators. Each day at about 1 p.m. one of these and some food were placed on a bird-table of dimensions 22 by 30 cm, at which the garden birds were accustomed to daily feeding; the food consisted of bread, mashed potato and sunflower and millet seeds. The animal model or other object was kept on the table for 45 to 60 minutes before removal.

The model scorpion was made of rubber and was moderately realistic with an upturned tail and a length of 10 cm. Reactions to it were noted for a month from 10th November. During the first ten days Great Tits *Parus major*, Blackbirds *Turdus merula*, Starlings *Sturnus vulgaris*, Greenfinches *Carduelis chloris* and House Sparrows *Passer domesticus* avoided it completely; they would fly towards the table and

then sheer away or, having alighted, fly off almost immediately. A Blue Tit *Parus caeruleus* landed briefly to snatch a seed on the first day, but Robins *Erithacus rubecula* from the outset fed around the model without apparent fear. In the course of the month Blue Tits became bolder and Robins continued to feed freely: indeed, on 21st November a Robin tweaked the scorpion's tail. On 20th November a female House Sparrow landed and ate a seed; and then by the 23rd several House Sparrows of both sexes were feeding round the model. A Great Tit carried off a seed on 21st November and by the 30th Great Tits were feeding without concern, even to the extent of standing on the model. On 25th November a Starling took food and many did so subsequently; some individuals, however, continued to avoid the table, although it is possible that these were newcomers to the garden.

On 5th January 1969, following a rest period, a rubber model snake of length 50 cm was displayed on the table. Other conditions were kept the same and the snake was put out daily until 2nd March. From the first day Robins landed and fed readily, often perching on the model; but, as with the scorpion, all other birds would sheer away on seeing the snake and would not return until it had been removed. Then a male Greenfinch alighted on 10th January, taking a seed, and within a week up to three males were feeding near the snake, although in a nervous manner; female Greenfinches joined the males later in the month. A single Blue Tit flew off with a seed on 23rd January, but Blue Tits did not feed on any other occasion in the presence of the snake. Especially cautious, even after two months in which to get accustomed to the model, were Great Tits, Starlings and House Sparrows: none of these would approach the table closely until the snake had been removed.

In order to find out whether garden birds reacted to the presence of objects other than models of dangerous animals, I placed various solids on the table from 11th March to 9th April. On 11th March I put out horizontally a coloured cylinder of length 6 cm and diameter 3.5 cm; a Robin landed shortly afterwards, but other birds veered away until, 30 minutes later, a male Greenfinch took a sunflower seed. No other birds, apart from Robins, alighted to feed while the cylinder was in position until 15th March when a Song Thrush *Turdus philomelos* arrived unconcernedly and fed for a few seconds. On the 16th a Great Tit and three House Sparrows took seeds, but Blue Tits, Starlings and Greenfinches were seen to refuse to land after flying towards the table. A Blue Tit fed by the cylinder on the 17th, and from the 23rd Great Tits, Blue Tits, Greenfinches and House Sparrows fed at ease near the object. On 26th March I positioned the cylinder vertically instead of horizontally: at first birds were hesitant and nervous on landing, but after about 30 minutes most were feeding freely.

Next, on 27th March, a dull grey ball of diameter 3.5 cm was put on

the table and alternated with a similarly coloured but larger ball of diameter 6 cm: birds took little notice of either and fed readily by them. The small ball was then covered with silver foil and House Sparrows immediately took avoiding action; Greenfinches did feed, but in a nervous manner and only for brief periods. Next the larger ball was covered with shiny green foil and all except the Robins sheered away. On 28th March the larger ball was covered with silver foil and again the only bird to take food by it was a Robin. When the small foil-covered ball was displayed once more, House Sparrows and, again, Greenfinches fed by it nervously: it might be expected that the small sphere would provoke less reaction than the larger. No birds except Robins fed by the large foil-covered ball (whether green or silver in colour) until 1st April when two male Greenfinches ate seeds; Great Tits, Starlings and House Sparrows, however, still sheered away. A female Greenfinch and a female House Sparrow fed on 3rd April; and by the 5th Great Tits, Blue Tits, Starlings, Greenfinches and House Sparrows were all feeding by the sphere without apparent anxiety. Occasionally I substituted either the scorpion or the snake for the solid objects on the table. Apart from Robins, birds again avoided the animal models and seemed to show a more intense fear of them than of the cylinder or foil-covered balls.

It would be easy to assume, on the basis of a single series of experiments, that garden birds have an innate fear of a scorpion or a snake. Yet they can hardly have such a fear of a cylinder or sphere. In general, during the period of observation, it appeared that birds feared objects with which they were not familiar. But after a few days, when perhaps one individual had started to feed near the strange form, others of the same species would follow. Some species, however, did not overcome their dread of the animal models: thus Great Tits, Starlings and House Sparrows did not lose their fear of the model snake although they soon became accustomed to the scorpion and other objects. In this connection, on at least two occasions I have seen House Sparrows alarming intensely at a live Grass Snake *Natrix natrix* on a lawn; possibly some bird species do have an inherited dislike of a snake form. The late Colonel R. Meinertzhagen described the effects of a model scorpion on birds in his London garden in June 1955 (*Brit. Birds*, 48: 556-557). He stated that Blue Tits, Blackbirds, Robins and House Sparrows would not alight on his bird-table in the presence of the model. I found Robins to be quite indifferent to a model scorpion, as they were to the model snake and other objects, although it should be remembered that the observations were made at a different season. Throughout my observations Robins, in contrast to other species, seemed fearless and quick to investigate any new feeding situation that might arise.

A. P. RADFORD

Letters

Feather wear in Guillemots In view of R. J. Kennedy's note on feather wear in Guillemots *Uria aalge* (*Brit. Birds*, 63: 34-36) and the follow-up in this issue (pages 229-230), I should like to point out that a good many of the auks involved in the disaster in the Irish Sea area in autumn 1969 (*Seabird Report 1969*: 5-12) were undergoing an abnormally delayed moult and showed advanced feather wear, a feature of specimens of moulting individuals in other collections as well. I have examined the Northumberland Guillemots mentioned by Mr Kennedy: the specimen from Holy Island dated 13th September 1920 proves to be in an early stage of moult, with new head-feathers, the loss of all but the outermost primaries, and the remaining body-feathers faded and worn; while the September 1968 specimen from Whitley Bay is in a rather more advanced state of moult, with the new flight-feathers half-grown and some new feathers appearing on the back where (as he stated) the rest were beginning to disintegrate. The precise significance of these observations is hard to interpret, since few moulting Guillemots can be found in collections and excessive feather wear might well have been the cause of their death, but it seems to be a fairly frequent phenomenon in specimens of moulting birds. Clearly the subject deserves more attention. W. R. P. BOURNE
The Seabird Group, Department of Zoology, University of Aberdeen, Tillydrone Avenue, Aberdeen AB9 2TN

Do some Wallcreepers migrate? David Elias (*Brit. Birds*, 63: 393-394) challenged Dr H. Löhrl's statement (*Brit. Birds*, 63: 164) that Wallcreepers *Tichodroma muraria* do not migrate. I can supplement the observations from Cyprus quoted by Mr Elias with winter records from the plains of northern India, which seem to involve flights across 100 or more miles of flat, lowland country with no cliffs. Hugh Whistler, in his *Popular Handbook of Indian Birds* (fourth edition, 1941), noted that 'every winter one or two live on the structure of Khalsa College in Amritsar', suggesting rather more than the erratic wandering of an occasional individual. In January 1951 one appeared on the walls of the great Qutab Minar tower in Delhi. I saw it there or on neighbouring ruins on several occasions during the next few weeks, but it could not be found at other times, which in my experience is typical of the species: perhaps it had disappeared into some crevice where it was also roosting. There is one previous record from Delhi, and at least one since. Amritsar is about 100 miles from the nearest Himalayan cliffs, and Delhi rather further; but Wallcreepers are not known to breed below about 11,000 feet in the Himalayas and so the distance from the breeding places to these occasional winter-

quarters must be much greater. There are so few observers in India that it is fairly safe to assume that a good many Wallcreepers go unnoticed, and some probably cross the northern plains every autumn. Can it be that in both Europe and Asia a small number 'migrate' each year, whilst the majority only move down the mountains to winter below the area of prolonged icing?

H. G. ALEXANDER

305 Rutgers Avenue, Swarthmore, Pa 19081, U.S.A.

News and comment *Robert Hudson*

B.T.O./R.S.P.B. Birds of Estuaries Enquiry This joint project of the British Trust for Ornithology and the Royal Society for the Protection of Birds was outlined in 'News and comment' last year (*Brit. Birds*, 63: 183). The first report of the pilot survey, covering the period August 1969 to April 1970, was published in April this year. The 24-page document covers briefly the main wildfowl and gull concentrations noted during the period, but describes in detail the wader populations of England, Scotland and Wales. The report is of considerable value, coming at a time when all the major estuaries are under development threats of one kind or another and there is a need for some criteria by which to judge the importance of any area. The total numbers of each wader species counted are detailed for each month, which enables seasonal changes to be documented for Britain as a whole. The most numerous species was Dunlin (200,000 counted), followed by Knot (185,000), Oystercatcher (112,000), Redshank (55,000), Curlew (47,000) and Bar-tailed Godwit (22,000). It is emphasised that the report does not cover all British estuaries adequately and that the figures given are minimal ones. A table ranks the estuaries in numerical importance: the one with most waders was Morecambe Bay (with a peak of 225,000), followed by the Dec (148,000), the Solway (76,000), the Ribble (73,000) and the Wash (65,000). The last was incompletely covered in 1969/70: counts made during the 1970/71 winter revealed a peak of over 160,000 there. A limited number of copies of this report are available from the organiser: A. J. Prater, B.T.O., Beech Grove, Tring, Hertfordshire.

Apart from the most obvious aim of providing basic quantitative data and establishing the relative ornithological importance of the various areas concerned, the Birds of Estuaries Enquiry is attempting to discern the reasons underlying existing distributions: for example, preferred roosting habitats and their seasonal variations (if any), normal feeding grounds, and the effects on roosting and feeding of human disturbance. More detailed work on the related issues of estuary flora and invertebrate fauna will be undertaken in close co-operation with the Coastal Ecology Research Station of the Nature Conservancy.

Essex Naturalists' Trust news During the last two or three years, the Essex 'Naturalists' Trust has emerged as one of the more progressive of its kind: it enrolled 800 new members during 1970 and is becoming increasingly involved in reserve maintenance. Recently it purchased an area of worked-out gravel pits at Great Holland, near Frinton-on-Sea: extraction had ceased about seven years earlier and a variety of wildlife habitats has since developed; a local appeal towards the price of £2,500 has been launched. In conjunction with those covering Hertfordshire and Middlesex, and Cambridgeshire, the Essex Trust has established reserves on county boundaries: Sawbridgeworth Marsh (one of the few remaining marshy water-meadows in the valley of the River Stort) and two small woods at Steeple Bumpstead on the Cambridgeshire border (important for their flora). Further, the Essex Trust is to manage a new reserve at Bonners Saltings and Ray Island, off

Mersea Island, consisting of some 180 acres of unenclosed saltmarsh in Strood Channel; these saltings were purchased by the National Trust from its Enterprise Neptune appeal fund. With money provided by the Royal Society for the Protection of Birds, the Essex Naturalists' Trust has erected a public hide at its Colne Point reserve. This involved logistics problems, since the hide weighed twelve hundred-weight and had to be moved (in three sections) 18 miles from construction point to final site, including the crossing of two miles of shingle ridge. Transportation was accomplished with Army aid, helicopters being used to carry the heavy sections into position: fortunately this was classifiable in official records as a 'training exercise'.

Proposed conference on systematics We have been asked to give preliminary notice that the Society of Systematic Zoology and the International Association for Plant Taxonomy have joined forces in sponsoring a major international conference of people interested in botanical and zoological taxonomy. This First International Congress of Systematic and Evolutionary Biology will be held at the University of Colorado, Boulder, Colorado, U.S.A., in August 1973. Programme plans encompass interdisciplinary symposia and sessions for contributed papers; the botanists will not convene a nomenclatural section, but a zoological one is anticipated. The Steering Committee hopes for participation by ornithologists. The diversity of ecological situations in the countryside surrounding Boulder makes this an attractive site for a conference, both aesthetically and scientifically. Anyone interested should contact J. L. Reveal, Department of Botany, University of Maryland, College Park, Maryland 20742, U.S.A.

Death of Armand Denis The well-known wildlife photographer, Armand Denis, died at his home in Nairobi, Kenya, on 15th April, after a long illness; he was 74. The Armand and Michaela Denis partnership filmed in South America, the Far East and Africa, but it was their 'Filming in Africa' series which brought them fame in Britain during the 1950's and won for them in 1954 the award for the best television documentary of the year. Armand Denis was born in Belgium. He came to England as a refugee during the 1914-18 war and took a degree in chemistry at Oxford before emigrating to the U.S.A. where he became an American citizen. Through an interest in photography, he turned to wildlife filming; eventually he settled in Kenya and devoted himself to the conservation of its wildlife (especially the big game), which he so successfully popularised. His autobiography, *On Safari*, was published in 1963.

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

Recent reports *P. F. Bonham*

These are largely unchecked reports, not authenticated records

The last summary (*Brit. Birds*, 64: 135-136) covered the rarer species and most of the unseasonal summer visitors in December 1970 and January 1971. This one deals with the remaining reports in those months, and the next will cover February and March.

Generally mild conditions, except during the last week in December and the first in January, meant few exceptional concentrations of wildfowl and rather a poor winter for some, but maxima of 32,000 **Wigeon** *Anas penelope* on the Ouse Washes (Cambridgeshire/Norfolk), 5,450 **Pintail** *A. acuta* in the Stanlow area of the River Mersey (Cheshire) and 225 **Goldeneye** *Bucephala clangula* in Chichester Harbour

(Hampshire/Sussex) were among notable duck counts. Less than 50 **Long-tailed Ducks** *Clangula hyemalis* and only some 80 **Smews** *Mergus albellus* were reported in England and Wales, though the latter were seen as far north as Renfrewshire (one at Barcraigs Reservoir) and Northumberland (five at three localities).

Modest numbers of **grey geese** *Anser spp* were present, **White-fronted Geese** *A. albifrons* being nowhere near as numerous as last winter (*Brit. Birds*, 63: 45); gatherings of 5,500 **Grey Lag Geese** *A. anser* at Vane Farm (Kinross), 900 **White-fronts** at Cooling marshes and a similar number on the Isle of Sheppey (both Kent), 3,500 **White-fronts** at Slimbridge (Gloucestershire) and up to 73 **Bean Geese** *A. fabalis fabalis* in the Yare Valley (Norfolk) are worth mentioning. On the other hand, it was undoubtedly a good winter for **Dark-bellied Brent Geese** *Branta bernicla bernicla*: a total of 18,300 on the Essex coast in November was almost 6,000 more than the previous maximum (in December 1969) and consisted of roughly equal proportions of adults and juveniles; another outstanding count was of 6,967 in Chichester and Langstone Harbours (Hampshire/Sussex) on 16th January. **Whooper Swans** *Cygnus cygnus* were again scarce outside Scotland and north-east England; 35 flew north at Gibraltar Point (Lincolnshire) on 1st January and the Ouse Washes held a maximum of only about 25 in that month. **Bewick's Swans** *C. bewickii*, on the other hand, seem to be wintering in ever-increasing numbers, but the total population is almost impossible to estimate because so many flocks are merely transient. In the regular wintering areas, the Ouse Washes count topped the 1,000 mark for the first time in January (1,234 on 18th, 276 or 22.4% of which were juveniles) and increased further in February to another all-time record (1,278 on 16th). The proportion of juveniles was by far the highest since the winter of 1966/67 and indicated a good breeding season in 1970. At Slimbridge 210 Bewick's Swans were present on 31st January and other flocks of about 100 were reported from the Idle Valley (Nottinghamshire) and Blagdon Lake (Somerset). During December and January reports came to us from about 100 localities in more than 30 counties.

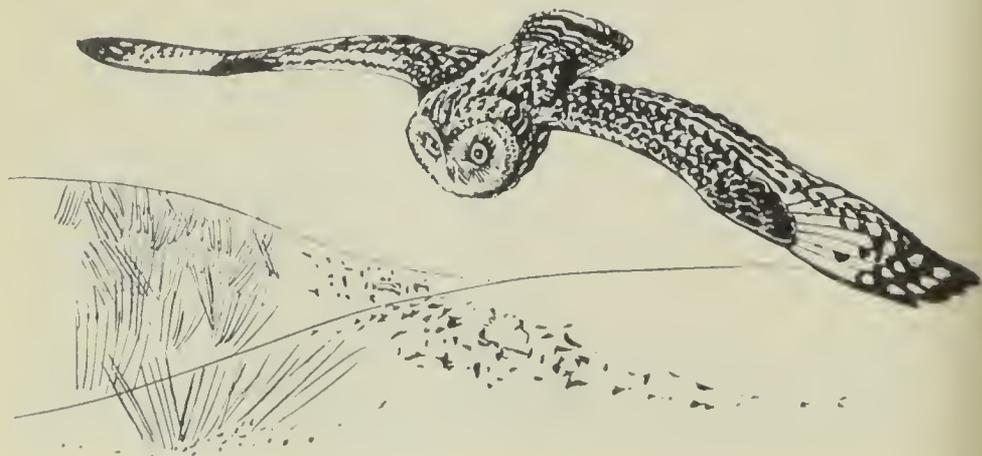
Rough-legged Buzzards *Buteo lagopus* were the only notable raptors not covered in the last summary: there were three reports, from the Isle of Sheppey, Sandwich Bay (Kent) and Rye Harbour (Sussex). **Short-eared Owls** *Asio flammeus* seem to have been unusually numerous: 24 were counted on the Ouse Washes in December, with an estimated population of half as many again; there were up to 21 at a roost at Fulbourn Fen (Cambridgeshire), 14 in one locality on Breydon marshes (Norfolk), eleven at Beddington sewage-farm (Surrey) and similar concentrations at Reculver and Seasalter (both Kent), at a roost on the Berkshire downs, in the Pagham Harbour area, at Slimbridge and so on.

The cold spell at the end of December caused extensive south-westerly movements of **Lapwings** *Vanellus vanellus* (and also of **Skylarks** *Alda arvensis*, **Fieldfares** *Turdus pilaris* and **Redwings** *T. iliacus*), especially during 25th-27th. At Milton (Cambridgeshire) an average of 7,500 per hour were moving SSW on a 1¼-mile front on 25th, with a peak of 14,000 between 10.00 and 11.00 hours; in Sussex on the same day some 15,000 left the Lewes/Glynde area and about 1,000 per hour were heading south (towards the French coast?) at Pagham. Similar movements were reported from the London area and north Kent. On 26th there were rather smaller numbers in these areas, but on Guernsey 3,500 were noted heading south in ¾-hour. Wintering waders included at least 16 **Common Sandpipers** *Tringa hypoleucos* and five **Little Stints** *Calidris minuta* well scattered in about 15 localities north to Derbyshire and west to Somerset, and five **Avocets** *Recurvirostra avosetta* in Pagham Harbour as well as the regular ones in south-west England and a few others in the south and east. About 60 **Glaucous Gulls** *Larus hyperboreus*, but barely a dozen **Iceland Gulls** *L. glaucoides*, were reported; about half the Glaucous were in Shetland and only two Iceland and four of the Glaucous at inland localities in England, another consequence of the mild conditions. There were also seven or eight **Mediterranean Gulls** *L. melanocephalus*, much as in November, but reports of **Little Gulls**

L. minutus were reduced to only 13 in the two months. An adult **Kittiwake** *Rissa tridactyla* was seen well inland at Monsall Dale (Derbyshire) on 29th December.

It was a poor winter for **Shore Larks** *Eremophila alpestris*, with no inland reports and none west of the Sussex coast; the largest flock was 63 at Donna Nook (Lincolnshire) on 4th January. Seven **Woodlarks** *Lullula arborea* were seen at Dungeness (Kent) on 1st January and eight **Bearded Tits** *Panurus biarmicus* stayed at Topsham (Devon) throughout that month; three of the latter had been ringed 250 miles away at Minsmere (Suffolk) in summer 1970, including a pair with consecutive numbers. (Incidentally, 658 were ringed at Minsmere in 1970.) **Waxwings** *Bombicilla garrulus* were even more widespread than in November and generally in smaller parties: only one flock of more than 100 was reported—up to 280 at Hope (Derbyshire)—and about a quarter of the reports referred to single birds. The vast majority of the total of nearly 2,000 in some 140 localities were well inland, mainly in villages, parks and gardens. Sixty to 70 **Great Grey Shrikes** *Lanius excubitor* were well scattered north to Inverness (plus two in Shetland) and west to Devon and Cardigan, continuing the November picture. **Twites** *Acanthis flavirostris* and **Snow Buntings** *Plectrophenax nivalis*, like the Shore Larks, were generally rather scarce on the east coast, although up to 250 **Twites** and 1,000 **Snow Buntings** at Donna Nook, 500-650 **Snow Buntings** in the South Shields area (Co. Durham) and up to 300 at Gibraltar Point were exceptions to this. No **Twites** were reported from the west coasts of England and Wales, but ten **Snow Buntings** were noted at four places in the Severn estuary. There were a few of both species inland, but far less than in the previous winter, except for a most unexpected report of a flock of 150 **Snow Buntings** feeding on the grass in the central reservation of the M6 motorway in the Shap Fells area (Westmorland) on 3rd January: inland records are usually of single birds and very rarely of more than ten. Lastly, a few **Lapland Buntings** *Calcarius lapponicus* were reported from the east coast and there were two at Ballycotton (Co. Cork) and one on the Wexford Slob.

Late **Swallows** *Hirundo rustica* and **House Martins** *Delichon urbica*, and wintering **Blackcaps** *Sylvia atricapilla* and **Chiffchaffs** *Phylloscopus collybita*, were omitted from the last summary. In December there were reports of five **Swallows** (two in Co. Cork, two in Somerset and one exceptionally late bird in Northumberland) and four **House Martins** (all in Kent on 5th or 6th). Over the three months December-February about 40 **Blackcaps** and 70 **Chiffchaffs** came to our attention, but these figures should not be compared with the previous winter's (*Brit. Birds*, 63: 47-48) as the latter were the outcome of a special study. It is interesting to note, however, the entirely different proportion of the reports of **Blackcaps** to those of **Chiffchaffs** in the two winters (3:1 and 1:2 respectively).



List of county and regional 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. For the same reasons we have largely discontinued our previous practice of mentioning observatory and other local reports which overlap with the county or regional ones, though some of these contain much important information. 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, except Cumberland and Westmorland, are now publishing or intending to publish annual reports:

- Bedfordshire* J. N. Dymond, 91 Putnoe Lane, Bedford
Berkshire J. W. Brucker, 65 Yarnton Road, Kidlington, Oxfordshire
Buckinghamshire R. E. Youngman, 53 Seymour Park Road, Marlow, Buckinghamshire SL7 3ER
Cambridgeshire G. M. S. Easy, 11 Landbeach Road, Milton, Cambridgeshire
Cheshire Dr R. J. Raines, 34 Beryl Road, Noctorum, Birkenhead, Cheshire
Cornwall Reverend J. E. Beckerlegge, St Crowan Vicarage, Praze, Camborne, Cornwall
Cumberland R. Stokoe, 4 Fern Bank, Cockermouth, Cumberland
Derbyshire David Amedro, Conway, 212 Derby Road, Ilkeston, Derbyshire
Devon F. R. Smith, 117 Hill Barton Road, Exeter, Devon EX1 3PP
Dorset F. R. Clifton, Portland Bird Observatory and Field Centre, The Old Lower Light, Portland Bill, Dorset
Durham D. G. Bell, 18 Rosedale Crescent, Guisborough, North Yorkshire
Essex Mr and Mrs J. K. Weston, 63 Woodberry Way, Walton-on-the-Naze, Essex
Gloucestershire M. A. Ogilvie, The Wildfowl Trust, Slimbridge, Gloucester GL2 7BT
Hampshire J. H. Taverner, 13 Stockers Avenue, Winchester, Hampshire
Herefordshire T. R. H. Owen, Lulham House, Madley, Herefordshire
Hertfordshire P. Waterton, 5 Elmoor Avenue, Welwyn, Hertfordshire
Huntingdonshire B. S. Milne, 76 Ramsey Road, St Ives, Huntingdonshire
Isle of Wight J. Stafford, Westering, Moor Lane, Brighstone, Isle of Wight
Isles of Scilly Miss H. M. Quick, Priglis Cottage, St Agnes, Isles of Scilly
Kent R. E. Scott, Dungeness Bird Observatory, Romney Marsh, Kent
Lancashire K. G. Spencer, 3 Landseer Close, off Carr Road, Burnley, Lancashire
Leicestershire K. Allsopp, 81 Uplands Road, Oadby, Leicester LE2 4NT
Lincolnshire K. Atkin, 34 Bassingham Crescent, Ermine Estate, Lincoln
London P. J. Grant, 120 Edward Street, New Cross, London SE14 6DX

Monmouthshire see WALES

Norfolk M. J. Seago, 33 Acacia Road, Thorpe St Andrew, Norwich, Norfolk
NOR 7IT

Northamptonshire C. J. Coe, 3 The Orchard, Flore, Northamptonshire NN7 4LH

Northumberland Dr J. D. Parrack, 1 Woodburn Drive, Whitley Bay, Northumberland

Nottinghamshire A. Dobbs, Cloverleigh, Old Main Road, Bulcote, Nottingham
NG14 5GU

Oxfordshire as Berkshire

Rutland as Leicestershire

Shropshire G. M. Ireson, 14 Springfield, Wellmeadow, Bridgnorth, Shropshire

Somerset Miss E. M. Palmer, Highfield, Sandford Hill, Bridgwater, Somerset

Staffordshire J. Lord, 155 Tamworth Road, Sutton Coldfield, Warwickshire (*West
Midland Bird Report*)

Suffolk W. H. Payn, Hartest Place, Bury St Edmunds, Suffolk

Surrey Mrs J. D. Parr, 40 Leatherhead Road, Ashted, Surrey

Sussex M. Shrubbs, Fairfields, Sidlesham, Chichester, Sussex

Warwickshire as Staffordshire

Westmorland as Cumberland

Wiltshire G. L. Webber, 66 Southbrook Extension, Swindon, Wiltshire

Worcestershire as Staffordshire

Yorkshire A. J. Wallis, 13 Raincliffe Avenue, Scarborough, Yorkshire

The *London Bird Report* also includes Middlesex and those parts of Buckinghamshire, Essex, Hertfordshire, Kent and Surrey within 20 miles of St Paul's Cathedral. 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 15), which ranges widely over north-west 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.

ISLE OF MAN

Records are collected by the Manx Museum and National Trust, and edited by E. D. Kerruish, 3 High View Road, Douglas, Isle of Man, for publication in *The Peregrine*, which is produced by the Isle of Man Natural History and Antiquarian Society.

WALES

The annual 'Welsh Bird Report', compiled by P. E. Davis and P. Hope Jones, is published in the September issue of the twice-yearly journal *Nature in Wales*. Reprints are obtainable from Mr Davis (Ty Coed, Tregaron, Cardiganshire) or Mr Hope Jones (Bedwen, Bro Enddwyn, Dyffryn Ardudwy, Merioneth). This presents a summary of records in Wales as a whole, but county reports are also published and recording is on a county basis (see opposite):

- Anglesey A. J. Mecer, Llywenan, Merddyn Gwyn, Brynsiencyn, Anglesey (*Annual Report of Cambrian Ornithological Society*)
- Breconshire M. V. Preece, Stepaside, Llangynidr, Crickhowell, Breconshire
- Caernarvonshire as Anglesey
- Cardiganshire P. E. Davis, Ty Coed, Tregaron, Cardiganshire
- Carmarthenshire D. H. V. Roberts, 38 Heol Hathren, Cwmann, Lampeter, Cardiganshire
- Denbighshire as Anglesey
- Flintshire R. R. Birch, 12 Rake Way, Saughall, Chester
- Glamorgan (Gower) H. E. Grenfell, 14 Bryn Terrace, Mumbles, Swansea, Glamorgan (*Gower Birds*)
- Glamorgan (east of Swansea) Mrs A. Heatheote, 140 Ty Glas Road, Llanishen, Cardiff, Glamorgan
- Merioneth as Anglesey
- Monmouthshire W. G. Lewis, 11 Ruth Road, New Inn, Pontypool, Monmouthshire
- Montgomeryshire R. R. Lovegrove, The Walk Mill, Mochdre, Newtown, Montgomeryshire
- Pembrokeshire J. W. Donovan, The Burren, Dingle Lane, Crundale, Haverfordwest, Pembrokeshire
- Radnorshire as ENGLAND, Herefordshire

Bird records for Cardiganshire, Carmarthenshire and Pembrokeshire are published together as a report of the West Wales Naturalists' Trust. The territory covered by the *North-Western Bird Report* (see ENGLAND) extends into north Wales.

SCOTLAND

The annual 'Scottish Bird Report', compiled by R. H. Dennis, is published in the summer issue of the quarterly journal *Scottish Birds*, the editor of which is T. Delaney, 27 Trinity Crescent, Edinburgh EH5 3EE, but requests for the report should be sent to Major A. D. Peirse-Duncombe, Scottish Ornithologists' Club, 21 Regent Terrace, Edinburgh EH7 5BT. This presents a summary of records in the whole of Scotland, including the Hebrides and Northern Isles, but recording is on a regional basis, partly by 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. With the county system modified in this manner, alphabetical listing is unsatisfactory and the area recorders are therefore taken from north to south:

- Shetland (except Fair Isle) R. J. Tulloch, Reafirth, Mid Yell, Shetland
- Fair Isle R. Broad, Bird Observatory, Fair Isle, Shetland
- Orkney E. Balfour, Isbister House, Rendall, Orkney
- Outer Hebrides (except St Kilda) W. A. J. Cunningham, 10 Barony Square, Stornoway, Isle of Lewis
- St Kilda Dr I. D. Pennie, Varkasaig, Seourie, Sutherland
- Caithness D. M. Stark, 2 Harland Road, Castletown, Thurso, Caithness
- Sutherland, Ross-shire (except Black Isle) D. Macdonald, Elmbank, Dornoch, Sutherland

- Inverness-shire (within 18 miles of Inverness), Ross-shire (Black Isle only)* Dr Maeve Rusk, 51 Old Edinburgh Road, Inverness
- Inverness-shire (mainland more than 18 miles from Inverness)* The Honourable D. N. Weir, Creag Dhu Lodge, by Newtonmore, Inverness-shire
- Nairnshire, Moraysire, Banffshire* J. Edelsten, 14 South High Street, Portsoy, Banffshire AB4 2NT
- Aberdeenshire, north Kincardineshire* N. Picozzi, Nature Conservancy, Blackhall, Banchory, Kincardineshire AB3 3PS; and W. Murray, Culterty Field Station, Newburgh, Aberdeenshire AB4 0AA
- South Kincardineshire, Angus* G. M. Crighton, 23 Church Street, Brechin, Angus
- Argyll, I. Hebrides, Skye* M. J. P. Gregory, 4 High Bank Park, Lochgilphead, Argyll
- Perthshire* Miss V. M. Thom, 19 Braeside Gardens, Perth
- Kinross-shire* J. H. Swan, Vane Farm Reserve, Kinross
- Isle of May* Miss N. J. Gordon, Nature Conservancy, 12 Hope Terrace, Edinburgh EH9 2AS
- Fife (east of A90)* D. W. Oliver, East Cottage, Balass, Cupar, Fife
- Fife (west of A90), Clackmannanshire, east Stirlingshire* T. D. H. Merrie, West Faerwood, Stirling Road, Dollar, Clackmannanshire
- West Lothian* Dr T. C. Smout, 19 South Gillsland Road, Edinburgh EH10 5DE
- Midlothian, Forth islands (except May)* R. W. J. Smith, 33 Hunter Terrace, Loanhead, Midlothian
- East Lothian, Berwickshire* K. S. Macgregor, 16 Merchiston Avenue, Edinburgh EH10 4NY
- Peeblesshire, Roxburghshire, Selkirkshire* A. J. Smith, Glenview, Selkirk
- Clydesdale area including Arran and Bute but excluding Argyll* R. W. Forrester, 29 Crandleyhill Road, Princeswick, Ayrshire
- Dumfriesshire* D. Skilling, 86 Auchenkeld Avenue, Heathhall, Dumfries; and R. T. Smith, Applegarthtown, Lockerbie, Dumfriesshire
- Kirkcudbrightshire, Wigtonshire* A. D. Watson, Baronc, Dalry, Castle Douglas, Kirkcudbrightshire

In addition to the 'Scottish Bird Report', there are annual reports covering Shetland (except Fair Isle) and Fair Isle.

IRELAND

The annual *Irish Bird Report*, obtainable from David Scott, Granite Cottage, Ulverton Road, Dalkey, Co. Dublin, has been edited with outstanding success since 1953 by Major R. F. Rutledge, but to spread the burden an Irish Records Panel has now been set up, consisting of T. Ennis, F. King, O. J. Merne, K. Preston (Hon. Secretary) and Dr J. T. R. Sharrock. Excluding the observatories, there are five regions for which the Panel has representatives. Observers are asked to send records to those area representatives or to Mr Preston or, indeed, to *any member* of the Panel:

- Northern Ireland* T. Ennis, Flat 5, 116 Holywood Road, Belfast BT4 1NY
- Dublin and Wicklow* C. D. Hutchinson, 19.31 Trinity College, Dublin 2
- Wexford* O. J. Merne, North Slob Wildfowl Refuge, Wexford
- Cork* K. Preston, The Rennies, Boreenmanna Road, Cork
- Kerry* F. King, The Orchards, Blennerville, Trillick, Co. Kerry

The Armagh Field Naturalists Society has also asked us to state that it includes bird records in its annual report:

- Armagh* L. Nesbitt, 11 Bellevue Terrace, Richhill, Co. Armagh

Notice to contributors

British Birds publishes material dealing with original observations on the birds of Britain and Europe 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 (glossy prints showing good contrast) and sketches are welcomed. Proofs of all contributions are sent to authors before publication.

After publication, 25 separates are sent free to authors of papers (two authors of one paper receive 15 each and three authors ten each); additional copies, for which a charge is made, can be provided if ordered when the proofs are returned. Reprints of notes and other short items have to be specially ordered and are charged for.

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.

Notes should be worded as concisely as possible, and drawn up in the form in which they will be printed, with signature in block capitals and the author's address clearly given in one line at the foot. If more than one note is submitted, each should be on a separate sheet, with signature and address repeated.

Certain conventions of style and layout are essential to preserve the uniformity of any publication. Authors of papers in particular, especially of those containing systematic lists, reference lists, tables, etc., should consult the ones in this issue as a guide to general presentation. English names of species should have capital initials for each word, except after a hyphen (e.g. Willow Warbler, Black-tailed Godwit), but group terms should not (e.g. warblers, godwits). English names are generally those used in *A Field Guide to the Birds of Britain and Europe* (revised edition, 1966). The scientific name of each species should be underlined (but not put in brackets) immediately after the first mention of the English name. Sub-specific names should not be used except where they are relevant to the discussion. It is sometimes more convenient to list scientific names in an appendix. Dates should take the form '1st January 1971' and no other, except in tables where they may be abbreviated to '1st Jan', 'Jan 1st', or even 'Jan 1', whichever most suits the layout of the table concerned. It is particularly requested that authors should pay attention to reference lists, which otherwise cause much unnecessary work. These should take the following form:

BANNERMAN, D. A. 1954. *The Birds of the British Isles*. Edinburgh and London. vol 3: 223-228.

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Various other conventions concerning references, including their use in the text, should be noted by consulting examples in this issue.

Tables should be numbered with arabic numerals, and the title typed above in the style used in this issue. They must either fit into the width of a page, or be designed to fit a whole page lengthways. All tables should be self-explanatory.

Figures should be numbered with arabic numerals, and the captions typed on a separate sheet. All line-drawings should be in indian ink on good quality drawing paper (not of an absorbent nature) or, where necessary, on graph paper, but this must be light blue or very pale grey. It is always most important to consider how each drawing will fit into the page. Before submitting his paper, the author must neatly insert any lettering or numbering that is an integral part of the figures and, as this is perhaps the most difficult aspect of indian ink drawing, he is advised to use Letraset or seek the aid of a skilled draughtsman.

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Field identification of European raptors

Part 1 Buzzards and Honey Buzzard

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British Birds

Editorial

Field identification and birds of prey

British Birds has always prided itself on the encouragement it has given to bird identification. As far back as 1907, the first volume included an article by the Hon. Walter Rothschild on the separation of Willow Tits *Parus montanus* and Marsh Tits *P. palustris*. Several of its editors have played their parts in the main identification books, the most significant contribution being the sections on 'Field-characters and General Habits' by the late B. W. Tucker, an editor of this journal from 1940 to 1950, in *The Handbook of British Birds* (1938-41): it is a tribute to his whole new approach to field identification that most of the field guides to this day still draw heavily on his clear and succinct summaries based on years of critical fieldwork and international correspondence.

Several papers in the last decade have opened up new fields. One classic example was Kenneth Williamson's 'Juvenile and winter plumages of marsh terns' (*Brit. Birds*, 53: 243-252), which showed that White-winged Black Terns *Chlidonias leucopterus* and Whiskered Terns (*C. hybrida*, regarded even by Tucker as 'probably not separable . . . in the field' out of breeding plumage, could be distinguished then without great difficulty; as a direct result, over 100 White-winged Black and even six Whiskered Terns have been identified in autumn in Britain and Ireland since 1960. Another was D. I. M. Wallace's 'Field-identification of Hippolais warblers' (*Brit. Birds*, 57: 282-301), which brilliantly analysed the distinctions in all plumages of the six species of this interesting west Palearctic genus that until then had been regarded as bogies.

In the late 1940's and early 1950's attention began to turn to one of the hardest problems of all—that of distinguishing birds of prey in flight. Some raptors, especially the eagles and buzzards, vary greatly in plumage and their shapes and wing positions change with

the mode of flight of the moment, which in turn may depend greatly upon wind and weather. In Britain, where the sole eagle is the Golden *Aquila chrysaetos* and where the rare Honey Buzzard *Pernis apivorus* and Rough-legged Buzzard *Buteo lagopus* have to be distinguished only from the common Buzzard *B. buteo*, these difficulties may not matter too much, but more and more observers are visiting far-flung corners of Europe and beyond. In Europe there are four vultures, nine eagles (including *Haliaeetus* and *Circaetus* with the typical *Aquila* and *Hieraetus*), five buzzards (including *Pernis* and *Buteo* and separating the Steppe Buzzard *B. b. vulpinus* which, though only a race of the Buzzard, is often confused with the Long-legged Buzzard *B. rufinus*), three round-winged hawks (*Accipiter*), three kites (including *Elanus* with *Milvus*), four harriers (*Circus*), one osprey (*Pandion*) and ten falcons (*Falco*)—in all 38 species and a difficult subspecies.

It was P. J. Hayman who took the lead in identifying European raptors in flight and for many years observers going abroad have been supplied by him, for comment and criticism in the field, with beautifully executed sketches based on his own experience in the Middle East and Europe, and revised and revised again after minute examination and measurement of museum skins. Meanwhile, a significant paper was published in 1968 on the identification of *Aquila* eagles, with an English summary and English captions to twelve pages of drawings, by S. Christensen, B. P. Nielsen, N. H. Christensen and L. H. Sorensen (*Dansk Orn. Foren. Tidsskr.*, 62: 68-94) and followed in 1970 by another on the buzzards and remaining eagles by the first two of those authors (*Dansk Orn. Foren. Tidsskr.*, 64: 1-44). Also in 1970 L. H. Sorensen began a Belgian series with the buzzards (*Aves*, 7: 29-43). This growing interest in raptor identification was further reflected in the recent publication of *Birds of Prey in the Field* by Roger Harkness and Colin Murdoch (1971). On the global plane, too, *Birds of Prey of the World* by Mary Louise Grossman and John Hamlet (1965) and *Eagles, Hawks and Falcons of the World* by Leslie Brown and Dean Amadon (1968) both included many flight sketches.

We believe, however, that the birds of prey are such a complicated group to identify that it will be a long time before the last word has been written and it is therefore with great pleasure that we now publish the first of eight papers covering the identification of all the European raptors. We are fortunate that it has been possible to pool the knowledge of two of the Danish experts, Steen Christensen and Bent Pors Nielsen, with that of two British ornithologists, R. F. Porter and Ian Willis, who have spent much time studying the bird of prey migration at the Bosphorus; we also believe that the sketches by Mr Willis are at once the most beautifully drawn and the most accurate of the flight illustrations so far published of this important and difficult group.

Flight identification of European raptors

Steen Christensen, Bent Pors Nielsen,

R. F. Porter and Ian Willis

INTRODUCTION

Identification of birds of prey in flight will always be a problem. The best of us will never be able to feel completely confident about a group of species that shows such diversity of plumage, whose silhouettes vary in different circumstances and for which the challenge of identification is so often at considerable range. We four have been studying flight identification of raptors for at least seven years—mostly in Europe, but also in Asia and Africa. A chance meeting in autumn 1968 between B.P.N. and R.F.P. at the now legendary Camlica Hills of the Turkish Bosphorus brought the Danish and English teams together and it was agreed to co-operate in a series of papers covering all the European raptors. Shortly afterwards, the editors of *British Birds* asked us to consider publication in this journal and so the scheme was born. The series will be completed in eight parts:

PART 1

Buzzard *Buteo buteo buteo*
and Steppe Buzzard *B. b. vulpinus*
Long-legged Buzzard *Buteo rufinus*
Rough-legged Buzzard *Buteo lagopus*
Honey Buzzard *Pernis apivorus*

PART 2

Booted Eagle *Hieraetus pennatus*
Bonelli's Eagle *Hieraetus fasciatus*
Short-toed Eagle *Circaetus gallicus*
Osprey *Pandion haliaetus*
Red Kite *Milvus milvus*
Black Kite *Milvus migrans*

PART 3

Spotted Eagle *Aquila clanga*
Lesser Spotted Eagle *Aquila pomarina*
Imperial Eagle *Aquila heliaca*
Steppe Eagle *Aquila nipalensis*
Golden Eagle *Aquila chrysaetos*
White-tailed Eagle *Haliaeetus albicilla*

PART 4

Hen Harrier *Circus cyaneus*
Pallid Harrier *Circus macrourus*
Montagu's Harrier *Circus pygargus*
Marsh Harrier *Circus aeruginosus*

PART 5

Egyptian Vulture *Neophron percnopterus*
Lammergeier *Gypaetus barbatus*
Black Vulture *Aegypius monachus*
Griffon Vulture *Gyps fulvus*

PART 6

Gyr Falcon *Falco rusticolus*
Saker *Falco cherrug*
Lanner *Falco biarmicus*
Peregrine *Falco peregrinus*

PART 7

Hobby *Falco subbuteo*
Eleonora's Falcon *Falco eleonora*
Merlin *Falco columbarius*
Red-footed Falcon *Falco vespertinus*

PART 8

Lesser Kestrel *Falco naumanni*
Kestrel *Falco tinnunculus*
Black-winged Kite *Elanus caeruleus*
Goshawk *Accipiter gentilis*
Sparrowhawk *Accipiter nisus*
Levant Sparrowhawk *Accipiter brevipes*

The groups are designed to bring together species which have somewhat similar field characters and between which confusion can often arise. It is not our intention to dwell on the details of generic characters: we respectfully suggest that anyone who does not know the differences between, say, buzzards and eagles should look at more basic identification guides before reading these papers.

This is certainly not intended to be the final word on raptor identification. We should like the series to be regarded as working drafts on which we invite comments and constructive criticism so that when they are finally presented in book form, as is our intention, they can incorporate a far wider range of knowledge than we are able to provide. We are interested in receiving flight photographs of any of the European birds of prey, but are lacking good ones of the following for reproduction: Red Kite *Milvus milvus*, Goshawk *Accipiter gentilis*, Bonelli's Eagle *Hieraetus fasciatus*, Steppe Eagle *Aquila nipalensis*, Spotted Eagle *A. clanga*, Golden Eagle *A. chrysaetos*, Montagu's Harrier *Circus pygargus*, Gyr Falcon *Falco rusticolus*, Saker *F. cherrug*, Lanner *F. biarmicus*, Eleonora's Falcon *F. eleonora* and Red-footed Falcon *F. vespertinus*. We shall be particularly grateful for any of these to include in the series. Black-and-white prints are of course preferred, but it may be possible to make monochrome reproductions of a small number of outstanding colour transparencies. All photographs should be sent to R. F. Porter, The Royal Society for the Protection of Birds, The Lodge, Sandy, Bedfordshire, England.

Before considering the first group in detail, we must emphasise again that birds of prey are difficult to identify in flight (and even more so when perched). The only way is to get to know them in the field and to learn by mistakes. The novice should first familiarise himself with plumage characters, even though these are highly variable in some species. Only when he is competent in this respect can he hope to start identifying them on shape and structure and thus at greater and greater distances. Even then he must beware that shapes and wing positions can be misleading and highly variable, often a reflection of the weather conditions at the time. No-one should ever expect to identify every bird of prey. Anybody who travels widely in Europe and identifies 70% of all the raptors that he sees is doing extremely well. Trying to be too ambitious will lead only to mistakes and to inaccurate documentation that can take years to rectify.

All the sketches for the series are being drawn by Ian Willis. Although we shall be recording at the end our acknowledgement to the many people who have been helping us with these papers, we should particularly like to thank P. J. Hayman who was the first person to advise two of us (R.F.P. and I.W.) on the problems of the group and who has for many years been one of the acknowledged European experts on the identification of birds of prey.

PART I. BUZZARDS AND HONEY BUZZARD

In this group we are concerned with three true buzzards (Buzzard *Buteo buteo*, Long-legged Buzzard *B. rufinus* and Rough-legged Buzzard *B. lagopus*), a distinctive subspecies of the first which is often confused with the second (Steppe Buzzard *Buteo buteo vulpinus*), and the only European member of another genus which is best considered at the same time (Honey Buzzard *Pernis apivorus*). These are perhaps the most difficult of all European raptors because of their considerable variation in plumage and rather similar structure. Fig. 2 on page 250 shows the main flight characters of each from underneath and particular points are commented on in the facing text on page 251 with brief outlines of the areas of Europe, the Middle East and north Africa in which the birds are likely to be seen. We have not dealt with distribution in detail, however, as space is limited if, as is our aim, we are to put the appropriate text opposite the drawings and, in any case, there are many books devoted to this subject. Nevertheless, provided one exercises caution, knowing what to expect can be a great help.

Figs. 3-12 on pages 253-265 illustrate the under- and uppersides of each bird in various plumages and with different wing positions (while plates 37-42 emphasise some of the points in the form of photographs). Not illustrated in detail, however, are head-on profiles. This is partly for reasons of space and, more important, because they are too variable to be diagnostic, depending greatly on the strength of the wind and other weather conditions. As a general rule, the true buzzards soar on raised wings and the Honey Buzzards on flat wings (fig. 1), but variations are discussed under the individual species.

Buteo



Pernis



Fig. 1. Head-on soaring profiles of true buzzards *Buteo* with wings raised and Honey Buzzard *Pernis apivorus* with wings flat (but see text)

DEFINITIONS

Hand Wing between carpal joint and tip (primaries)

Arm Wing between body and carpal joint (wing coverts and secondaries)

Soaring Circling flight often in a thermal of warm air

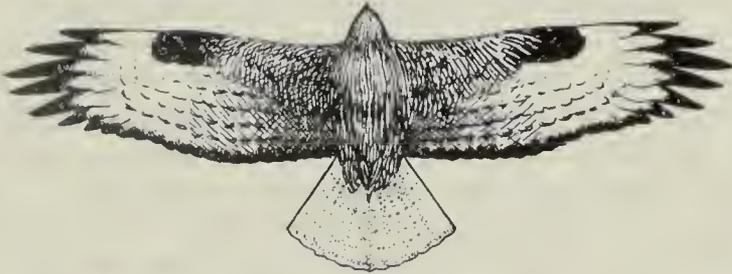
Gliding Flight on a straight course without or between wing beats



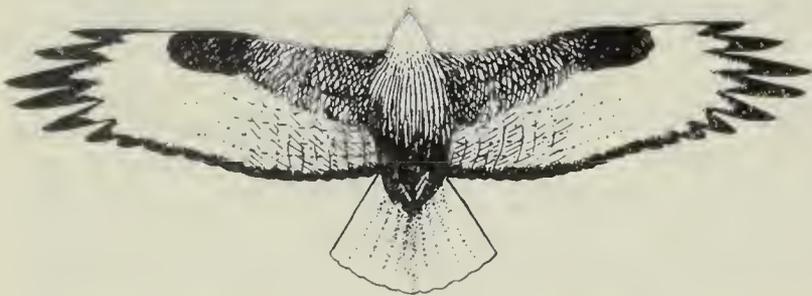
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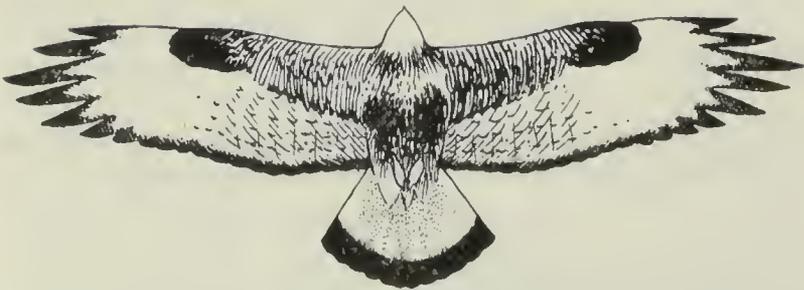
B



C



D



E

Fig. 2. Typical undersides of four species and one subspecies in buzzard group

A. **Honey Buzzard** *Pernis apivorus* (pages 264-266, plates 41-42). Slim body, small protruding head (reminiscent of Cuckoo *Cuculus canorus*), longish tail. This is normal barred type, but much confusing plumage variation (page 264). Form of bars on primaries and secondaries diagnostic and also three bands on tail; usually strongly marked carpal patches. Soars on flat wings, unlike true buzzards *Buteo* which invariably do so on raised wings. Anywhere in continental Europe, late April-September, except north Fenno-Scandia, much of Low Countries, parts of Iberia and south Italy; and on passage in Turkey, Middle East, Mediterranean area and north Africa, late April-May and August-September

B. **Buzzard** *Buteo buteo buteo* (pages 252-255, plates 37-38, 41a). Compact and well-proportioned with broad head and thick-set neck; wings appear broader and tail shorter than Honey Buzzard. Plumage very variable from largely dark to largely white (pages 254-255). Soars on raised wings. Commonest of buzzard group: anywhere in Europe, except Iceland, Faeroes, Ireland, east Britain and Scandinavia north of 62°-65°N, east to Sweden, Poland, Romania and Turkey; in Scandinavia mainly March-October because, although many populations are largely sedentary, some migrate south to Mediterranean region and north-west Africa; replaced in east Europe by another subspecies, Steppe Buzzard (see below)

C. **Steppe Buzzard** *Buteo buteo vulpinus* (pages 256-257, plates 39a, b). Similar structure to Buzzard, but slightly longer-winged and longer-tailed. Usually rather light-coloured, but some variation (page 256), though much less than Buzzard. Some characters constant (page 257), but coverts vary from dark brown to cream and sometimes dark patch on breast and barely visible tail bars. Usually rufous-orange underparts and cinnamon-orange tail cause confusion with Long-legged. North-east and east Europe from Fenno-Scandia and Russia south to Ukraine and Caucasus, March-October; intermediates in area from Finland to Balkans; on passage east and south Europe, Middle East and north Africa

D. **Long-legged Buzzard** *Buteo rufinus* (pages 258-260, plates 39c, d). Larger and more eagle-like than Steppe Buzzard to which similar in plumage. Whitish head and chestnut belly patch are often characteristic, but much variation (page 258). Tail usually whitish at base merging into reddish-brown tip, but sometimes wholly reddish-brown (very like Steppe), while immatures have bars near tip; also heavily barred melanistic phase (figs. 7D, 8C). Soars on less raised wings than Buzzard or Steppe; sluggish, often idling on telegraph poles or hummocks. In Europe only Greece and Turkey, where resident, and south Russia, where migratory, but also breeds south through Middle East and across north Africa to Morocco

E. **Rough-legged Buzzard** *Buteo lagopus* (pages 261-263, plate 40). Size and structure closest to Long-legged, but head smaller. Typically shows combination of dark and white plumage with whitish underwings and white-based tail contrasting with black carpal patches, large dark area on belly and broad black terminal band on tail, but some variation, particularly in underwing-coverts (page 262). Soars on slightly raised wings; frequently hovers when hunting. North Fenno-Scandia and north Russia, April-September; winters farther south from east Britain (very scarce), Low Countries, Denmark and Germany east to Ukraine and Caucasus and south to north Italy and Balkans, October-April

Buzzard *Buteo buteo buteo* (pages 252-255, plates 37-38)

Silhouette Compact, medium-sized raptor with relatively broad wings and fairly short but ample tail. As with all true buzzards, head short, round and comparatively broad. Tail about three-quarters of width of wing and with rather sharp corners, more so than in Honey Buzzard; usually evenly rounded, but sometimes central feathers slightly elongated, making whole appear a little wedge-shaped. In head-on profile when soaring, wings raised and further upcurved at tip; when gliding, wings flat or slightly upcurved.

Flight In soaring, wings raised (hand more than arm) and pressed forward; tail fanned so that sides may even reach trailing edge of wings. In gliding, wings held horizontally, arm pressed forward and hand directed clearly backwards; they then look very pointed, more so than Honey Buzzard's in corresponding position. In active flight, action a little stiff and wing beats not so deep as those of Honey, possibly due to relatively longer arm. In some parts of range, but not in all, frequently hovers when hunting.

Identification May be confused with many medium-sized raptors, owing to great variety of plumages, intermediate size and not very characteristic flight silhouette (though soaring on raised wings is good guide). Easily confused with Honey Buzzard (pages 264-266), but is noticeably broader-headed and shorter-tailed and appears broader-winged, while flight actions and head-on profiles (see above and fig. 1 on page 249) are different. Buzzard also lacks Honey's three tail bands (though these are visible only at close range or when tail spread) and distinct bars on underwing. Dark Buzzards may be confused with dark-phase Booted Eagles *Hieraetus pennatus* (to be featured in part 2), but never show the latter's combination of all-black flight-feathers and lighter inner primaries. Dark individuals may also be confused at distance with Black Kites *Milvus migrans* (part 2) or female Marsh Harriers *Circus aeruginosus* (part 4), but Buzzard always has shorter tail. Pale Buzzards superficially resemble Rough-legged Buzzards (compare 4H with 9D on page 262) and some even have whitish upper tail-coverts (compare 3B with 10A on page 263), but see that species for distinctions. Other pale Buzzards look like Short-toed Eagles *Circaetus gallicus* (part 2), owing to combination of dark head, blackish wing tips and trailing edge and otherwise very light undersides (4G), but Short-toed much larger. Can also be confused with Steppe Buzzard (pages 256-257) and some eastern Buzzards are impossible to separate from western Steppe Buzzards, which is not surprising since they are conspecific and interbreed in eastern Europe. In general, Buzzard most safely identified by size, compact flight silhouette, comparatively short, dark and evenly barred tail, and broad wings raised when soaring.

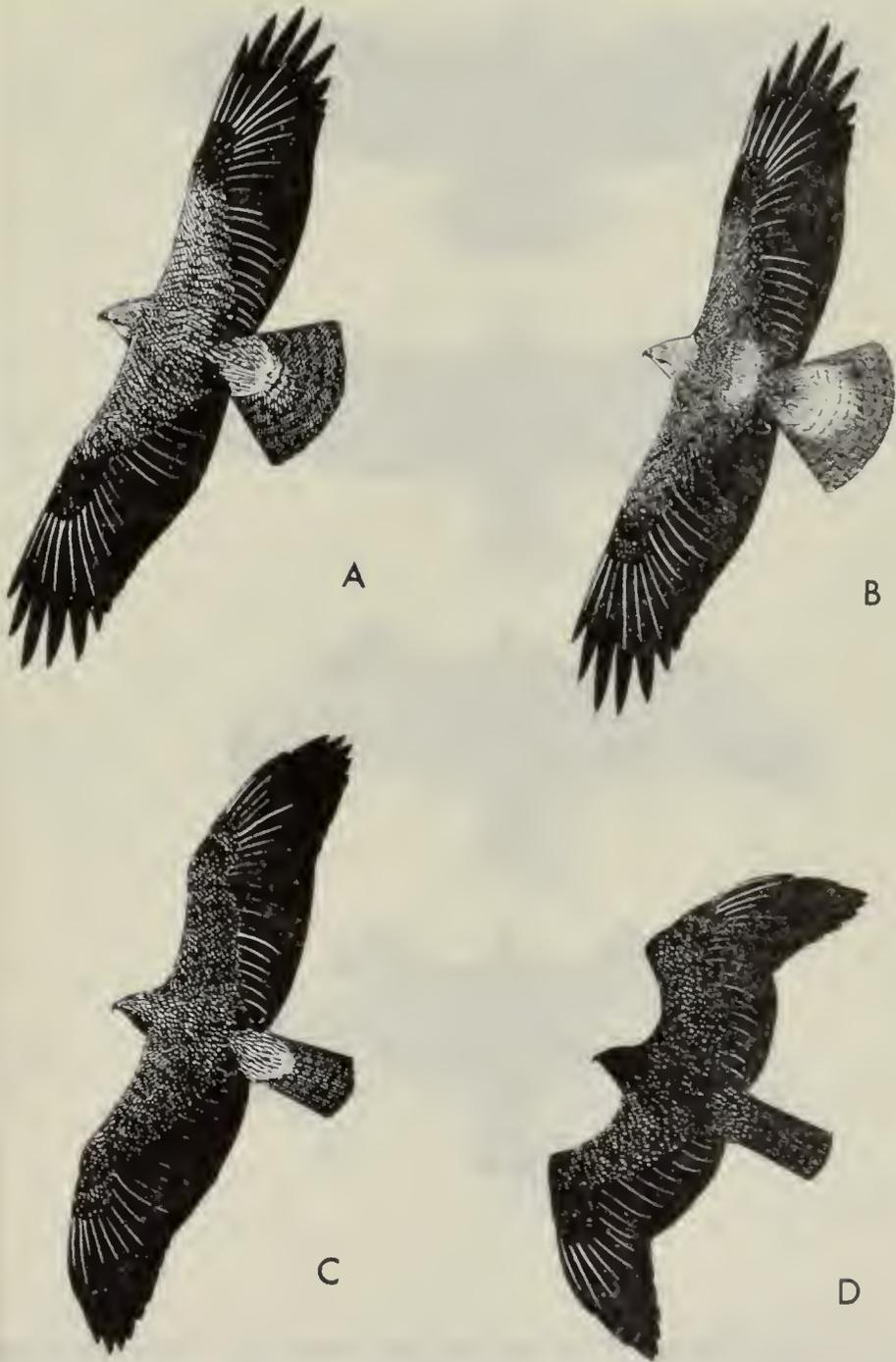


Fig. 3. Four Buzzards *Buteo buteo buteo* from above. The upperparts vary less than the underparts (cf. pages 254-255), but some individuals have the rump and proximal part of the tail whitish (3B and, to a lesser extent, 3A and 3C) and even a pale patch on the back and a whitish head (3B again); a few are extremely dark above with virtually no relieving markings (3D). Very few show light areas on the primaries and these are possibly all from the eastern part of the range, since the distinct subspecies of Russia and western Siberia, known as the Steppe Buzzard, has such markings as a normal feature (pages 256-257)

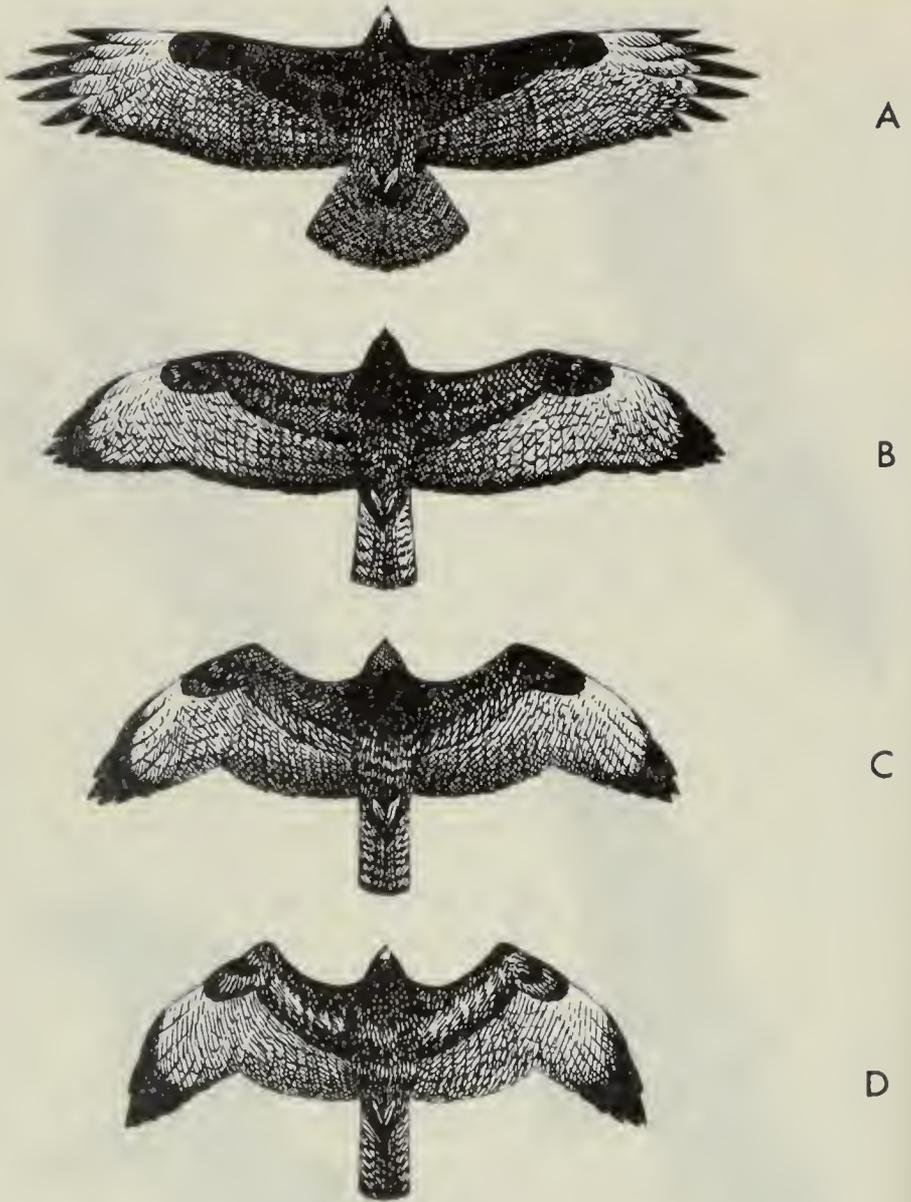
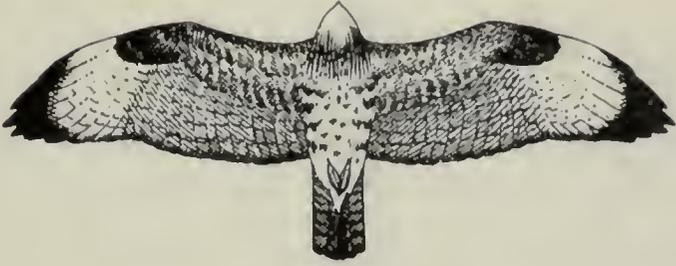


Fig. 4. Eight **Buzzards** *Buteo buteo buteo* from below. This is probably the most variable of all the Palearctic birds of prey (though the Honey Buzzard and the Long-legged Buzzard both run it close). The variations are greatest in the north European populations, which may be any shade from almost white to blackish-brown beneath, with a complete range of streaked and blotched individuals in between. There is no apparent correlation between plumage and sex or age. The commonest type (4E) has head, body and underwing-coverts brown (which may vary from dark grey-brown to a lighter and warmer reddish-brown), often mixed with lighter spots or streaks; the greyish-white tail is barred with brown, but the bars are narrow and often indistinct; the primaries are whitish and the secondaries greyish, ex-

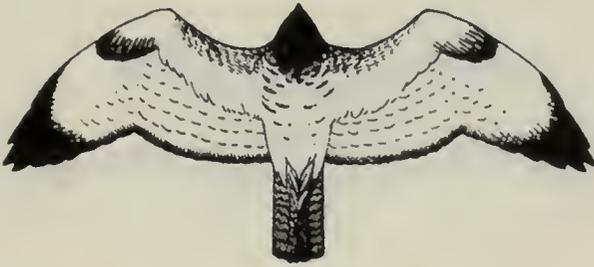
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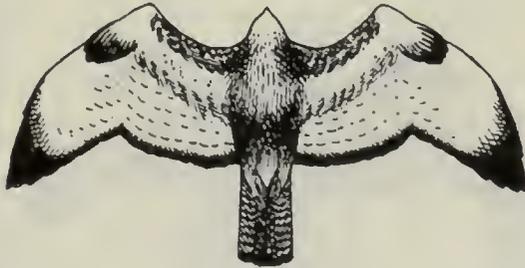
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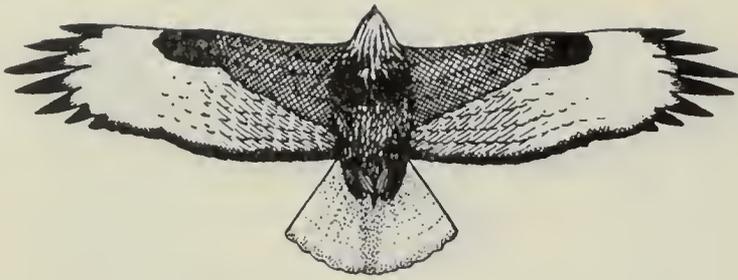
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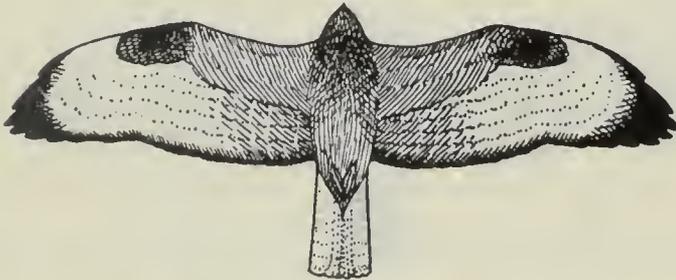
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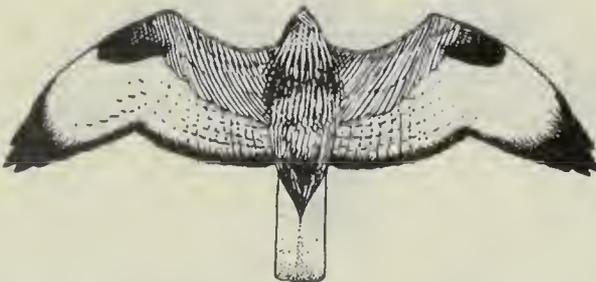
cept for the tips in each case which are dark brown and form a dark end to the wing and a more or less conspicuous band on the trailing edge. A dark individual (4A) may be almost uniformly blackish-brown on the underwing-coverts and also have very dark flight-feathers with only the primaries paler, as well as a nearly uniform blackish-brown tail, but there are many minor variations even of this dark type (4B, 4C, 4D). The other birds illustrated here are a series of three light individuals (4F, 4G, 4H), whose general coloration is often isabelline or creamy, but it should be noted how, for example, the head may be dark and the body light in one case and quite the opposite in another. Even lighter ones than any of these (for instance, with completely white heads) are sometimes encountered.



A



B



C



D

Fig. 5. Four **Steppe Buzzards** *Buteo buteo vulpinus* from below. This subspecies is often rather pale and variation is less than in the western race (pages 254-255): whitish primaries, greyish-white secondaries, a blackish band along the trailing edge, and distinct carpal patches are normal (5A, 5B, 5C). Much paler tail than Buzzard's—often rufous or cinnamon, sometimes whitish, and usually with only faint barring near the tip—causes confusion with Long-legged (pages 258-260). Wing-coverts and body feathers mahogany (5A) to almost creamy; undertail-coverts may be darker than body (5C) and sometimes dark breast patch (5C again) produces resemblance to Rough-legged (pages 261-263). Intermediate populations of east Europe (5D)—usually darker and with more prominent tail bars, sometimes also lacking the black trailing edge—are more like Buzzard

Steppe Buzzard *Buteo buteo vulpinus* (pages 256-257, plates 39a, b)

Silhouette This eastern subspecies of the Buzzard averages a fraction smaller, but individual and sexual variation make size quite useless in the field. Wings slightly slenderer than those of Buzzard and, as a result, tail appears a little longer, the whole effect being to produce a shape not unlike that of some Honey Buzzards. Otherwise like Buzzard, including head-on profile.

Flight Identical with that of Buzzard (page 252).

Identification May be confused with Buzzard (pages 252-255) and intermediate populations in the region from Finland to the Balkans are certainly difficult to distinguish, but on the whole more easily identified than most subspecies of raptors. Typically, indeed, is more often misidentified as Long-legged Buzzard (pages 258-260), though smaller than that species, with much shorter wing span (compare 2C and 2D on page 250) and less deep wing beats. Long-legged also usually has whiter head and breast and much darker belly, as well as more contrast on upperside between rump and tail and between wing-coverts and flight-feathers; in addition, its tail often lacks any trace of barring, which is rarely the case with Steppe Buzzard. Pale Steppe with dark shield on breast may look superficially like Rough-legged (pages 261-263), but lacks the broad and conspicuous tail band of that species.

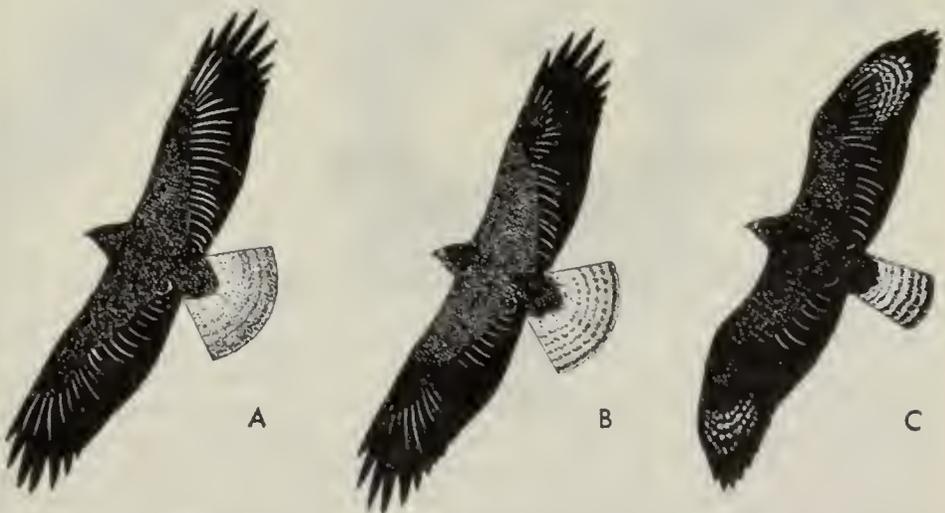


Fig. 6. Three Steppe Buzzards *Buteo buteo vulpinus* from above. Again, upperparts vary less than the underparts, but the tail bars, notably the terminal one, are often more distinct (6B, 6C), but not always (6A). Flight-feathers are grey-brown, but some birds have pale areas on the primaries (6C), again recalling a Long-legged Buzzard. Edges of wing-coverts and body-feathers are often light or dark rufous, giving the upperparts a reddish tinge

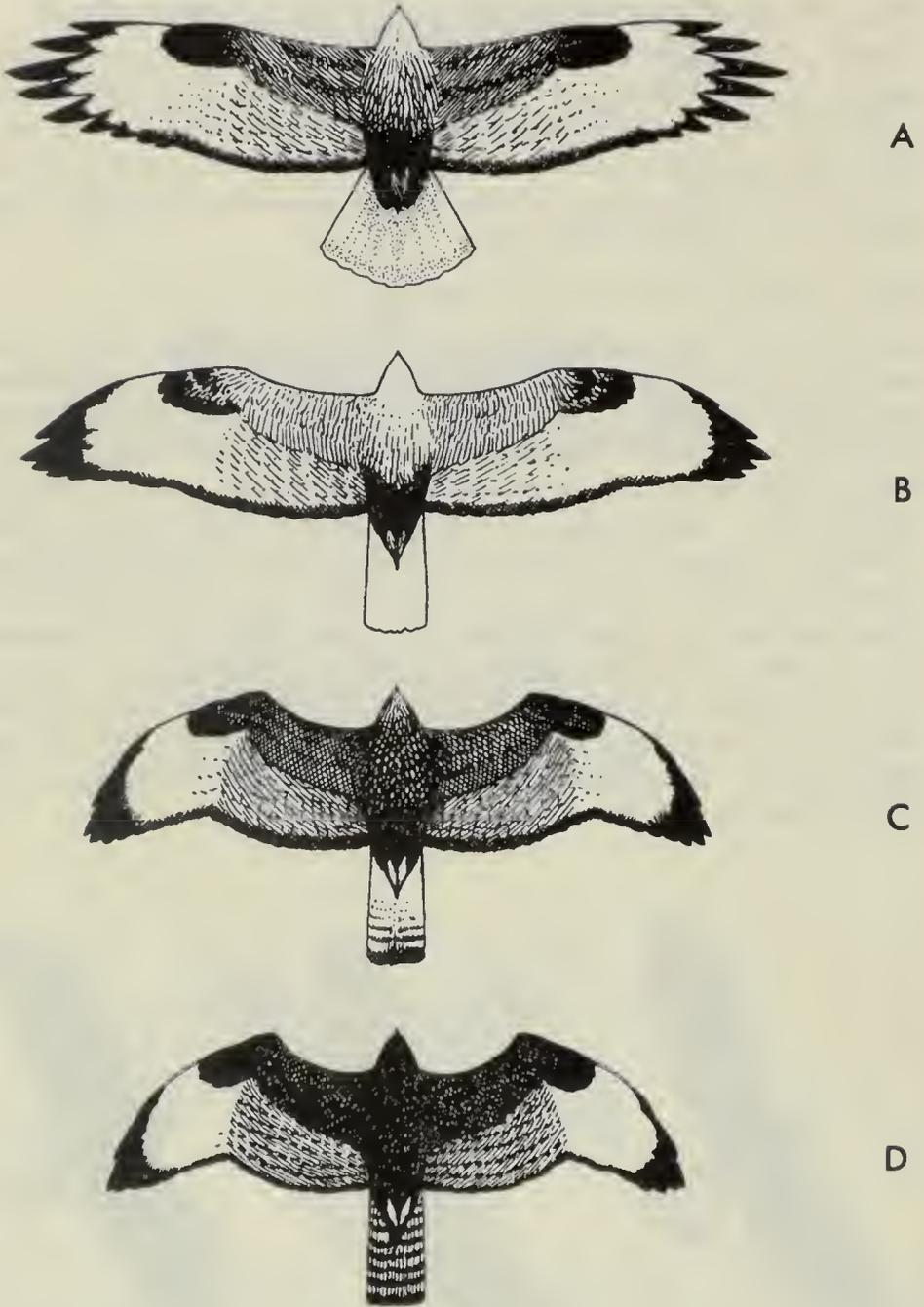


Fig. 7. Four Long-legged Buzzards *Buteo rufinus* from below. This species varies almost as much as the Buzzard (pages 252-255) and the Honey Buzzard (pages 264-266), but certain characters are more constant. From underneath, the typical Long-legged Buzzard (7A) usually has the head and upper breast pale creamy-white, and the belly and vent brownish-black and sharply demarcated; the underwing-coverts are reddish-brown to yellowish-brown, the primary coverts blackish, and the flight-feathers pure white or sometimes slightly barred with dark on the

secondaries, which in extreme cases then contrast with the primaries (7c); the primaries are always pure white and translucent, apart from the black outermost ones and the blackish tips which form a dark end to the wing and a conspicuous dark band along the trailing edge, continuing right across the secondaries. The underside of the tail is usually whitish and translucent (plate 39d); but immatures have dark bars near the tip (7c). Variations are largely confined to the wing-coverts and body: some individuals have uniformly reddish-brown underparts, somewhat darker on the belly and gradually paler towards the head (7c); others are almost uniformly pale reddish below, paler still on the upper breast and throat, and slightly darker towards the belly. In extremely pale individuals (7b and paler still) the whole underparts are pale whitish even to snow white apart from blackish carpal patches, outermost primaries and dark trailing edge and a small well-defined dark patch on the lower belly. Thus the underwing-coverts range in colour from dark reddish-brown to very pale whitish and the size and shape of the belly patch also vary; it should be added that the bar on the trailing edge of the wing can almost disappear through wear. Finally, there is a striking melanistic phase (7d) which is uniformly blackish-brown apart from very white primaries, dark grey-barred secondaries and a greyish-white tail with several well-marked dark bars

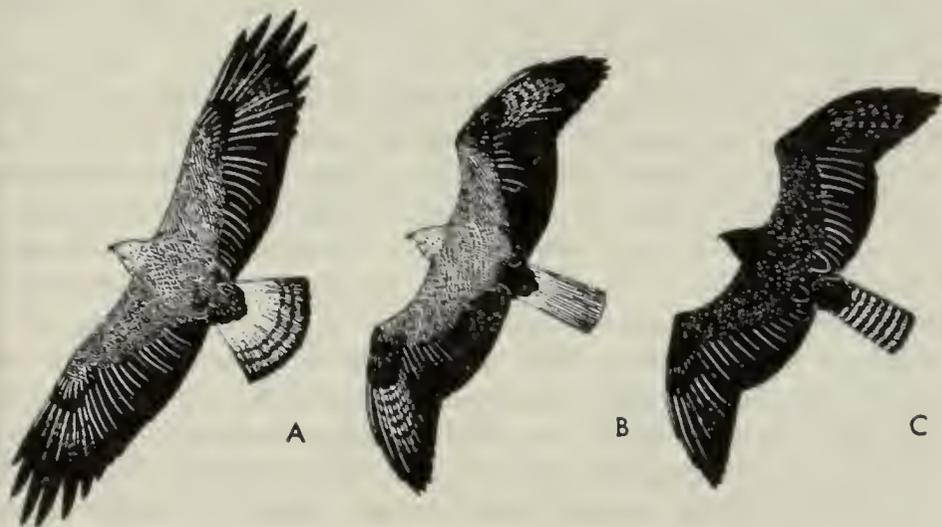


Fig. 8. Three Long-legged Buzzards *Buteo rufinus* from above. Head and neck pale creamy-white. Mantle and wing-coverts are reddish-brown or yellowish-brown contrasting with the dark brown flight-feathers. A greyish-white patch is visible on the primaries between the primary-coverts and the tip of the wing (8b). The lower back is dark blackish-brown contrasting with the pale tail. The latter is whitish at the base merging into a buffish or red-brown tip; sometimes the whole tail is red-brown only slightly paler at the base; it is unbarred in adults (8b) and barred near the tip in immatures (8a). Apart from the tail, the upperparts show little variation: the contrast between the coverts and the flight-feathers is more conspicuous in some individuals than in others and the pale patch on the primaries varies in shape, size and distinctness (compare 8b with 8a); usually greyish-white and extending on to most of the primaries, however, it is normally detectable at some distance and is only rarely diffuse or faint. The melanistic phase (8c) is uniformly blackish-brown above apart from a pale patch still visible on the primaries and the whitish tail on which the dark bars are even more prominent than they are from below

Long-legged Buzzard *Buteo rufinus* (pages 258-260, plates 39c, d)

Silhouette Size similar to Rough-legged Buzzard (compare 2D and 2E on page 250), but wing-span sometimes slightly larger. Head typical of true buzzards, being short, round and broad. Wider-winged and relatively still longer-winged and especially longer-armed than Buzzard and Steppe Buzzard; wings also often look almost rectangular, hand being only slightly narrower than arm. Ample tail comparatively long in relation to Buzzard and Steppe Buzzard, corresponding to greater width of wing; usually slightly rounded or tapering, but sometimes looking square-cut. In head-on profile when soaring, arms are slightly lifted and hands level; when gliding, wings normally flat.

Flight In soaring, wings are somewhat lifted and pressed slightly forward. When gliding slowly, in striking contrast to the soaring position, wings are normally carried flat and almost straight out from the body with a straight rear edge, a slightly angled leading edge and only the tips pointing backwards. Active flight involves elastic and consistent wing beats. Occasionally hovers when hunting, thus further resembling Rough-legged.

Identification Not difficult to distinguish from Buzzard and Honey Buzzard, but easily confused with Steppe Buzzard (pages 256-257) and Rough-legged Buzzard (pages 261-263). Long-legged must often be separated from Steppe by its outline, being somewhat larger and especially longer-winged with slower, more elastic and consistent wing beats and a different head-on profile when gliding (see above). If seen with Steppe Buzzard, identification on size is fairly easy, but plumages rather similar. Even so, contrast between dark belly and remaining pale underside is good field character of Long-legged, while head is much paler than that of Steppe and upperparts show greater contrast between coverts and flight-feathers. Size, flight silhouette and flight actions also very similar to those of Rough-legged Buzzard, though Long-legged sometimes looks slightly longer-winged. Pale unbarred tail of adult Long-legged is best identification mark in this case and even immatures with barred tails do not have the wide terminal band of Rough-legged. Upperparts rather similar in the two species, though there tends to be a somewhat greater contrast between flight-feathers and wing-coverts in Long-legged, especially in worn plumage. Patterns of underparts vary and, though typical reddish-brown individuals can easily be separated from Rough-legged, some Long-legged have such pale underwing-coverts that the only difference that is at all constant, apart from the tail, is the paler breast of this species: Rough-legged often has rather dark streaks on the breast, these separated from the still darker belly patch by a whitish U. Even this is not always clear, however, and sometimes the only safe distinction from Rough-legged is the unbanded tail.

Rough-legged Buzzard *Buteo lagopus* (pages 261-263, plate 40)

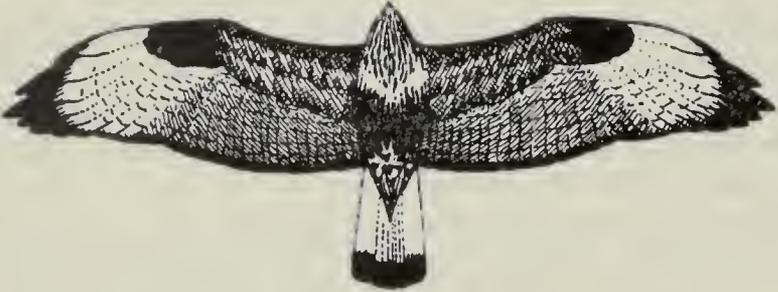
Silhouette Slightly larger and relatively longer-winged than Buzzard (compare 2B and 2E on page 250): difference in wing span often considerable, though not always evident. Head typical of true buzzards, being short, round and broad. Wings relatively narrow, rear edge slightly curved and hand little narrower than arm. Ample tail comparatively long, corresponding to width of wing or little longer; tip slightly tapering or rounded. In head-on profile when soaring, wings raised; when gliding, arms slightly raised and hands level.

Flight In soaring, wings lifted and pressed forward. In gliding, arms slightly raised while hands level; this bend sometimes also visible in soaring. In active flight, wing beats are elastic, but slow and consistent, somewhat like Hen Harrier *Circus cyaneus* (part 4) or Honey Buzzard. Frequently hovers when hunting.

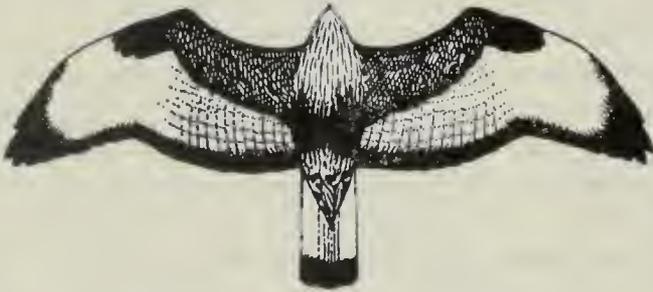
Identification Often confused with Buzzard (pages 252-255) and Long-legged Buzzard (pages 258-260). Indeed, owing to long wings, large individuals may be mistaken for medium-sized eagles, though distinguished by short head and narrow, curved wings raised in soaring. Pale Buzzards and also Honey Buzzards may show white uppertail-coverts and basal tail-feathers, all white underwing with black carpal patch and even dark area on belly, but tail is never sharply black and white as in Rough-legged, white on base of rectrices normally being limited to area adjacent to uppertail-coverts and often to central tail-feathers only; in addition, Rough-legged does not show creamy-white patches on upperwing-coverts and shoulders, often seen in pale Buzzard and Honey. Few Buzzards have pale patch on primaries above, so often helpful when present in Rough-legged. Differences in silhouette, particularly in active flight, are useful. Elastic wing beats of Rough-legged quite unlike those of stiffer-winged Buzzard. Head-on profile often diagnostic: flat or slightly raised in Buzzard, arm raised and hand level in Rough-legged. Confusion possible with pale Steppe, which usually has whitish body and underwing with black carpal patch and trailing edge, often also dark area on breast and sometimes pale patch on primaries above: normally Rough-legged can be identified by its broad black tail band, but some Steppe have pinkish or whitish tail with dark terminal band as only visible barring. So advisable to look for other characters, notably size, head-on profile and active flight method; Rough-legged also has white leading edge to arm, sometimes conspicuous, while its dark patch below is on belly and that of Steppe more on breast. Apart from black on tail, Rough-legged difficult to tell from some Long-legged, mainly pale ones, particularly as differences in flight and outline are slight and inconstant; also, young Long-legged have tail barring normally confined to distal third, even forming a terminal band, though this is often



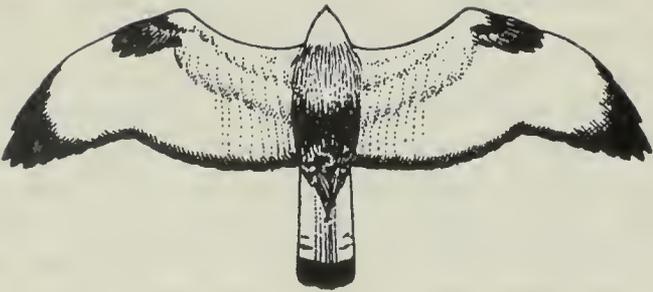
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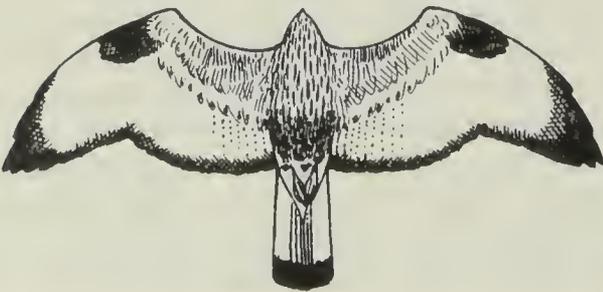
B



C



D



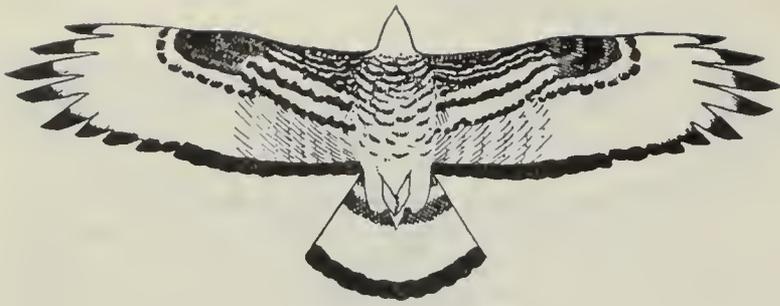
E

comparatively inconspicuous. But Rough-legged with dark throat and whitish U on breast quite distinct from Long-legged. In general, the wide black tail band is by far the best identification feature.

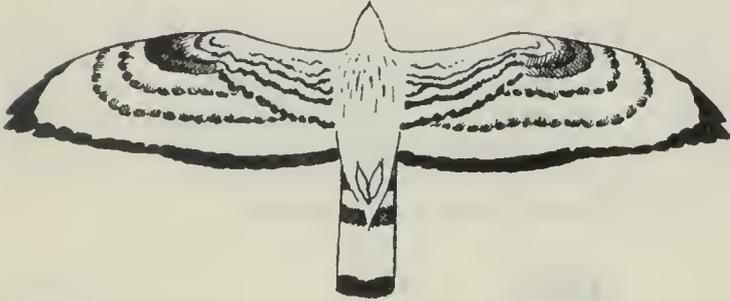
Fig. 9 (*opposite*). Five **Rough-legged Buzzards** *Buteo lagopus* from below. Underparts are rather variable. Sometimes the throat and breast are heavily streaked with dark (9B) and the upper breast may even look brownish-black (9A). A greyish-white U separates the upper breast from a blackish belly: this is conspicuous in dark birds (9A, 9B), diffuse in paler ones and invisible in those with a lightly streaked or whitish throat and upper breast (9C, 9D, 9E). The dark belly patch varies in shape and size and is sometimes rather diffuse (9E). The underwing-coverts vary from greyish-brown or brown (9A, 9B, 9C) to greyish-white or white (9D, 9E). The flight-feathers are mainly white apart from dark tips and the primaries are translucent, though the secondaries are barred with dark, normally faintly (9D, 9E), sometimes more strongly (9A, 9C) and occasionally conspicuously (9B). The black tail band may be rather narrow and diffuse below, but is usually distinct enough. The well-developed 'trousers' from which the species gets its name are white more or less barred with brown



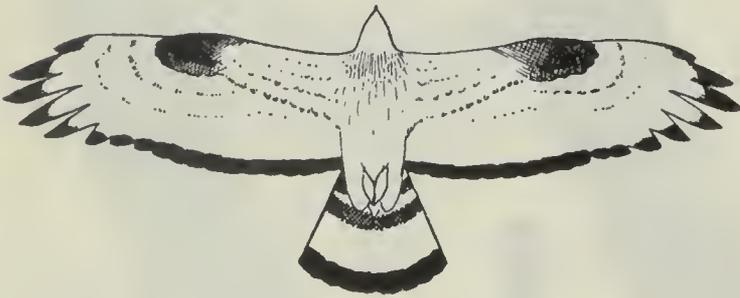
Fig. 10. Two **Rough-legged Buzzards** *Buteo lagopus* from above. Head and nape are whitish with dark streaks. Back and upperwing-coverts are greyish-brown, or a little darker, sometimes with narrow and irregular white tips forming faint bars, notably on the greater coverts. Many have a whitish leading edge to the arm (not shown here). The wing tip is blackish; otherwise the flight-feathers are dark greyish-black, often with a pale patch on the primaries (10B) which varies in area and distinctness and is sometimes lacking (10A); a few have it so well-marked that they recall young Golden Eagles *Aquila chrysaetos*. The black terminal band on the white tail is normally very wide above, covering the distal third (10A) apart from a narrow white rear edge; sometimes there are a few black inner bars (10B)



A



B



C



D



E

Fig. 11 (opposite). Five **Honey Buzzards** *Pernis apivorus* from below. There is very great variation in this species. The typical pale type (11A) has a whitish body and underwing-coverts variably barred, and greyish-white flight-feathers with little barring often reduced to the secondaries only, leaving the outer half of the wing translucent; usually there is a dark trailing edge and dark patches on the primary coverts, but these features may be diffuse or lacking; the underside of the tail is greyish-white with three bars, all usually very noticeable, but the terminal one the most distinct. Dark individuals (11D, 11E) have a uniformly dark brown body, or the breast and belly may just be heavily barred with dark on a light ground, and a more or less dark underwing except for greyish-white primaries and sometimes also secondaries; the outer half of the wing is normally still translucent, but less so than in the pale type; the undertail is often slightly darker than in pale birds and then the three bars may be less visible. All kinds of intermediates occur (see 2A on page 250) and quite often also very pale cream-coloured or even white individuals (11B, 11C) which have a whitish head, body and underwing, a slightly streaked breast, and black carpal patches, wing tips and trailing edge. Some of these very pale birds may superficially resemble Rough-legged Buzzards or Short-toed Eagles *Circaetus gallicus*. Juveniles often have narrower and less distinct tail bars than do adults and these may be particularly difficult to detect in dark-phase birds (11D)

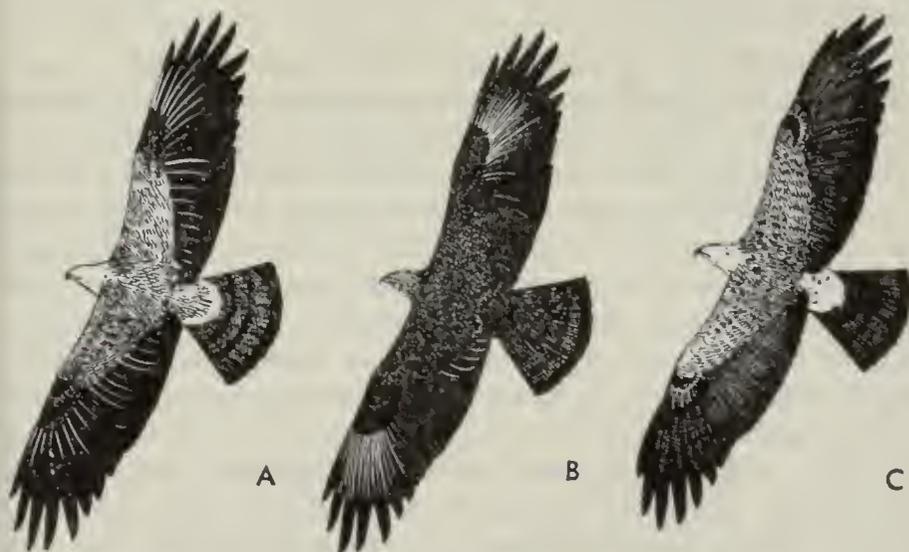


Fig. 12. Three **Honey Buzzards** *Pernis apivorus* from above. The upperparts of pale to medium birds are generally greyish-brown, the flight-feathers darker with blackish tips forming a dark band along the trailing edge, most evident on the slightly paler primaries (12C); the tail is dark greyish-brown with the three characteristic blackish bands, but these are much less distinct than on the underside (compare 12A with 11A). Many paler individuals also have a whitish head which stands out from the rest of the upperparts, as well as white patches on the wing-coverts, or even all white wing-coverts contrasting with darker flight-feathers, and a pale or white rump showing up against the tail (12C). Dark birds are usually more uniform than pale ones, the dark trailing edge to the wing often being indistinguishable, but even they may have a pale area at the base of the primaries (12B)

Honey Buzzard *Pernis apivorus* (pages 264-266, plates 41-42)

Silhouette Size similar to Buzzard, though wing span sometimes a little longer (compare 2A and 2B on page 250 and see plate 41a). Slender pigeon-like head protrudes markedly and appears almost to form right angle with wings. Wings proportionately narrower than Buzzard's (though difference often insignificant) with tips rather pointed and rear edge both right-angled and often also characteristically pinched in at body. Tail comparatively long, corresponding to wing width or even longer, though some individuals, probably juveniles, have rather shorter tails; normally square at end, but corners slightly rounded. In head-on profile when soaring, wings flat or fractionally upcurved; when gliding, arm flat and hand lowered below level.

Flight In soaring, wings almost straight out from body and flat: edges usually nearly parallel (though some individuals, probably juveniles, have rather narrow hand and clearly curved trailing edge to arm). In gliding, wings angled with carpal joint distinctly pressed forward and long ample hand pointing backwards. In active flight, wing beats are soft, deep and elastic, probably due to comparatively short arm and long hand.

Identification May be confused with Booted Eagle *Hieraaetus pennatus* (part 2), Rough-legged Buzzard (pages 261-263) and especially Buzzard (pages 252-255), though first two easily distinguishable on plumage, let alone silhouette. For example, Booted has blackish flight-feathers apart from pale inner primaries. Distinctions from Rough-legged given under that species: in particular, tail of Honey is never sharply black and white and subsidiary bands at base are reasonably conspicuous. Turning to Buzzard, it is often possible, despite great variations in both species, to distinguish Honey on plumage, it usually being more strongly and regularly barred underneath with less subsidiary barring on flight-feathers and a more pronounced blackish band along trailing edge; none of these characters is fully reliable, however, and when visible, pattern of bars on Honey's tail is best plumage feature. Often silhouette is more useful: Honey has more protruding head, comparatively narrow wings and longer tail. Active flight involves softer, more elastic and deeper wing beats, while Buzzard is stiffer-winged. In gliding, Honey keeps arm more right-angled to body and ample hand pressed more directly backwards, when head-on profile characteristic (see above); Buzzard glides on flat or curved wings and soars with them slightly raised. During strong winds, however, even these differences unreliable. Honey also usually has more rectangular wings and squarer ended tail with rounded corners, though some have slightly S-curved trailing edges and shorter and rounder tails. Thus Honey may be difficult to distinguish from Buzzard, particularly if conditions less than good.

Observations on a resident population of Stonechats in Jersey

E. D. H. Johnson

(Concluded from page 213)

LAYING AND INCUBATION

Copulation occurs from one to four days before the first egg is laid and laying takes place almost invariably between 06.00 and 07.00 GMT. After mating, in the short period before the first egg is laid in the first nest, the pair keep very close company and are very sensitive to intrusions. These intrusions are not normally from other Stonechats, since most of them, synchronised by the pair bond collapse, are in similar stages of the breeding cycle. Other passing chats, such as Wheatears *Oenanthe oenanthe*, which perch on the territory owner's song or observation posts are flown at with considerable violence and buffeted with the breast or pecked on the head by the male, while the female perches quietly or retires to the shelter of a bush. Human beings and domestic animals are greeted with a vigorous and close hovering-and-diving distraction display, accompanied by furious 'chacking' from the male, while the female retires. The continued presence of the intruder, close to the nest site, will then cause the male also to retire, either to cover near-by or to the opposite extremity of the territory. On one occasion when I came within the proximity of a then undiscovered nest, in which the first egg was laid two days later, the female entered the cover of a bush near-by (while the male went into his distraction display) and emitted on three separate occasions a loud scream of some five seconds' duration. This sounded very much like the high-pitched note of a circular saw and each was followed by two or three quiet 'ticks'.

The male induces the female to lay by perching or hovering above her, after they have spent some time feeding together, and gently edging her towards the nest site. He is very sensitive to intrusions and as soon as she has entered the nest he goes to a song post, flicks his wings and tail and either sings or just watches silently. Inducement by the male is more common with the early eggs of early broods and may cease altogether with the second egg of the season. If, however, the female is late in laying, or misses a day between eggs, inducement is renewed.

While laying, the female remains in the nest for little more than two minutes at the most and sometimes for only a few seconds. The newly laid egg is usually left where it happens to lie when extruded and is only 'tidied' into a regular pattern with the previously laid

Table 4. Clutch-sizes by broods in 63 nests of Stonechats *Saxicola torquata* in St Ouen's Bay, Jersey, in 1955-58

Brood	2 eggs	3 eggs	4 eggs	5 eggs	6 eggs	7 eggs
1st	1	—	3	11	12	—
2nd	—	—	2	8	10	1
3rd	—	1	1	6	5	—
4th	—	—	1	1	—	—
TOTALS	1	1	7	26	27	1

eggs when the female arrives to lay on the following day. The nest is not visited between layings and the pair spend the intervening time away from it, the male engaged principally in territorial defence and the female remaining inconspicuous.

Table 4 summarises the distribution of clutch sizes by broods for the years 1955-58 and table 5 compares average clutch sizes by broods for the same period. The sample is statistically small, so caution is indicated when drawing conclusions from these data. It is at once apparent, however, that the normal clutch in Jersey is of five or six eggs, that three clutches are usual and that the average clutch size within the first three broods is very consistent.

In Jersey, Stonechats tend to breed continuously between the vernal collapse of the pair bond, in late March or early April, and the onset of moult in the latter half of August. The number of clutches is, therefore, dependent upon the earliness of the resumption of the breeding cycle, the occurrence of periods of severely adverse weather thereafter, and the individual fortunes of the pairs. Fourth clutches were, on the two occasions when they occurred, due to earlier losses in the late stages of incubation, the last young leaving the nest as late as 2nd September in 1956 and 24th August in 1958. Parrinder and Parrinder indicated an incidence of third broods in Cornwall which is comparable with that in Jersey, while Agatho stated that only two broods were normal in the southern Netherlands. The

Table 5. Average clutch-sizes by broods in 63 nests of Stonechats *Saxicola torquata* in St Ouen's Bay, Jersey, in 1955-58

The average size of all 63 clutches totalling 332 eggs was 5.27

Year	1st brood	2nd brood	3rd brood	4th brood
1955	5.25	5.20	5.00	—
1956	5.40	6.00	5.50	4.00
1957	5.71	5.50	5.40	—
1958	4.57	5.43	4.80	5.00
TOTALS	5.22	5.48	5.15	4.50



PLATE 37. Buzzards *Buteo b. buteo*, Scotland, April (photo: John Marchington) and England, June (photo: C. Pearson Douglas), showing the thick-set neck and body, the unevenly blotched brown plumage, and the variations in the contrast between forewing and remiges and in the darkness of both carpal patch and trailing edge (see pages 252-255 in the discussion of buzzard identification on pages 247-266)





PLATE 38. More shots of Buzzards *Buteo b. buteo* in different positions (see again pages 252-255). Above, low overhead, France, August (photo: Pierre Petit): this and plate 37b show well the fine barring on the primaries, secondaries and tail. Below left, gliding overhead, Turkey, September (photo: M. J. Helps): here the thick-set neck and body are seen well from directly underneath, and the body and wing markings may be compared with those on plate 37. Below right, soaring, Wales (photo: Eric Hosking): note position of the wings with primaries upturned





PLATE 39. Above, Steppes Buzzards *Buteo b. vulpinus*, Turkey, September (photos: M. J. Helps, A. R. Kitson): note chestnut coverts and body, paler hind-wing and cinnamon tail (pages 256-257). Below, soaring Long-legged Buzzards *B. rufinus*, West Pakistan (photo: Eric Hosking) and Turkey, April (photo: R. F. Porter), showing eagle-like proportions and ample, unbarred tail; left, typical one with whitish-orange body and underwing, darker areas on coverts and belly, and dark carpal patches; right, dark bird photographed against the light (pages 258-260)



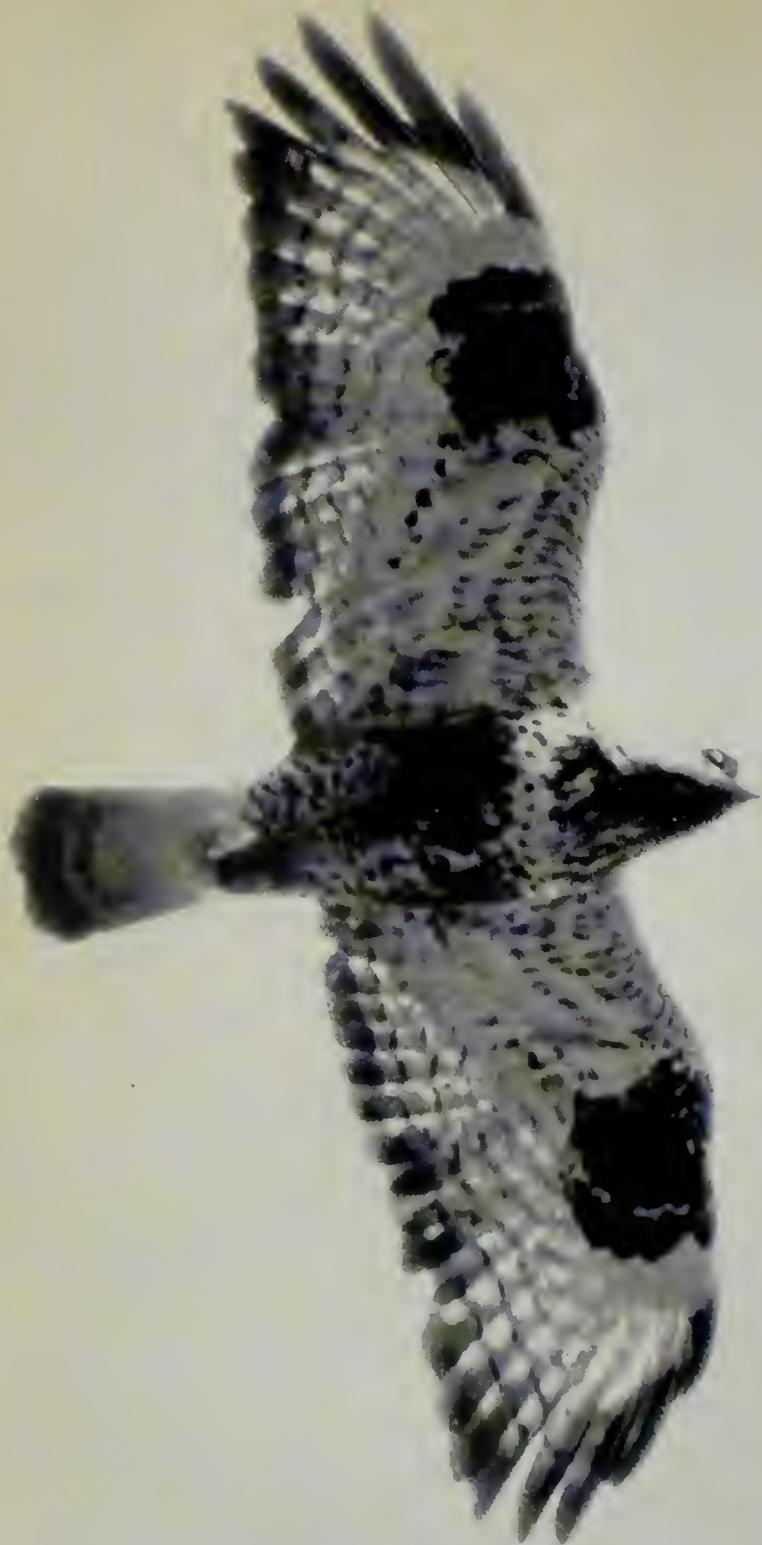


PLATE 40. Rough-legged Buzzard *Buteo lagopus* low overhead (photo: Emil Lutken and Carl Johan-Junge). The distribution of dark areas on the otherwise light plumage is well shown here: the white tail has a black terminal band and the black belly and carpal patches stand out against the generally whitish wings (pages 261-263)



PLATE 41. Honey Buzzards *Pernis apivorus* compared, above right, with Buzzard *Buteo b. buteo*, France, August (photos: Pierre Petit). The Honey has a smaller, slimmer, rather Cuckoo-like head, characteristic barring underneath, and three clear bars on the tail which, as seen below left, is much longer (pages 264-266)



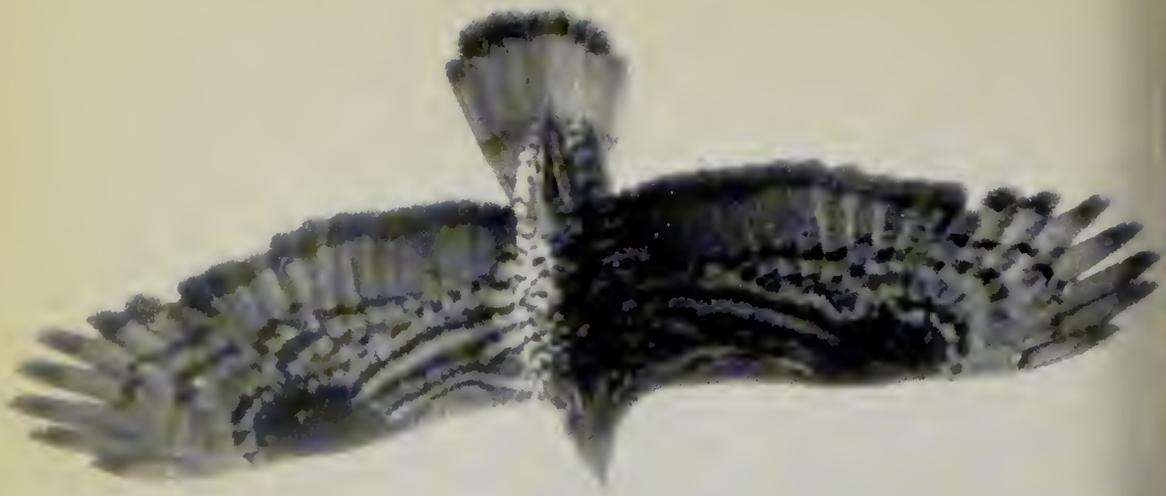


PLATE 42. Three Honey Buzzards *Pernis apivorus*, Turkey, September (photos: R. F. Porter). Above, the two bars at the base of the tail may be obscured by the feet and undertail-coverts, notably in first-year birds and moulting autumn adults. Below, compare soaring (left) with gliding, when the long tail is striking. Two of these show the 'tiger-stripping' of the medium form, while the third is of the dark type: the bars on its primaries show well against the light (pages 264-266)





PLATE 43. Spotted Crake *Porzana porzana* slipping into cover as it is stalked by the photographer, Lincolnshire, March-April 1971 (page 292). The head largely hidden but for the glimpse of an eye typifies the skulking nature of crakes and the cocked tail showing the buff underside indicates unease. Olive-brown upperparts and grey breast are streaked and speckled with white (photo: Keith Atkin)

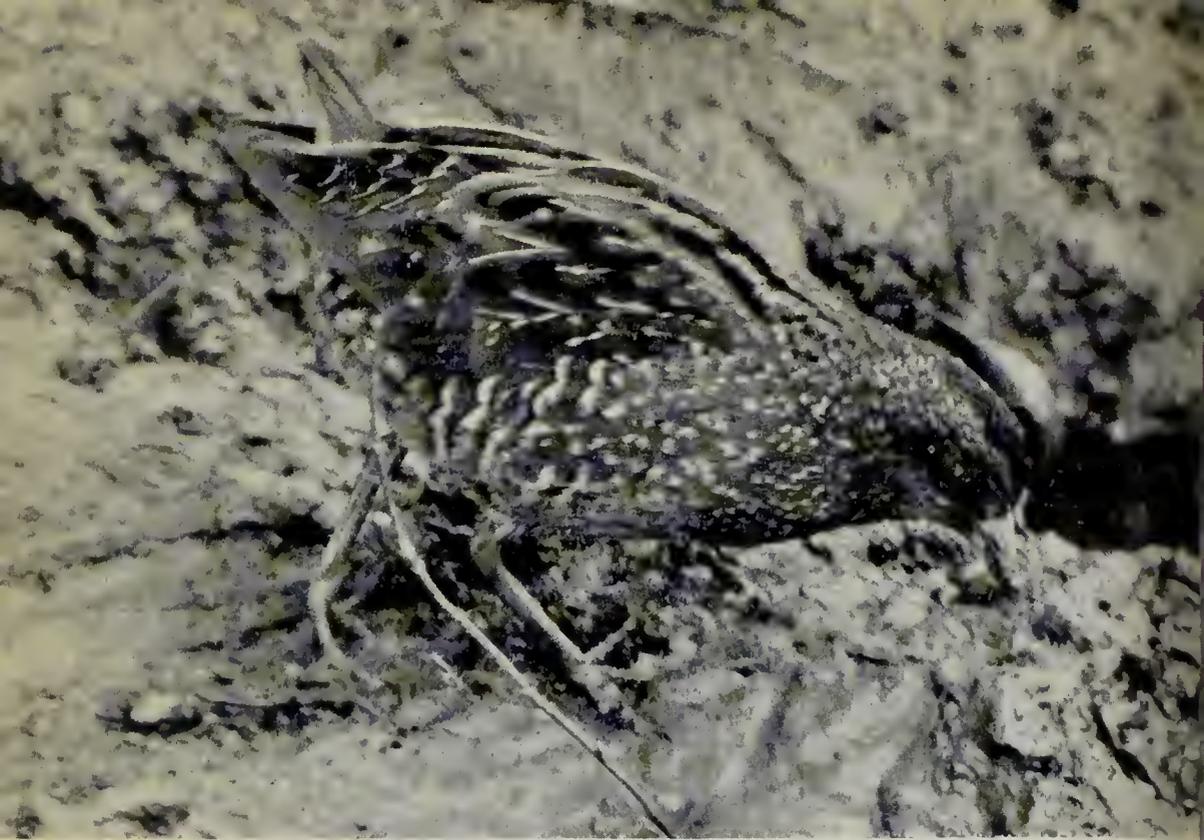


PLATE 44. Close-up from hide of same Spotted Crake *Porzana porzana* and, below, the habitat in Crook Bank Drain, Mablethorpe, where this bird stayed for eight days (the rushes in plate 43 can be seen here at the water's edge on the left). The legs are greenish and the bill yellow with a red base (*photos: Keith Atkin*)



latter quoted G eroudet (1954) as stating that third broods were frequent near Geneva, and went on to suggest that the incidence of third broods is coupled with the time of arrival on the breeding grounds. It appears that the largely sedentary populations of Britain, the Channel Islands and Brittany enjoy an advantage in this respect, which accords with this observation.

Average clutch sizes in Jersey (table 5) are comparable with Parrinder and Parrinder's figures for first and second broods (5.0 and 5.7 respectively), but appreciably higher than their third brood average of 4.2. The overall Jersey figure of 5.27 corresponds quite closely with those given by Agatho for various areas in the southern Netherlands during 1948-59.

In the tabulated data, clutches laid within polygynous relationships are listed under the clutch number of the females concerned. In 1955, 1956 and 1957, polygynous males sired three, four and five clutches respectively out of two, three and two females. Such relationships are, understandably, less stable than monogamous pairings.

The female usually begins incubation by remaining on the nest after laying the last egg. She may, however, exhibit some tendency to linger on the penultimate egg, or even an earlier one. This agrees with the observations of Mildemberger (1950), G eroudet and Agatho. The start of incubation can, however, be delayed up to five days by extremely bad weather without prejudice to the brood, as occurred in T7 with the first clutch in 1958. Throughout incubation, a close tactical relationship exists between the pair, the male being extremely attentive to defensive and territorial functions while also conscious of the intervals at which the female requires to feed.

Occasionally, the male feeds the female on the nest. This was noted by Mildemberger in western Germany, but not by Agatho in the southern Netherlands. In Jersey the circumstances in which this occurs have not been determined and it happens only rarely. The normal procedure is for the male to perch near the nest, when the territory is free from intruders, and call the female off with a quiet 'chuck' at intervals of 45-75 minutes throughout the day. The female, on being called, quietly leaves the nest, making use of cover until she emerges to perch near and below the male. After a few seconds, she goes to a favoured feeding place within the territory, while the male flies to a song post to watch and perhaps, on arrival there, to sing a short snatch of song. He remains perched high while she feeds, occasionally changing his position to be above and fairly close to her as she moves about the territory. As soon as she shows signs of returning towards the nest, he joins her in a tactical approach.

The return to the nest is accomplished by 'bounds', in a combination of movement by the female and advertisement by the male. The male initiates each move, going to a conspicuous, low perch

where he flicks his wings and tail and may sing, while the female flies close to the ground for ten or twenty metres and perches inconspicuously at a lower level. This is repeated, with feints in false directions, as the pair slowly approach the nest. When close to it the female often goes into thick cover, in vegetation resembling that of the nest site, for a few seconds on two or three occasions as additional feints, before finally slipping on to the nest. The male then immediately flies to one of his song posts, usually the main observation post, and sings.

On the intrusion of a potential ground predator into the territory, the male utters a quiet 'chuck-chuck' warning call when the nest is approached. Normally the female remains on the nest, but if the intruder behaves boisterously, as would a dog or child, the warning is repeated insistently and she leaves, through cover, to perch some distance away, slowly fanning her tail in alarm. Apart from this and their watchful alertness, no other sign of anxiety is shown and the pair either perch quietly and conspicuously together, at some distance from the nest, or retire completely to adjacent cover until the intruder has gone. If, on the other hand, the intruder approaches the nest slowly and quietly, the female seldom leaves until almost touched. In this event the male goes into an elaborate distraction display, flying to a perch near-by or hovering and diving while emitting a series of 'whit-whit-whit-whit-whit-' calls. This is kept up as long as the intruder is in the immediate vicinity of the nest and is reduced in intensity as he or it recedes. If both birds are caught completely by surprise, by an intruder emerging suddenly from cover while they are together away from the nest, they usually remain quietly perched, only the slow tail-fanning of the female indicating a state of anxiety. Parrinder and Parrinder regarded tail-fanning by the female as a normal part of her behaviour when feeding off the nest. Agatho disagreed with this and experience in the present study indicates that it is probably due to the presence of the observer.

Reaction to an avian predator was seen on only one occasion, when a male was perched on an angle-iron fence post, watching over an incubating female. On the sudden arrival of a Sparrowhawk *Accipiter nisus* from over a bank, he instantly 'froze' with his body in an absolutely vertical line, in a perfect position of 'attention', with head held horizontally. This was maintained for some ten seconds until the predator was out of sight. No sound was uttered.

At no time was a male seen to incubate. The female was found on the eggs on four occasions when nests were visited around midnight. Except rarely when incubation is delayed by weather, eggs hatch (apparently chiefly at night or in the very early morning) on the thirteenth or fourteenth day after the completion of the clutch. This variation indicates that effective incubation may sometimes start

Table 6. Hatching success by broods in 63 nests of Stonechats *Saxicola torquata* in St Ouen's Bay, Jersey, in 1955-58

Year	1st brood	2nd brood	3rd brood	4th brood	All broods
1955	93% (39/42)	69% (18/26)	80% (4/5)	—	84% (61/73)
1956	93% (25/27)	89% (16/18)	45% (5/11)	100% (4/4)	83% (50/60)
1957	83% (33/40)	67% (22/33)	81% (22/27)	—	77% (77/100)
1958	94% (30/32)	76% (29/38)	71% (17/24)	80% (4/5)	81% (80/99)
TOTALS	90% (127/141)	74% (85/115)	73% (49/67)	89% (8/9)	81% (268/332)

with the laying of the penultimate egg. Parents probably swallow the broken shells, as none was ever found in a nest or anywhere within a territory.

Unhatched eggs normally remain intact in the nest throughout the fledging period. Sometimes, however, they are chipped or squashed by the activities of the young, in which case they are removed by the parents. During 1955-58 all unhatched eggs were taken away after two or three days to ascertain the cause of failure. Hatching success for the four years is shown in table 6 and reasons for egg loss and failure are listed in table 7. Despite the smallness of the sample, two conclusions suggest themselves in these tables. Hatching success in first broods is appreciably higher than that in second and third broods (the number of fourth broods being too small to be significant) and, since as high a proportion as 72% of all failures are due to lack of embryo development, this may indicate a decline in fertility after the first brood.

A total hatching success of 81% must be considered high, especially in an area where Magpies *Pica pica* and Cats *Felis catus* abound and where Grass Snakes *Natrix natrix* are known to take the eggs of other ground-nesting species. The disturbance of the majority of predated nests indicated the work of Magpies, but the disappearance of single

Table 7. Causes of hatching failure in 64 eggs (out of 332 eggs in 63 nests) of Stonechats *Saxicola torquata* in St Ouen's Bay, Jersey, in 1955-58

Cause	Number of failures	Per cent of failures	Per cent of all eggs
No development of embryo	46	72%	13.9%
Removal by predator	11	17%	3.3%
Accidental damage by incubating bird	4	6%	1.2%
Desertion of newly-laid egg after predation of earlier ones	2	3%	0.6%
Embryo dead after damage by predator in removing other egg(s)	1	2%	0.3%
TOTALS	64	100%	19.3%

or sometimes two eggs from undisturbed nests appeared to be the work of snakes. No territories were ever subject to grazing, burning off or other physical disturbance. Parrinder and Parrinder recorded a hatching success of 93.4% in north Cornwall and Agatho gave data which indicate a figure of 86.3% in the southern Netherlands. Their samples were 112 and 1,905 eggs respectively.

EGGS AND EGG-COLORATION

In Jersey, in general, eggs have a ground colour of dull greenish-blue and are freckled with chocolate or rusty brown markings which are more numerous at the larger end. Agatho stated that eggs in the southern Netherlands showed little variation, but in some Jersey eggs the ground colour is much yellower or paler than in others and occasional sky-blue ones occur. The brown freckling shows still more variation, occasionally being distributed almost overall and quite frequently existing as a broad ring at the large end. Peculiarities tend to be consistent for individual females from brood to brood and in successive years, as shown by photographs of clutches and a collection of infertile eggs.

CARE AND FEEDING OF YOUNG

Both parents may feed the young from the time of hatching, but in Jersey it is more usual for the male to give precedence to his territorial duties for the first four or five days. He even escorts the female off the nest in much the same way as he did when she came off to feed during incubation. The female broods the young in the same way as she did the eggs until all are hatched and their fine, greyish-white down is dried and teased out to provide heat insulation to the dorsal surfaces. This usually occurs within 24 hours of hatching, after which she broods them much less often.

After the fourth or fifth day the food requirement of the young is such that the male joins the female in feeding them. Both forage independently for insects, on the ground and in the air, perching and hovering to locate them. Each makes an approach by 'bounds', with a number of feints, and eventually perches near the nest with a quiet 'chuck', which stimulates the young to gape. Food is given to the nestling most active in soliciting and the parent waits a few seconds for the extrusion of a faecal sac. It then leaves, often by a rear tunnel which begins to appear in the surrounding vegetation at about this time, and drops the faeces well away from the nest. At this stage the male still takes the initiative in any distraction display directed towards human or predatory intruders. Intraspecific rivalry is minimal. If disturbed by the prolonged intrusion of a human or domestic animal, both birds will swallow any food they may be carrying.

By the sixth day after hatching, all dorsal surfaces of the nestlings are covered with feathers in quill, projecting up to 4 mm from the skin; quills in the ventral tracts are just emerging from the skin. Distraction display at this time takes the form of excited wing-flicking from a perch, or hovering and diving flight, on the part of either or both adults. This is accompanied by a loud, unbroken series of 'whit—whit—whit—whit—' calls.

All young remain facing the nest entrance from about the seventh or eighth day, but also show a tendency to crawl away from the nest and conceal themselves in the surrounding vegetation if touched by an intruder. By the eleventh or twelfth day there is often evidence that they leave the nest and move around it for short periods before rearranging themselves, in a now much-flattened nest cup, facing the entrance to await the adults with food. As soon as the young are able to move about, the parents' alarm call undergoes a change, by the addition of a sharp, incisive 'chack' component (Johnson 1961). This is used in irregular combination with the 'whit' and always follows it, e.g. 'whit-chack-chack whit-whit-whit-chack whit-chack-chack'. In view of the importance which variations of 'chuck' and 'chack' assume so long as the young are under the care of the adults, it is apparent that these components of the vocabulary serve to warn and instruct the young and as communication between the parents, while the 'whit' draws the attention of the intruder to the distracting adult.

The fledging period or, more strictly, the period for which the young remain in the nest after hatching, varies between 12 and 16 days. Their departure may be delayed by adverse weather or precipitated by disturbance. This period is known for 22 nests in the study area, in which four broods remained for 12 days, eight for 13, seven for 14, two for 15 and one for 16. When the young are ready to leave, the parents perch and hover around the nest site, 'chucking' quietly and inducing them into adjacent cover, one at a time. By this time all their contour feathers are well-formed, although the wings and tail are not fully developed. They are, however, well able to fly and especially to hover. On one occasion when, from a distance of 1.5 metres, I was examining six 14-day-old young in a nest, they suddenly issued forth like bees from a hive, flying past my head and going down into cover a short distance away. Another brood, about thirteen days old, left the nest when called off by their parents and were absent for two days before being found in place once more facing the entrance, apart from one straggler scurrying through the grass in front of the nest to join its fellows. A twelve-day-old brood left the nest when it was pulled out by a predator and were all accounted for a month later.

When the young leave the nest, they are fed by both parents for

four or five days, after which the female withdraws and starts building the nest for the next brood. About ten days after departure, the young begin to be seen as they hover in search of food about the territory. The male shepherds them and keeps them together. At dusk he collects them on a perch and leads them to roost in dense cover. A few days later, however, he begins to chase them out of the territory and, now well fledged, they disperse. The male then joins the female, either to accompany her as she builds or to resume territorial defence as she incubates. The last brood of the season usually remains with the parents until the collapse of the pair bond, the breakdown of territorial behaviour and the arrival of immigrants from elsewhere in the early days of September. Adults are in moult from mid-August through most of September.

A small proportion of males show little vigour in caring for the young. Normally the female is quite capable of rearing a brood unaided, but occasionally such broods come to grief, especially during a cold spell. The rôle of the male in polygynous relationships was discussed fully by Johnson (1961). In view of his importance in a tactical, defensive, food-providing capacity, it is perhaps not surprising that females in such a relationship seldom have more than one brood.

INTERVALS BETWEEN BROODS

When breeding is successful and pairs are undisturbed by predation and uninterrupted by adverse weather, the interval between the beginning of successive broods (i.e. between the dates of the first placing of nest material) is closely related to the total time required for the breeding cycle. This is 45-46 days, comprising in round figures seven days for building, five or six days for laying, 14 days for incubation, 14 days for fledging and five days for care of the young by the female after fledging.

In the present study, twelve intervals between first and second broods and seven between second and third broods were determined for pairs which suffered no predation or other interference. The mean interval between first and second broods, which varied from 36 to 55 days, was 46.3 days and that between second and third broods, which varied from 40 to 47 days, was 43.8 days. The corresponding figures given by Agatho in the southern Netherlands for one year only, 1957, were 48 and 40 days. He suggested that the longer interval between first and second broods was due to a cold spell in early May, but the Jersey data, few though they are, suggest that the intervals between second and third broods are normally shorter.

The pair which bred in T5 in both 1957 and 1958 showed consistently short intervals of 36 and 45 days and 39 and 40 days in the two years. This was a particularly active and well-integrated pair in a

Table 8. Fledging success (percentages of young reared from eggs hatched) by broods in 63 nests of Stonechats *Saxicola torquata* in St Ouen's Bay, Jersey, in 1955-58

	1st brood	2nd brood	3rd brood	4th brood	All broods
	77% (30/39)	72% (13/18)	100% (4/4)	—	77% (47/61)
	84% (21/25)	88% (14/16)	100% (5/5)	100% (4/4)	88% (44/50)
	85% (28/33)	68% (15/22)	100% (22/22)	—	84% (65/77)
	67% (20/30)	52% (15/29)	100% (17/17)	100% (4/4)	70% (56/80)
TOTALS	78% (99/127)	67% (57/85)	100% (48/48)	100% (8/8)	79% (212/268)

small, secluded territory where all six nests were sited in a line in a shallow gully, roughly a metre apart. They fledged broods of only two, four and four in 1957 and five, three and three in 1958, thus releasing the female for building instead of having to assist the male in feeding the newly-fledged young of the first and second broods.

There is an indication that, in cases of polygyny, the brood intervals of one female tend to follow a regular pattern as described above, whereas those of the other are protracted or she rears only one brood. The latter female appears to be admitted on a casual or 'concubine' basis.

FLEDGING SUCCESS

Tables 8 and 9 show the fledging success and the total breeding success by broods for the four years 1955-58. The 100% fledging success indicated for third and fourth broods must of course be regarded as of little significance in view of the small samples. The overall breeding success of 64% is comparable with the 58% of Agatho in the southern Netherlands (based on the eleven years 1947-58) and with the 60% of Phillips (1968) in Ayrshire, but Parrinder and Parrinder recorded a much higher 91% in north Cornwall. Both the Parrinders and Agatho quoted Nice (1937) as demonstrating that, in the studies published to that date, the figure for fledging success among open-nesting species varied from 40.5% to 46.7%. The present investigation, however, and indeed the others above, hardly qualify the Stonechat as an open-nesting bird. In this connection, it is worth adding

Table 9. Breeding success (percentages of young reared from eggs laid) by broods in 63 nests of Stonechats *Saxicola torquata* in St Ouen's Bay, Jersey, in 1955-58

	1st brood	2nd brood	3rd brood	4th brood	All broods
	71% (30/42)	50% (13/26)	80% (4/5)	—	64% (47/73)
	78% (21/27)	78% (14/18)	45% (5/11)	100% (4/4)	73% (44/60)
	70% (28/40)	45% (15/33)	81% (22/27)	—	65% (65/100)
	63% (20/32)	39% (15/38)	71% (17/24)	80% (4/5)	57% (56/99)
TOTALS	70% (99/141)	50% (57/115)	73% (49/67)	89% (8/9)	64% (212/332)

that Lack (1943) found a 57% breeding success for the Robin *Eritacus rubecula* in England.

It was usually difficult to establish causes of nestling loss. Magpies, which are common along the eastern edge of the study area and forage within it, are believed to have taken away seven nestlings (48.2% of losses and 10.1% of the total hatched): their work is characteristic in that the nest is usually damaged to the extent of being scattered about, the bottom often being removed as a separate pad when the contents are taken. Cats, which also frequent the territories concerned, are believed to have taken eight nestlings in two broods of four (14.3% of losses and 3.0% of the total hatched): the nest entrances were enlarged and the fronts pulled forward, while in one case an appropriately sized area of flattened grass was found on an overlooking bank. Other instances of predation which accounted for ten nestlings (17.9% of losses and 3.7% of the total hatched) involved no disturbance to the nests and were thought to be due probably to rodents: these involved broods of four and five and a single nestling, the last of which could have died and been removed by the parents, but it was well-grown when it disappeared and was not found in the immediate vicinity.

Only two small nestlings died unaccountably. These were removed by the parents and left lying within two metres of the nests concerned (one had been seen dead in the nest by me before the adults took it out). The remaining nine of the eleven nestlings which died (19.6% of losses and 4.1% of the total hatched) were in two broods. In the first case, five well-grown nestlings died in the nest when the parents simultaneously disappeared while actively feeding them: the young were found dead and emaciated, with the nest-rim littered with dried faeces. In the second case, the male took no part in caring for the young of the first brood and, during a period of cold and wet weather, the female was unable to give them sufficient attention: four out of six died. This pair dispersed after the two survivors fledged.

FOOD

Ants (Hymenoptera: Formicidae) formed the sole recognisable residue of two stomach contents examined in January and it is probable that, outside the breeding season, food consists largely of these insects. Close observation confirms this and shows that small beetles (Coleoptera) are also taken, which agrees broadly with the findings of Lebourier and Rapine who also reported seeds of Cruciferae and *Atriplex*. Stonechats regularly feed on the seeds of *Euonymus* in my garden in January, although they have not so far been seen to take those of an adjacent hedge of *Atriplex*. In Jersey in winter they also frequently catch sandhoppers (Arthropoda) on the beaches adjacent to the territories in the study area.

Young are fed on a variety of unidentified larvae, those which are too large for easy ingestion being mashed and 'tenderised' by the adults on a rock or road surface. Small flies (Diptera) make up a considerable part of the diet, as do moths and butterflies (Lepidoptera) in the form of a variety of caterpillars and the occasional Cinnabar Moth *Hipocrita jacobae*. The only identified beetles were larvae of the Glow-worm *Lampyrus noctiluca*, which are commonly fed to nestlings.

There is one well-attested case of Stonechats hovering over water to feed on small fish-fry (H. J. Boyd *in litt.*) and Pounds (1944) also recorded them hovering and picking food from water.

NOTES ON METHODS

The majority of paired Stonechats were ringed in their territories, in December and January of the years 1950-61, using Chardonneret-type cage-traps baited with mealworms: these were extremely effective and two placed together would invariably catch both birds. Many wandering first-year individuals were caught in the autumns of all the years in the Heligoland trap and mist-nets of the Jersey Bird Observatory at the north end of St Ouen's Pond (fig. 1). All nestlings were ringed at about five days old.

Observations on behaviour were usually made from a closed car at a distance of at least 100 metres, taking care that alarm and distraction display were always assessed in relation to human beings other than the observer. Nest-finding was always carried out by observation and never, even in the most difficult cases, by random searching. Few, if any, of the losses are directly attributable to the activities of observers. Notes on vocalisation were made with the aid of long microphone-leads and tape-recorders.



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SUMMARY

A study involving the ringing of nearly 1,000 Stonechats *Saxicola torquata* was made in a coastal area four kilometres ($2\frac{1}{2}$ miles) long at St Ouen's Bay, Jersey, Channel Islands, between 1950 and 1970. In the course of this, 660 individuals were also colour-ringed, especially during 1955-58 when all the nests were found and all the nestlings marked. Fourteen well-defined territories were occupied in the study area which consists mainly of waste grassland and derelict sand pits. The territories all possessed certain essential topographical features and were used in proportion to the number of these. Behaviour is considered in relation to territorial topography. Winter pair-formation, the vernal relaxation of the pair bond, changes of mate and spring migration are also discussed.

Stonechats breed in their first year and individuals of different ages may pair, either sex being the older. Polygynous relationships and pairings between mother and son and between brother and sister were recorded. Courtship display and vocalisation are discussed. The nest site is usually among grasses, with the entrance facing northwards. Laying invariably takes place in the early morning; incubation may start with the penultimate egg and continues for 14 days. A tactical relationship exists between the pair during the laying and incubation periods. Mean clutch size was 5.27, showing considerable consistency between broods. Hatching success was 81%: predation of eggs and other causes of failure are discussed.

Young remain in the nest from 12 to 16 days and may return to it after leaving. Roles and vocalisation of the pair during feeding of young are discussed. Young are well able to fly and particularly to hover when they leave the nest. They are fed by both parents for the first five days, after which the female builds the nest of the next brood and the male shepherds the young, chasing them out of the territory after about a further ten days. Three broods are normal. The last brood of the season may remain with the parents as a family party, in and around the territory, until well into September. Fledging success was 79% and breeding success 64%: reasons for nestling losses are discussed.

During the breeding season food consists mainly of insects, principally larvae and small flies (Diptera). In winter ants (Hymenoptera: Formicidae) and sandhoppers (Arthropoda) are frequently taken and also the seeds of *Atriplex* and *Euonymus*. An unpublished record of fish-fry being preyed upon by hovering Stonechats is noted.

Methods used in the study are briefly discussed.

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Notes

Black Terns feeding over dry land Recent notes (*Brit. Birds*, 62: 282; 63: 34; 64: 32-33) have suggested that Black Terns *Chlidonias niger* feed over non-aquatic habitats more commonly than the published records indicate. This is certainly borne out by observations in the Dungeness area of Kent in recent years. Since 1967 this species has been particularly abundant on autumn passage and as many as 700 were recorded on 23rd August 1969. During the periods of peak movement, it is far from unusual to see Black Terns in groups of up to 20 feeding over dry habitats, and I have notes in my diary referring to corn-fields, grassy meadows and sallow scrub being utilised in this way. The controlling factor would appear to be the prevailing weather, the habit being most widespread on mild, still days with an abundance of flying insects. In cooler, windier conditions the terns are found hawking over their more familiar aquatic haunts. R. E. SCOTT
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Swallows' nest deep underground in manhole On 3rd August 1970 a workman at a slag tip near Whitwell Colliery, Derbyshire, pointed out to me an unusual, but apparently regular, nesting site of Swallows *Hirundo rustica* inside an open manhole on the side of the tip. The

manhole was about four feet square and 35 feet deep, of which some four feet projected above ground level. The nest was on one of the iron rungs on the side, and by measuring the distance between two rungs I estimated it to be about 21 feet down, or 17 feet below ground level. I could see two eggs and there may have been more as it was partially concealed by a small platform. The Swallows must have had to fly almost vertically to and from the nest, as there were no other entrances or exits. One of the adults flew around me, calling, as I looked down the shaft.

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Pair of Blackbirds feeding young Dunnocks On 19th July 1968 I discovered the nest of a pair of Dunnocks *Prunella modularis* at a height of six feet in a dense climbing rose in my suburban garden in Whetstone, North London. Eight feet away, in the same rose bush but a foot lower, was the nest of a pair of Blackbirds *Turdus merula*. The Dunnocks were feeding four young and the female Blackbird was incubating four eggs. Her mate, however, was regularly feeding the Dunnocks' young exactly as if they were his own and continued to do so until 26th July when they fledged. For a few days during this period, the female Blackbird also visited the Dunnocks' nest, feeding and brooding the chicks as well as attending her own eggs. These hatched on 26th too and subsequently both Blackbirds attended only their own nestlings until the whole brood unfortunately died six days later.

Detailed notes on the visits of both the Dunnocks and the Blackbirds to the former's nest were made during six periods totalling 14 hours on four days. The birds were very tame and I could watch within ten feet of the nests. Individual identification was easy as the female Dunnock had lost her tail. The numbers of visits by each bird and the hourly rates are shown in table 1. Later, I spent six hours recording the frequencies with which the Blackbirds fed their own young, but these figures are not included in the table.

Table 1. Numbers of visits by pair of Dunnocks *Prunella modularis* and pair of Blackbirds *Turdus merula* to the former's nest, North London, July 1968

The date and duration of detailed observation are shown at the top of each column

		20TH(2½ HOURS)		21ST(3 HOURS)		22ND(3½ HOURS)		25TH(5 HOURS)	
		Total visits	Hourly rate	Total visits	Hourly rate	Total visits	Hourly rate	Total visits	Hourly rate
Dunnock	♂	8	3.2	9	3.0	10	2.9	14	2.8
	♀	16	6.4	12	4.0	15	4.3	44	8.8
Blackbird	♂	6	2.4	8	2.7	12	3.4	11	2.2
	♀	2	0.8	4	1.3	6	1.7	—	—

I first discovered the Dunnocks' nest when I saw the male Blackbird entering the rose bush with an earthworm; the young were already sufficiently well grown for their gapes to be just visible above the rim. The male Blackbird always fed the young Dunnocks with earthworms, at an average rate of $2\frac{1}{2}$ visits per hour. Occasionally he perched on the rim and sometimes crouched low in the cup appearing to brood the chicks, which called incessantly; he once stayed for as long as five minutes. The time actually spent in feeding was always considerably longer than that taken by the same Blackbird later in feeding his own young. The Dunnocks fed their brood very much more quickly than either Blackbird at either nest, but the fact that they usually supplied grubs, whereas the Blackbirds brought earthworms, probably accounted for this difference.

The female Blackbird was first seen to go to the Dunnocks' nest late on the second day of observation, 20th July. As I had watched her intermittently all day, although in detail for only $2\frac{1}{2}$ hours until then, it was probably her first visit. She approached the nest from the direction of her own and proceeded to brood the nestling Dunnocks for 15 minutes. Meanwhile, the male Dunnock came near with food, but did not go to the nest for three minutes, apparently aware of the female Blackbird's presence. When he finally did so, he hopped back on seeing her sitting. She promptly left, but seven minutes later resumed brooding the young Dunnocks; this time, however, she remained for only two minutes before being evicted by the female Dunnock. She then returned immediately to her own nest to incubate her eggs. It was not until the next day, 21st, that she actually fed the young Dunnocks, also with earthworms; this she continued to do, although not as regularly or frequently as her mate. After the 20th she was never seen to sit on the Dunnocks' nest except once when she crouched on the rim. After feeding the nestling Dunnocks she nearly always returned immediately to her own eggs. The last date on which she was observed visiting the Dunnocks' nest was 22nd July, but no detailed observations were made on 23rd and 24th. From 25th she behaved perfectly normally, incubating her own eggs and leaving the nest at fairly regular 30-minute intervals.

After the Dunnocks had fledged I never saw the parent Blackbirds feed them. On one occasion the male was perched on a fence with an earthworm in his bill and a young Dunnock was calling below, but he appeared oblivious to this and after three minutes flew to his own nest to feed his chicks.

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Dunnocks' clutch removed by Blackbirds John E. Ashworth's note on a female Blackbird *Turdus merula* carrying an egg of that species (*Brit. Birds*, 62: 447) prompts me to record my observations on the

disappearance of the entire clutch of a pair of Dunnocks *Prunella modularis*. In 1969 and 1970 this pair used the same nest eight feet up in a dense rose bush in my suburban garden in Whetstone, North London. On 27th May 1970 they completed their clutch of five, but when I next examined the nest on 5th June I was surprised to find only four eggs. A pair of Blackbirds had sometimes been seen leaving the rose bush, and on 7th June I watched the male Blackbird fly out carrying a small bright blue egg like that of a Dunnock. The female Dunnock continued to incubate the remaining eggs, but by 9th June the nest was empty and she had deserted. This suggested to me that the male Blackbird, and possibly his mate as well, were responsible for the removal of the entire clutch.

In May this pair of Blackbirds had had a nest (repaired from the previous year) 15 yards away in another rose bush. Their five eggs hatched on 27th May, but on 30th the gut and stomach of an animal the size of a nestling Blackbird were found beneath the nest, and on the following day I examined the nest and found it empty. They had then built a new nest only four feet away from the Dunnocks' nest, but this I did not discover until 9th June, while examining the latter. By then the new nest was already complete and subsequently the Blackbirds were successful in fledging young.

It may be significant that on one occasion, before the first Blackbirds' nest was repaired, I watched the male crouching low in the cup of the old nest for about ten minutes until he flew away on my approach, and then a few hours later I saw him crouch in a similar way in the old Dunnocks' nest.

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House Sparrow persistently harrying Kingfisher My garden at Hilperton Marsh, Trowbridge, Wiltshire, slopes down to the Kennet and Avon Canal, and it is not unusual for Kingfishers *Alcedo atthis* to fish from the canal wall or from two crack willows near the water's edge. At about 13.00 on 25th November 1970 I noticed a Kingfisher perched on one of the willows. A female House Sparrow *Passer domesticus* was just below it on another twig. As soon as the Kingfisher dived, the sparrow flew after it, following it to its next perch and alighting close by. When the Kingfisher caught a fish the chase was even closer, with both birds turning and twisting in the air, but at no time was the fish dropped by the Kingfisher or snatched by the sparrow. After about a quarter of an hour of this harrying, the sparrow seemed to lose interest and flew off. In my experience Kingfishers are singularly free from interference by other species and, as fish do not form part of the House Sparrow's diet, this behaviour was difficult to understand.

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Reviews

Les Oiseaux du Proche et du Moyen Orient. By F. Hüe and R.-D. Etchecopar. N. Boubée et Cie, Paris, 1970. 952 pages; 32 colour and 2 black-and-white plates and 356 line-drawings by Paul Barruel; 429 distribution maps; 2 end-maps. Fr 220.00.

The two distinguished authors have long been noted for their enthusiasm for and knowledge of the birds of the more arid regions of the Palearctic. Ten years of study and exploration led in 1964 to the publication of their valuable guide for the field ornithologist in North Africa, *Les Oiseaux du Nord de l'Afrique*, which three years later appeared in an English translation. Since then their interest has moved further east, to embrace not only the desert zone stretching from Israel to Afghanistan but also the wide variety of other habitats in the Near and Middle East, from Cyprus and the Mediterranean coasts of Turkey, Syria and the Lebanon, to the valleys and marshes of Iraq, the coasts of the Caspian and the great and diverse mountain ranges stretching from the Taurus, Elburz and Zagros up to the mighty outerworks of the Himalayas. Once again they have spent many years on expeditions to the areas they cover, penetrating into regions little known to ornithologists. (The scientific results are being published separately: the most recent and valuable is *Contribution à l'Étude des Oiseaux d'Iran* by C. Énard and R.-D. Etchécopar, Mémoires du Muséum National d'Histoire Naturelle, Paris, 1970.) This new book makes their knowledge available to a wider audience and summarises much earlier information, often difficult of access.

The work follows closely the general lines of its successful predecessor. For each species there are sections on Identification (with plumage descriptions and field-characters), Behaviour (including notes on habitat, voice and migration), Breeding, and Distribution (with details of all subspecies in the region and a brief note on world distribution). There are also identification keys for most groups. English and German names are included and there is a very full bibliography. The generous array of fine colour plates by Paul Barruel again form an attractive and essential part of the work: they cover no less than 292 species, mostly those not featured in other books, and there are line-drawings for a further 356. Maps of breeding distribution are given for 429 species: these must have presented considerable difficulties, for although birdwatchers are penetrating more and more into some parts of this great region, especially Turkey and Iran, there are several countries where political conditions have made expeditions difficult in recent years and extensive areas where few or no ornithologists have so far ventured. Moreover, growing pressures from shooting, especially in the Near East, from drainage and, in Israel, from the

unwise use of rodenticides have seriously affected the numbers of many species, so that these maps may often reflect the historical rather than the present position. Their very existence, however, will serve as a guide and a spur in the future.

Every year birdwatchers go further afield as improved travel brings new countries within reach. The Near East and Middle East hold a rich and varied avifauna, with a number of endemic species, often little known. For some there is much to be learned even on field identification (there is still the chance to be the first ornithologist to see Hume's Tawny Owl *Strix butleri* alive) and for many more there are great gaps in our knowledge of behaviour, voice, breeding, migration and, especially, current distribution. This new work will be an invaluable aid and, if too bulky for the pocket, essential equipment for every Land Rover. It is to be hoped that, like its predecessor, it will soon be translated into English.

STANLEY CRAMP

Searching Image in Carrion Crows. By Harvey Croze. Paul Parey, Berlin, 1970. 86 pages; 2 colour photographs; 44 figures. DM 44.00.

Dr Luuk Tinbergen was among the first to provide evidence that bird predators may adopt a searching image for specific prey, particularly if it is abundant. Under certain conditions it may be advantageous for the prey species to lower its density by scattering and thus lessen the chance of becoming the object of such an image. Using both wild and hand-reared Carrion Crows, Dr Croze has tested the searching image concept experimentally. Like Professor Niko Tinbergen, with whom he has worked, the author accepts the challenge to become intimate with the species he is studying in its natural environment and this enhances the value of the experiments. The fact that the prey offered to the crows was usually artificial ('larvae' made of coloured dough and meat hidden under mussel shells) does not seriously detract from his findings.

Dr Croze demonstrates that hunting with a searching image demands an ability to learn specific signs which may be represented by colour, form or structure. Only a few experiences are necessary to establish the image. Though the response to any one sign tends to be fairly persistent, crows are able to shift rapidly to another type of prey if sufficiently rewarded by food. The area searched by these birds is restricted by a tendency to concentrate in the neighbourhood of their last find. This may lead to associating certain locations or habitats with the prey. Scattering enhances the anti-predator effect of crypsis in that the predator's reward rate is decreased as the time interval between finding prey items increases.

Using artificial populations of mussel shells of different colours, the author has investigated the advantages of polymorphism to a prey

species. He provides evidence that the crows can search for several 'morphs' at a time. The fact that survival in the polymorphic populations was significantly greater than that in the monomorphic ones suggests, however, that relaxed specificity of the searching image results in lower hunting efficiency of the predator. Dr Croze discusses frequency-dependent selection and concludes that polymorphisms may allow the prey to exist at greater population densities without increased risk of predation.

In a final section, Dr Croze examines certain features in the reproduction of the Sandwich Tern which are atypical among the Laridae. This species, which frequently nests in close proximity to Black-headed Gulls, not only fails to remove the egg shells from the ternery after hatching, but liberally spatters the area with guano. It is suggested that on this 'white-washed' background the pale eggs and chicks are camouflaged. Moreover, they may avoid the attention of predators with a searching image for gull eggs and chicks which differ from those of the Sandwich Terns in both colour and pattern. The author provides experimental evidence to support his hypothesis.

The depth to which the material is analysed is praiseworthy, but the detailed presentation may daunt many readers. Nevertheless, Dr Croze, in providing an insight into how predators operate when hunting, has made an important contribution to both behavioural and evolutionary studies. Such research should stimulate ornithologists to scrutinise more thoroughly the feeding activities of birds. We need to know more about what proportion of potential food supplies are actually available for them to utilise.

C. J. CADBURY

Letters

The wing-tip patterns of gulls In a recent letter (*Brit. Birds*, 63: 91-93) Dr W. R. P. Bourne challenged me to produce witnesses for the frequency with which Herring Gulls *Larus argentatus* and Kittiwakes *Rissa tridactyla* entirely lose the dark tips to their primaries as a result of wear. As far as Herring Gulls are concerned, I have since received several letters stating that this does occur. One such letter, from F. R. Smith, honorary secretary of the Rarities Committee, gives his assurance ' . . . that the black can wear off the wings of Herring Gulls, and they are then reported as Glaucous *L. hyperboreus* or Iceland Gulls *L. glaucoides*, fortunately not too often!' This real danger of misidentifying such individuals if too much reliance is placed on the appearance of their wing-tips has also been expressed by several experienced birdwatchers to whom I have spoken. In the case of Kittiwakes, however, it would seem that most observers have not had the opportunity of studying large numbers in late summer, when

their wing feathers show maximum wear just before the autumn moult. At Dungeness, Kent, there is a late summer gathering of up to several hundred Kittiwakes, mainly first- and second-year non-breeding immatures; these display a great variety of wing-patterns as a result of wear, none of which is described in field guides or even in more specialised literature, though T. Ennis mentioned such 'undescribed' plumages in immature Kittiwakes at the breeding colonies on Rathlin Island, Co. Antrim (*Brit. Birds*, 62: 236). Second-year birds in which the black wing-tip is completely missing are rather rare (I did not say they were 'frequent', by the way). I have recently learned of another example of the effect of extreme wing-tip wear which is perhaps more noteworthy in view of the rarity of the species involved. The adult Franklin's Gull *L. pipixcan* which was present at Farlington, Hampshire, from February to May 1970, lost its black (Kittiwake-like) wing-tip during its stay.

Having answered Dr Bourne's challenge, however, I must stress that these examples were used to demonstrate the extreme effect that wear can have on the appearance of gull wing-tip patterns. A more important point on which we differ is his suggestion that we should use gull wing-tips for specific identification; apart from the practical difficulties of observing their detail in the field, virtually *every* gull has its wing-tip pattern drastically altered by wear. This can be easily demonstrated by collecting primary feathers from any locality where gulls gather during their moult period in late summer and autumn. An examination of these feathers will show that the white apical 'spots' are invariably missing, that the other white areas are even more susceptible to abrasion than the dark areas, and that the dark tips, if they are still present, are extremely faded and worn, with the result that the pattern bears very little resemblance to that of fresh feathers.

While the subject of wing-wear is clearly, therefore, a most important consideration to be aware of in identifying gulls, Dr Bourne's suggestion that we should rely on wing-tips is still questionable *even when the birds are in fresh plumage*. Since this correspondence arose from a paper by R. E. Scott and myself on the identification of two species of gull in *immature* plumages (*Brit. Birds*, 60: 365-368), may I ask him to name any gull on the European list which has a diagnostic wing-tip pattern in its first year? Surely, with birds of this age, the actual wing-tip pattern is at best only a helpful guide to narrow down the field to a certain group of gulls: specific identification must always be based on considerations of size and the appearance of the remainder of the wing and other parts of the body. This is even true for adults also, except for one or two species and then only when viewed in exceptionally favourable conditions. It is perhaps not surprising that Dr Bourne has had to turn to his experience of an escaped Silver Gull *L. novaehollandiae* to support his case. This Australian species may well

have a diagnostic wing-tip, but it would be of little use to a European birdwatcher.

In short, I regard Dr Bourne's suggestion that we should use gull wing-tip patterns for identification as of very limited value at the most, and one which would certainly lead the average birdwatcher (or indeed the expert) into a great deal of confusion.

The comments in the remainder of the first paragraph of Dr Bourne's letter are rather misleading: may I take this opportunity of putting the record straight? I do not decry the use of museum material for checking field-characters, as he apparently implied (indeed this is essential in most cases); it was his incorrect conclusions from such material that I criticised. I did not say that he was wrong about another species, or suggest that he should have been discussing the underwing of first-year Mediterranean Gulls *L. melanocephalus* (I was drawing attention to a field-character which he did not mention), or imply that he did not go out into the field enough. Also, I would be the first to admit that my sketches of Common Gulls *L. canus* and Mediterranean Gulls (*Brit. Birds*, 60: plate 48) are far from lifelike, but they do give an adequate impression of the main field differences as we described them in the text. This identification problem had previously been misleadingly documented and, while I have never regarded our paper as the last word on the subject, may I suggest that Dr Bourne's letters do not come into the category of *constructive* criticism; indeed it seems to me that they have caused unnecessary confusion. P. J. GRANT

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In an attempt to bring this long-drawn correspondence to a satisfactory conclusion, we showed Mr Grant's letter to Dr Bourne and invited him to prepare a reply which we then passed back to Mr Grant. Certain alterations were made in the two letters as a result and the protagonists have now agreed to differ. Dr Bourne's final letter on this subject follows. EDS

I do not accept that Mr Grant has met my challenge to demonstrate the frequency with which gulls lose dark markings at the wing-tips as the result of wear. He fails to cite a single definite instance in a normal, intact British gull (the loss of some of the white markings from moulted feathers on the beach hardly seems to meet the case) and I find it curious that, while unspecified correspondents have been assuring him that the phenomenon exists, nobody has told me of any definite examples. The statement that the honorary secretary of the rarities Committee assures him that the black may wear off the wing-tips of Herring Gulls so that they masquerade as Glaucous or Iceland Gulls loses its impressiveness when one recollects that the committee does not normally deal with these species, while I would have thought

that the information that the Franklin's Gull at Farlington lost the considerable amount of black at its wing-tips surely reflects more doubt on what may have happened to it on the way here than on the normal state of the wing-tips of this species. If Mr Grant still wishes to know which young gulls can be recognised by their wing-markings and dislikes the drawing C. Frith made for me (*Brit. Birds*, 61: 140), let me refer him to the perfectly satisfactory one made by Dr Roger Peterson for the first edition of the *Field Guide* (plate 38), to which we should both have referred before. Finally, I dragged the Silver Gull into this controversy only because in the first place it was this bird that caused me to become interested in the subject, and secondly because without its wing-tip pattern it would never have been identified at all.

Finally, I am indebted to R. J. Kennedy for calling my attention, when this letter was in press, to an observation by C. K. Averill (*Condor*, 25: 57-58) that, while Herring Gulls may lose the white at the wing-tips through abrasion, the pigmented part of the feathers is more durable and is usually retained.

W. R. P. BOURNE

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Head plumage of female Scaup M. J. Rogers (*Brit. Birds*, 64: 87) implied that the whitish patch in the auricular region of the female Scaup *Aythya marila* is a feature of summer plumage only. In Derbyshire, where Scaup are scarce visitors, I have seen four females showing this patch which looks more or less circular at a distance. On 26th November 1966 F. N. Barker, R. G. Hawley, G. Wilson and I watched one such bird at Pebley Pond; there was another at Barbrook Reservoir from 2nd to 12th November 1969 and two in the Clay Mills area from 21st December 1969 to 3rd January 1970, one remaining until 24th January. Thus it appears that some female Scaup retain this feature until at least the early winter.

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News and comment *Robert Hudson*

The fate of Foulness On 26th April John Davies, Secretary of State for Trade and Industry, made the formal announcement that the Government had overruled the Roskill Commission and decreed that the Third London Airport should be built on the Maplin Sands, off Foulness Island, Essex. This decision was not unexpected. Economics apart, Professor Colin Buchanan's minority report had, in practice, presented the Government with a choice between human and wildlife environments. One can see that the environmentalist movement, only now becoming an effective lobby, might have been harmed had human environment taken second place at this stage. Nevertheless, the final Government decision was a blow to naturalists; the ultimate destruction of this estuarine habitat, Britain's most im-

important wintering ground for Brent Geese and the site of the third largest British breeding colony of Little Terns, is sad to contemplate. So, for that matter, are the ramifications for the whole of south-east Essex: the Crouch estuary marshlands are likely to disappear underneath housing developments for airport workers; there is little prospect of preserving the remaining Thames marshes around Leigh-on-Sea and Canvey Point; and the Rochford Hundred hinterland will inevitably be developed alongside improved transport facilities.

Those who applaud the deliverance of Cublington and adjacent parishes would do well to bear in mind the inevitable large-scale destruction of houses in crowded east London and its suburbs to make way for new road and rail links from Foulness into the Metropolis. And only time will tell how costly in lives and money the bird-strike hazard at Foulness proves to be.

A Persian Gulf bird-strike Large pre-migratory gatherings of gulls (mainly Slender-billed and Black-headed) are of regular occurrence along the coast of the Trucial States in February; but in early 1971 strong gales and cold weather prevented northward dispersal of these flocks, and large numbers appeared on the adjacent Sharjah airfield. On 15th February both jet engines of two Hunter fighters were damaged by ingesting gulls shortly after landing; the birds had been resting on or near the runway and were not visible to the pilots until they rose. Subsequently, shooting and scaring by vehicles was necessary to keep gulls off the airfield until good weather returned and the birds dispersed.

This information was taken from the useful *Gulf Bird-watchers' Newsletter*, which may be discontinued shortly owing to withdrawals of British forces from the Persian Gulf. It would be pleasant if the Army Bird Watching Society or the Royal Air Force Ornithological Society could keep this newsletter going from Cyprus or one of the Indian Ocean staging bases.

B.O.U. Annual Conference (I am grateful to C. J. Mead for the following.) The annual conference of the British Ornithologists' Union was held this year at Nottingham University during 16th-18th April, the theme being 'Birds are mortal'. Many aspects of bird mortality, from cannibalism in the Herring Gull (J. Parsons) to the effects of overhead cables (R. E. Scott and Dr C. J. Cadbury) and traffic (F. P. Errington), were dealt with in twelve papers presented to the conference. J. W. Macdonald described his post-mortem studies to establish the causes of deaths of wild birds, and Dr I. F. Keymer summarised what was known of diseases of birds of prey. Partridges, Woodpigeons and Blackbirds were dealt with in some detail by Dr G. R. Potts, Dr R. K. Murton and L. A. Batten. General papers on seabird mortality and on the timing of mortality through analyses of ringing returns were given by B.T.O. staff members and others; and Dr W. R. P. Bourne presented a wide-ranging review of pollution of the seas. The attendance at the conference was not very large, partly due to the effects of the Post Office strike.

At the Annual General Meeting, the Salvin-Godman Medal was awarded to Sir Julian Huxley, F.R.S., and the Union Medal to Stephen Marchant, H. N. Southern and Dr Bernard Stonehouse; only the last two could be present to receive their medals from the President, Guy Mountfort. The President went on to announce that the proposed joint meeting in Iceland between the B.O.U. and the American Ornithologists' Union, planned for 1972 (see 'News and comment', January 1971), had had to be cancelled because the Americans had withdrawn. He also announced that the Union might mount an expedition, starting within the next two years, to conduct basic research on one or more of the less well-known endangered species: the Zapata Swamp in Cuba was considered a possible target for such an expedition since three Red Book species (Zapata Rail *Cyanolimnas cerverai*, Zapata Wren *Ferminia cerverai* and Zapata Sparrow *Torreornis inexpectata*) are found only in this restricted area. Some B.O.U. members may regret the possibility of

Union effort and funds being diverted from the Old World to the New because Cuban politics prevent Americans from visiting that island: surely there are higher basic research priorities for European ornithologists?

Protecting Britain's raptors On 5th May the Royal Society for the Protection of Birds opened a campaign against illegal shooting and trapping of birds of prey and owls in this country. Though the R.S.P.B. admits to being unable to give quantitative information (understandably, because of the illegality of offences), it has evidence to show that destruction of raptors, largely by game-preserving interests, continues at a significant level; and it draws attention to the continued setting of pole-traps, which are known to have been used *this year* on nine English and Welsh estates including some with titled owners. There are fears that the situation will worsen in view of recent dramatic increases in the values of game-shoots, particularly with the growth of syndication; too often, apparently, estate owners turn a blind eye to the methods used by their gamekeepers. The present R.S.P.B. campaign seeks to draw public attention to the problem and apply moral pressure to offenders; the Society urgently appeals that any cases of destruction of raptors or use of pole-traps should be reported promptly to it at the Lodge, Sandy, Bedfordshire (telephone Sandy 551), so that, where possible, prosecutions can be initiated.

New R.S.P.B. representative in Northern Ireland It was reported in 'News and comment' last year (*Brit. Birds*, 63: 220) that the Royal Society for the Protection of Birds was seeking a new representative for Ulster to replace Frank Hamilton, who has now returned to another R.S.P.B. post in his native Scotland. A local man, Brian Coburn, has recently been appointed. It is his first post as a professional ornithologist and we wish him well in his exacting rôle.

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

Recent reports *P. F. Bonham*

These are largely unchecked reports, not authenticated records

This analysis concerns the more interesting reports for February and March 1971 (and at the end lists a few important corrections to the summary covering October 1970). The only really unusual seabird was a dead **Great Shearwater** *Puffinus gravis* picked up at Gedney Drove End (Lincolnshire) on 28th February. Another casualty, far more surprising, was a **Great White Egret** *Egretta alba* seen at Lochend (Shetland) on 26th March and found dead on 27th. **Little Egrets** *E. garzetta* in the Sandy Haven area (Pembrokeshire) and at Clonakilty (Co. Cork) survived the winter: the former is one of two that appeared as long ago as October 1969 (*Brit. Birds*, 63: 270), while the Irish bird came with the influx of spring 1970 (*Brit. Birds*, 63: 221). A **Night Heron** *Nycticorax nycticorax* in Westmorland (*Brit. Birds*, 64: 90) also wintered, as did a **Spoonbill** *Platalea leucorodia* in Poole Harbour (Dorset), while another Spoonbill was reported at Ballycotton (Co. Cork) on 27th February; the one in Dorset, which arrived in January, may have been connected with the Sussex and Hampshire sightings of late December (*Brit. Birds*, 64: 135). A **Purple Heron** *Ardea purpurea* occurred in the Swale area (Kent) on the early date of 31st March.

A **Green-winged Teal** *Anas crecca carolinensis* was identified at Ballycotton on 7th February, a drake **American Wigeon** *A. americana* was at Durlough Reservoir (Somerset) on 23rd February, and drake **Ring-necked Ducks** *Aythya collaris* appeared at Marlow (Buckinghamshire) from 14th to 18th March, at Slapton (Devon) on 21st and at Hardley Marshes, Loddon (Norfolk) from 13th (this last apparently also

present there from March to May 1969 and from April to June 1970, being reported to me last year as 'near Reedham on 5th April'—see *Brit. Birds*, 63: 143). As in 1970, two **King Eiders** *Somateria spectabilis* were first seen in March, one at Port Stewart (Co. Derry) from 7th and the other near Trondra (Shetland) from 10th. Other duck reports included 300 **Goldeneye** *Bucephala clangula* off Boston Point (Lincolnshire) on 21st March, as well as up to 358 at Hornsea (Yorkshire) and 750 at Loch Leven (Kinross); a drake **Velvet Scoter** *Melanitta fusca* well inland at Queen Mary Reservoir (Middlesex) in both months; and single **Smew** *Mergus albellus* at four localities in the Scottish Central Lowlands. The fifth **Lesser White-fronted Goose** *Anser erythropus* of the winter (cf. *Brit. Birds*, 64: 135) was discovered at Dryslwyn (Carmarthenshire) on 7th March.

As remarked in the previous summary (*Brit. Birds*, 64: 239), it was an excellent winter for **Bewick's Swans** *Cygnus bewickii*. Many February reports included up to 204 at Durlough Reservoir, 104 at Muchelney floods (also Somerset) and 190 on the Nene Washes, Peterborough. March counts on the Ouse Washes (Cambridgeshire/Norfolk) revealed 964 on 2nd, 400 on 7th, only 13 on 10th, but a rise to 50 on 15th. There was other evidence of return passage about 7th-10th: 64 headed out to sea at Donna Nook (Lincolnshire) on 7th; a transient herd of at least 100 appeared at Leighton Moss (Lancashire) on 8th; on the Wexford Slobs 420 were counted on 1st and most left on 10th; and 40 flew over Sandy (Bedfordshire) also on 10th.

Rough-legged Buzzards *Buteo lagopus* wintered at Rye Harbour (Sussex) and on the Isle of Sheppey (Kent) and a second was seen on Sheppey on 28th March. One frequented the Irnham area, Grantham (Lincolnshire) from about 22nd February; on 7th March it was caught, having sickened, and allowed to recover in captivity. Another Lincolnshire report concerned one found dead at Brauncewell, Sleaford, on 19th March, and lastly one flew west over Clewer (Somerset) on 21st March. A **Gyr Falcon** *Falco rusticolus* near Aldworth (Berkshire) (*Brit. Birds*, 64: 135) remained until early February; what may have been another was seen 18 miles away at Binfield (also Berkshire) on 24th January; and there were others at Queen Mary Reservoir on 6th March and at Killeter Forest (Co. Tyrone) on 13th and 21st. A **Goshawk** *Accipiter gentilis* was reported at Langton Herring (Dorset) on 28th.

Ninety-five **Ruffs** *Philomachus pugnax* and 55 **Black-tailed Godwits** *Limosa limosa* were counted on the Ouse Washes on 15th March; there were also several flocks of 100-200 Black-tailed Godwits in the south-east and up to 600 in Poole Harbour. At Huthwaite (Nottinghamshire) 27 **Jack Snipe** *Lymnocyptes minimus* were present on 17th March and 16 on 20th, while ten were reported at Tupton (Derbyshire) on 18th. A **Common Sandpiper** *Tringa hypoleucos* near Barr Loch (Renfrewshire) on 31st March was either an early migrant or one wintering unusually far north (a number of even earlier reports from much farther south very probably referred to winterers—see *Brit. Birds*, 64: 239). Two **Greenshanks** *T. nebularia* wintering in the north-east, at Alnmouth (Northumberland) and Loch Leven, were also unusual, but a **Curlew Sandpiper** *Calidris ferruginea* at Clevedon (Somerset) on 13th February and a **Temminck's Stint** *C. temminckii* at Minsmere (Suffolk) from 12th to 14th of the same month were even more unexpected. Moreover, another Temminck's at Rainham (Essex), which very probably arrived last autumn (*Brit. Birds*, 64: 136), stayed into March. A **Little Stint** *C. minuta* also frequented the Rainham-Crayford area and another appeared at Sandwich Bay (Kent) on 28th March. Lastly, there was an **Avocet** *Recurvirostra avosetta* well inland at Dunstable sewage-farm (Bedfordshire) on 29th March.

An immature **Ivory Gull** *Pagophila eburnea* was seen at Hornsea on 1st February, while the one at Tynemouth (*Brit. Birds*, 64: 136) stayed until 20th. Numbers and localities of **Glaucous Gulls** *Larus hyperboreus* and **Iceland Gulls** *L. glaucoideus* were much as in December and January (*Brit. Birds*, 64: 239), but **Mediterranean Gulls** *L. melanocephalus* increased slightly to about ten, including a second-winter bird inland at Sawley Reservoir (Derbyshire) on 11th March and one at Belford

(Northumberland) in early March, which was wearing a yellow ring as well as a metal one. Twenty-two **Little Gulls** *L. minutus* were reported, mainly from Cornwall (incidentally, the December-January figure of 13 given in *Brit. Birds*, 64: 240 should read 32 in view of additional data from south-west England and Ireland).

Coming now to passerines, but excluding summer-visitors, **Waxwings** *Bombycilla garrulus* were still widespread, but at only a third to a half of the December-January strength with even fewer towards the end of March. It continued to be a good winter for **Great Grey Shrikes** *Lanius excubitor* and quite a number remained into April; there was also some evidence of return passage from about 27th March. The largest flocks of **Twites** *Acanthis flavirostris* were 300 at Cliffe (Kent) and 280 at Donna Nook, but a total of just over 1,000 was trapped during February, March and early April on the Wash shore at Friskney (Lincolnshire). High totals of other species included 17 **Water Pipits** *Anthus spinoletta spinoletta* (four of which were trapped) in a single field at Beddington sewage-farm (Surrey) on 14th February, 19 **Mealy Redpolls** *Acanthis flammea flammea* at Sevenoaks (Kent) on 25th March, and 150 **Snow Buntings** *Plectrophenax nivalis* at Snettisham (Norfolk) and in the Whitburn area (Northumberland). We have also heard of flocks of 25 to 2,000 or more Snow Buntings in Orkney in February. The only rare passerines were a **Scarlet Rosefinch** *Carpodacus erythrinus* ringed at Kempton Park (Middlesex) on the extraordinary date of 6th February, showing no signs of captive origin, and a female **Serin** *Serinus serinus* at Penzance (Cornwall) from 26th to 28th of that month.

It seems appropriate to discuss all the summer-visitors together in one paragraph, and here all dates refer to March unless otherwise stated. (It is difficult to classify some species, especially in early spring, but the line has to be drawn somewhere.) A drake **Garganey** *Anas querquedula* at Mersea (Essex) on 14th February and a **Sandwich Tern** *Sterna sandvicensis* at Hove (Sussex) on 22nd were exceptionally early; these were followed by the first **Wheatear** *Oenanthe oenanthe* at Coventry (Warwickshire) on 4th March, a **Garganey** on 6th and a few **Chiffchaffs** *Phylloscopus collybita*, mainly on the south coast, from 7th. More **Garganey** and **Wheatears**, plus some **Ring Ouzels** *Turdus torquatus*, occurred from 10th, two **Sandwich Terns** on 15th, a few **White Wagtails** *Motacilla alba alba* from about 20th and occasional **Sandwich Terns**, **Little Ringed Plovers** *Charadrius dubius* and **Willow Warblers** *Phylloscopus trochilus* from 23rd. None of these migrants was much in evidence until 28th, however, and the first real, though still small, influx occurred during 28th-31st. Hirundines were almost entirely lacking, with a few isolated reports of **Swallows** *Hirundo rustica* and **Sand Martins** *Riparia riparia* and just two **House Martins** *Delichon urbica* (both in Kent on 21st). Other non-passerines reported were **Spotted Crakes** *Porzana porzana* at Parkgate, Neston (Cheshire) on 27th and at Mablethorpe (Lincolnshire) from 31st (plates 43-44); a skua *Stercorarius sp* at Spurn (Yorkshire) on 27th; and two **Arctic Skuas** *S. parasiticus* at Seaton Sluice (Northumberland) on 29th. Incidentally, a **Turtle Dove** *Streptopelia turtur* at Leicester on 5th January and a **Cuckoo** *Cuculus canorus* at Portland (Dorset) around Christmas were omitted from the summary in *Brit. Birds*, 64: 136.

Finally, I must emphasise that this feature depends almost entirely on the regular flow of news from a network of birdwatchers that at present contains too many gaps. May I appeal to *all* observers to send me up-to-date reports of the rarer species, preferably in the form of monthly lists? These are needed particularly from the south coast (Isles of Scilly to Hampshire), the Home Counties west of London, Suffolk, Yorkshire, Teesside, the Lake District, Orkney and the Hebrides, as well as from much of the Scottish mainland, Wales and Ireland.

Some corrections relating to October 1970 (see January issue)

Sooty Shearwater *Puffinus griseus*: 133, Cap Gris Nez, 19th October, not 13th (*Brit. Birds*, 64: 43)

Lesser Kestrel *Falco naumanni*: found dead, Neston, October, now proved to have escaped from captivity (*Brit. Birds*, 64: 46)

Pallas's Warbler *Phylloscopus proregulus*: Beachy Head, 11th to 13th October, one, not three (*Brit. Birds*, 64: 47)

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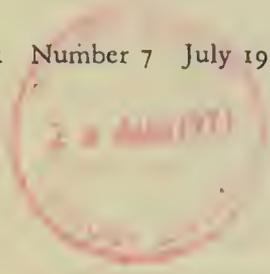
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British Birds

Breeding status of Red-necked Phalaropes in Britain and Ireland

M. J. Everett

The breeding status of the Red-necked Phalarope *Phalaropus lobatus* in Britain and Ireland up to 1965 was summarised by Parslow (1967) who also commented on the species' extreme scarcity and on the decrease in its numbers since the early years of the 20th century. The present paper describes a subsequent survey carried out on behalf of the Royal Society for the Protection of Birds during 1968-70. Experienced local observers and R.S.P.B. staff recorded the numbers present and breeding in each area; they also commented on past history, where known, and on any current threats to the species and its habitat. It was hoped that some data on breeding success would be obtained, but this proved extremely difficult and, to keep disturbance to a minimum, no concerted efforts were made to locate nests. Further historical information was gathered from as many sources as possible.

WORLD DISTRIBUTION

The Red-necked Phalarope has a circumpolar, Holarctic distribution in the tundra and boreal climatic zones, approximately between the July isotherms of 37°F in the north and 62°F in the south. In Europe it breeds in Spitsbergen, Iceland, the Faeroes, north and north-west Scotland, north-west Ireland, northern Scandinavia, Finland, Estonia and north Russia north to southern Novaya Zemlya. From there it extends eastwards across northern Siberia to the Bering Sea, ranging south to the base of the Kamchatka Peninsula and the Komandorskiye Islands. (The southernmost limits of its range are unknown over much of the mainland of Asia.) In the western hemisphere it breeds in northern Alaska and the Pribilof and Aleutian Islands extending eastwards through Yukon, Mackenzie, Keewatin and Southampton Island

to southern Baffin Island, south to the Great Slave Lake, James Bay and south Labrador. It also nests on the west and east coasts of Greenland. (See Dementiev and Gladkov 1951-54, Voous 1960, Vaurie 1965.) It breeds north to about 79°N in Spitsbergen and south to 52°-54°N in James Bay, south Labrador, north-west Ireland and the Komandorskiye and Aleutian Islands. Thus the British and Irish colonies are on the southern edge of a wide range and the Irish population is one of the southernmost in the world.

Red-necked Phalaropes winter at sea, important areas known so far being off the west coast of South America from Ecuador and the Galápagos Islands south to Chile and southern Argentina; off the west coast of Africa at the Tropic of Cancer; in the Gulf of Oman and the Arabian Sea; and around New Guinea and Borneo (Vaurie 1965). Although migratory movements have been recorded in some detail (e.g. Dementiev and Gladkov 1951-54, Meinertzhagen 1925), knowledge both of these and of the wintering grounds is incomplete.

PAST AND PRESENT STATUS IN BRITAIN AND IRELAND

The results of the 1968-70 survey are given in table 1 and the six areas concerned are discussed below in relation to historical data. Red-necked Phalaropes are not strictly colonial, but they nest in loose groups for which it is convenient to use the term 'colony' here.

Table 1. Numbers of pairs and young of Red-necked Phalaropes *Phalaropus lobatus* recorded at British and Irish breeding sites in 1968-70

	Year	Pairs	Young	Remarks
Shetland	1968	35-45	5	} See table 2
	1969	17-27	4	
	1970	30+	20+	
Orkney	1968	2	—	Success unknown
	1969	0	—	No adults seen
	1970	1	—	Success unknown
Scottish mainland	1968	3-4	—	Success unknown
	1969	3+	—	Success unknown
	1970	2	2	
Outer Hebrides	1968	5	2	No young survived
	1969	5-8	—	Success unknown
	1970	2	1	Four other adults
Tiree	1968	2	—	Polyandry? No young
	1969	0	—	Single adult only
	1970	0	—	Single adult only
Co. Mayo	1968	7+	10+	
	1969	3+	8	12-14 adults present
	1970	c.10	8-9	25-30 adults present

TOTAL PAIRS

1968: 54-65

1969: 28-41

1970: c.45

Table 2. Breeding history of Red-necked Phalaropes *Phalaropus lobatus* in Shetland

All figures refer to pairs not single birds

	Pre-1900	1900-67	1968	1969	1970
Unst	Most 9 in 1887 but 0 by 1898	Occasional 1 or 2	2	0	0
Yell	?	Occasional probably 1	1	0	0
Hascosay	?	Occasional 1 only	1	0	0
Fetlar	Probably breeding	14-20 in 1946-51	26-36	17-27	28+
Mainland	15 at one site in 1897-98	13-17 in 1949-51 c.6 in 1967	5	0	2
TOTALS	?	(27-34 in 1950)	35-45	17-27	30+

Shetland

Venables and Venables (1955) summarised the status up to 1950; in that year they knew of 27-34 pairs and suggested that Shetland then held more than all the other colonies in Britain and Ireland together. The known history in Shetland is given in table 2, from which it will be seen that the survey recorded 35 to 45 pairs in 1968, 17 to 27 in 1969 and at least 30 in 1970.

There is one reasonably well documented locality on Unst, where 14 phalaropes were present in 1867 (Saxby 1874) and, after a decrease, over nine pairs again in 1887 and five or six in 1890, but by 1897 or 1898 they had apparently disappeared; two nests were known in 1921, however, and one in 1922 (Venables and Venables) and occasional breeding has occurred since, while in recent years two females were seen in 1964 and two pairs in 1968. A pair reared young at a second and previously unknown site in 1967 (R. J. Tulloch *in litt.*). Yell and Hascosay have held occasional breeding pairs, but none in the years immediately preceding 1950 (Venables and Venables) and only sporadically at the present time. On Yell a single pair had a nest and eggs in 1965 and 1968, and breeding may have occurred in 1966; on Hascosay a pair reared three young in 1965 and two in 1968, and again breeding may have taken place in 1966 (R. J. Tulloch *in litt.*).

There are no old records of the numbers breeding on Fetlar, but this island seems to have been particularly important at least during the 20th century (R. J. Tulloch *in litt.*). There were 17 to 18 pairs in 1946, 14 to 17 in 1950 (Venables and Venables) and 20 in 1951 (P. W. Sandeman *in litt.*). During the survey, 17 to 36 pairs were estimated in five localities and at least 20 young were seen in 1970 (A. R. Mainwood

in litt.). Fetlar provided all the breeding records in Shetland in 1969 and almost all in 1970. As tables 1 and 2 show, this island is now the main breeding area in Britain. On Mainland at least seven breeding localities were known to Venables and Venables, and a total of 13 to 17 pairs in 1949-50; P. W. Sandeman (*in litt.*) received reports of 13 or 14 pairs in 1951. Five pairs were known in 1968, but none in 1969 and only two in 1970. No old records giving totals for Mainland are available, but at what is probably the best-known site in Britain about 15 pairs were present in 1897-98; in more recent years only about six pairs have bred there.

Orkney

Phalaropes seem to have been fairly numerous in Orkney in the first half of the 19th century. On a visit to one colony, Dunn (1837) 'got a few birds and four of their eggs' and killed five more a week later. Buckley and Harvie-Brown (1891) indicated that the species was formerly quite common, but had become scarce by their day. Nevertheless, Baxter and Rintoul (1953), who also referred to good numbers in the 19th century, found seven or eight pairs on one island in 1927. Lack (1943) also noted several pairs, especially on North Ronaldsay, and mentioned reports of former breeding on Sanday, Westray and Mainland, as well as possibly on Hoy (once) and Stronsay. By 1951-52 three pairs were known on one island only (P. W. Sandeman *in litt.*) and Balfour (1968) has recorded a similar situation in more recent years; one or two pairs were present on this island during 1968-70.

Scottish mainland

Until the 1960's there were no definite breeding records for the mainland of Scotland, although Harvie-Brown *et al.* (1887, 1904, 1906) had discussed phalaropes seen and obtained in Sutherland in the 19th century and what they regarded as doubtful reports of breeding in Perthshire in 1830 and 1876. There was also an unconfirmed instance of nesting in Wigtownshire in the 1950's (J. G. Young *in litt.*). Then a colony was discovered in northern Scotland in 1963 when at least three pairs and a single adult were present; breeding was proved in 1964 when two young were reared, apparently from different nests, and at least four adults and one young were seen in 1965. Four pairs were thought to have bred in 1968 and at least three in 1969; in 1970 two males and two young were seen.

Outer Hebrides

Very little has been published on phalaropes in the Outer Hebrides and the only useful summary in the 19th century was provided by Gray (1871) who estimated ten to 20 pairs on Benbecula and a total of at least 20 pairs on North and South Uist; thus the entire population

was apparently something less than 50 pairs. It has, however, been possible to gain a good idea of the status during the 20th century from unpublished sources, and the following is based on the extensive notes of the late Dr J. W. Campbell, with additional details from P. W. Sandeman and R. W. J. Smith. These data show that as recently as ten to 15 years ago the species was much commoner than it is today.

No definite breeding records are known for either Lewis or Harris, but nesting is said to have taken place on Lewis in the early 1930's and phalaropes were seen in a likely locality on Harris in 1948. Although a little suitable habitat exists on Berneray in the Sound of Harris, there are no records of breeding there. A number of nesting areas are known on North Uist, of which Balranald, now an R.S.P.B. reserve, appears to be the only one in regular use at present: one or two pairs were recorded there during the survey and this has probably always been the main breeding site on North Uist, but the maximum number of pairs has never exceeded ten to twelve; six to eight pairs were more normal in the 1930's and four or five during the 1950's. Guthrie (1919) stated that as many as 40 pairs were known on Benbecula and South Uist, but his figures referred to the late 19th century and the early 1900's (Dr J. W. Campbell *in litt.*). Benbecula was an important phalarope island until well into the 1950's, but during the last decade never more than one or two pairs have been reported and only in 1969 of the survey years were one or perhaps two pairs noted. On South Uist as many as 17 pairs in a year have been recorded since 1910, during which time about half have bred at one major site and the remainder at three or four others; in 1968-70, however, the main site was the only one known to be occupied, by one to three pairs.

Table 3 shows the estimated populations in the Outer Hebrides since about 1870. The more recent figures, though incomplete for 1941-50, suggest that the claim of Venables and Venables, that by 1950 Shetland had more phalaropes than the rest of Britain and Ireland together, was probably incorrect.

Table 3. Estimated numbers of pairs of Red-necked Phalaropes *Phalaropus lobatus* in the Outer Hebrides during 1870-1970

	c.1870	c.1900	1910	1911-20	1921-30	1931-40	1941-50	1951-60	1961-70
North Uist		?	?	?	13-15	6-10	4-7	6-8	1-5
South Uist			?	?	7-10	17	?	8-15	1-5
Benbecula		40	15	?	10	4-5	?	7	0-2
Lewis	40+	(40)	(15)	?	30-35	27-32	(4-7)	21-30	2-12

Inner Hebrides

Tiree is the one regular breeding station in the Inner Hebrides. The only definite record elsewhere involved a nest found, and possibly also the breeding of a second pair, on Coll in 1912 (Bannerman 1961). Phalaropes were first recorded nesting on Tiree in 1902 (Boyd 1958), but J. Graham has told me verbally that they may well have done so a few years earlier. At the main site up to three pairs are known to have bred, but not more than two in the last ten years or so. In 1968 a female and two males were present and polyandry was strongly suspected; a nest was found, but it failed. In 1969 and 1970 single birds only were seen. J. Graham has also informed me verbally that a second breeding site was used by a single pair in some seasons before 1939.

Ireland

The main colony, in Co. Mayo, was first discovered in 1900 and breeding proved in 1902. Some 50 pairs were present in 1905 and about 40 in 1929. Numbers decreased gradually until 1966, however, when there were only one to three pairs. Two smaller colonies existed in the same county, but were abandoned by 1944, and the only other Irish breeding records concern single pairs of Red-necked Phalaropes seen on an island off Co. Donegal from 1916 and proved nesting there in 1924 and 1927, probably also in 1929, and on the mainland near-by from 1930 to 1934 (Kennedy *et al.* 1954, Ruttledge 1966). A sudden increase at the Mayo colony in 1967 was sustained in 1968 when at least 14 adults and ten young were seen; the position was similar in 1969 with 12 to 14 adults seen, three nests known and eight young reared, but in 1970 the number of adults doubled to between 25 and 30, though still only eight or nine young were seen.

REASONS FOR DECLINE AND PRESENT THREATS

In the absence of complete historical information on breeding populations and habitat changes at colonies, and without a full understanding of the ecological requirements of the species, any reasons postulated for the decline in the numbers of Red-necked Phalaropes in Britain and Ireland must be largely speculative. It is not known whether any environmental factors have been involved, but it is possible to make some general comments from the information available.

During the 19th century Red-necked Phalaropes were confined as breeding birds to Shetland, Orkney and the Outer Hebrides. There are too many gaps in the records to enable a complete estimate to be made for any one period, but at its peak the population must have been considerably greater than at present: for example, Gray's estimate in 1871 of 40 to 50 pairs in the Outer Hebrides alone is about the same as

the average total in all areas of Scotland and Ireland in 1968-70. Later, a decline took place and, while its extent is unknown, much of the older literature supports Parslow's conclusion that this was largely due to collecting. Conversely, an apparent slight increase in Shetland, Orkney and the Outer Hebrides in the first decades of the 20th century was probably associated with protection measures, but the grand total was considerably swollen in 1900-02 by the discovery of a large colony in Ireland and a very much smaller one on Tiree. By the 1920's at least 100 pairs were known in the five regions. In the 1940's, however, largely due to the decline of the Irish population, the grand total had fallen to roughly 70 pairs and by the years immediately preceding the present survey a decrease in the Outer Hebrides and in part of Shetland, though to some extent offset by the founding of a small colony on the Scottish mainland, brought a further drop to approximately 55 pairs.

The Irish decline from the early 1930's has been attributed largely to collecting (Kennedy *et al.* 1954), but reserve protection from 1937 did not produce any revival and the reasons for the sudden increase from 1967 are unknown. There is little information for Orkney where numbers are very low following what appears to have been a gradual decrease since the 1920's. On Tiree a few pairs have bred with mixed success since 1902, but it would be premature to say that the colony was near to extinction despite the recent survey results.

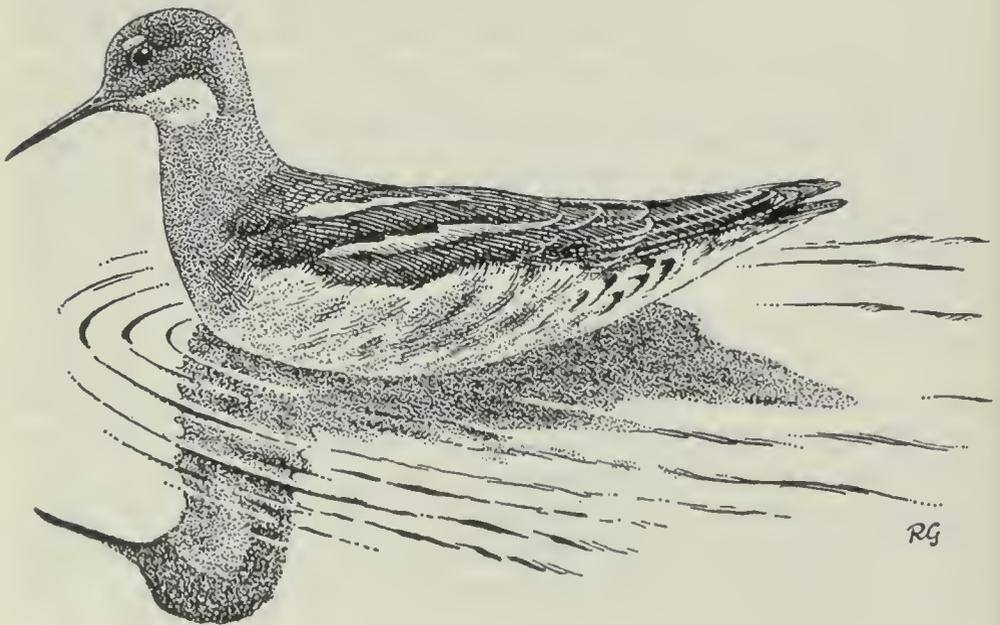
In Shetland there have been two partial declines, on Unst during the 19th century and on Mainland in recent years. The population on Fetlar has remained fairly stable since at least the 1940's, but earlier numbers are not known. It is even possible that the colonisation there was connected with the decrease on Unst: on both islands relatively large nesting groups have been associated with flooded peat diggings, and it may be that the population moves from one area to another as the older workings become progressively more overgrown. Further research into this aspect of phalarope ecology is planned following preliminary observations by A. R. Mainwood during 1970. The reasons for the recent decline on Mainland are not fully understood, but human disturbance may have been significant at the best-known site.

In the Outer Hebrides numbers were probably fairly stable from about 1910 to 1960 (see table 3), although at a lower level than in the mid 19th century, but there has been a noticeable decline in the number of breeding pairs there during the last decade. One important area on South Uist has been extensively drained, while drainage on North Uist has resulted in the disappearance of one traditional site and a reduction in size of another. On Benbecula many of the old-established sites are linked to a single drainage system and in the last 20 years irregular changes in local land use have led to considerable varia-

tions in water levels, effectively reducing the number of potential breeding areas in most seasons (Dr J. W. Campbell *in litt.*). Large-scale drainage remains a threat in the Outer Hebrides where it could now reduce the population still further, especially on South Uist. On Tiree the gradual drying out of a small but important phalarope pool may well have accounted for recent failures to breed there. Conversely, flooding is also a potential hazard at most colonies, including the largest of all on Fetlar.

Almost all phalarope pools and their edges are extensively used by drinking and grazing cattle, and the accidental damage and disturbance thus caused is listed as an important threat in most of the survey returns. This problem at least could be solved by pursuing the possibility of excluding cattle from vulnerable areas (or channelling them to one point only) for the limited period of nesting.

Collecting is probably no longer a major threat and indeed no evidence of any robbing of nests was obtained during the survey. Human disturbance of other kinds is assuming greater importance, however, and serious threats are posed by both birdwatchers and photographers. The problem has become acute at two or three better-known sites, and the contributors to the survey were unanimous in their belief that the situation would be greatly improved by rather more self-discipline and concern for the phalaropes than is shown at present. More reserve protection is very desirable.



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SUMMARY

The Red-necked Phalarope *Phalaropus lobatus* is a Holarctic species with a northern circumpolar breeding distribution and tropical oceanic wintering grounds. A survey of the nesting population in Britain and Ireland was carried out during 1968-70 and the numbers compared with those recorded in the past. Between 28 and 65 pairs were known in six areas in these three years; 1968 was the best with 54 to 65 pairs.

In Shetland phalaropes were numerous in the 19th century, but the first accurate figures were 27 to 34 pairs in 1950; 17 to 45 pairs were located in 1968-70, mostly on Fetlar. In Orkney they were formerly fairly numerous, but since the 1950's only one to three pairs have bred on a single island. On the Scottish mainland the first definite breeding was in 1964, since when two to four pairs have been present. In the Outer Hebrides almost 50 pairs bred in the mid 19th century, and up to 30 until about 1960; in 1968-70 two to eight pairs were known, mainly at two sites. On Tiree, colonised in 1902, up to four pairs bred until 1939 but not more than two recently; there nesting was unsuccessful in 1968 and only single birds were seen in the other two years. In Co. Mayo, where breeding was also first proved in 1902, 50 pairs were present in 1905, but numbers decreased from the 1930's to between only one and three in 1966; on the other hand, there has been a considerable increase since 1967 and 25 to 30 adults were present by 1970. Past breeding at other small Irish colonies is described.

The shortage of historical and ecological data renders any assessment of fluctuations speculative, but it seems that the 19th century population, confined to Shetland, Orkney and the Outer Hebrides, declined largely as a result of collecting. Numbers improved after 1900 and, with the addition of a few on Tiree and a large new Irish colony, reached at least 100 pairs in the 1920's. In the 1940's, following a decline in Ireland which was probably caused by collecting, roughly 70 pairs were known. During 1960-70 a fall in numbers in the Outer Hebrides was largely due to drainage and a decline in part of Shetland may have been caused partly by human disturbance. There is possibly a correlation between habitat changes in old peat diggings and the numbers in parts of Shetland. The reasons for an increase at the Irish colony since 1967 are unknown. Present threats to the species include drainage and flooding, accidental damage by cattle, and birdwatching, photography and other forms of human disturbance.

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Scarce migrants in Britain and Ireland during 1958-67

J. T. R. Sharrock

Part 6 Greenish Warbler and Scarlet Rosefinch

This series now turns to two species which, within Europe, are largely confined to the area south and east of the Baltic (north Germany and Poland, the Baltic States, south Finland and Russia), but whose breeding distributions extend almost across the Palearctic; they have in common, too, a tendency to westerly range expansions in the last 30 years or more. For comparison, the rather fewer records of a third species with a more northerly distribution in Fenno-Scandia, and thence also right across the Palearctic, are briefly considered at the same time. The general introduction to the series (*Brit. Birds*, 62: 169-174) remains an essential background, giving the sources of bias in the data presented here and in the previous five papers (*Brit. Birds*, 62: 169-189, 300-315; 63: 6-23, 313-324; 64: 93-113).

Greenish Warbler *Phylloscopus trochiloides* (and Arctic *P. borealis*)

There was only one record of a Greenish Warbler in Britain and Ireland before 1945 (see *The Handbook*), but then eleven in the next 13 years and no fewer than 46 during 1958-67. The increase in the number of observers, the improvement in their ability to identify difficult warblers and the spread of trapping and ringing must all be borne in mind, but, as Ferguson-Lees (1955) and Williamson (1962) have both pointed out, the rise in the records has coincided with a westward range expansion in Europe (Valikangas 1951a and b, also Palm 1952, Lundberg *et al.* 1954, Merikallio 1958, Mikelsvaar 1963, Veroman 1963, Norregaard 1964, Borgström 1967, etc.).

Greenish Warblers were recorded in every month from June to January during the ten years, but most were in September or October and more than three-quarters during the ten weeks from 27th August to 4th November (fig. 80). Few were recorded in spring and summer, there having been only three in June (two in Yorkshire and one in Kent) and one in late July (Isle of Man) before the autumn arrivals in August onwards. Surprisingly, in view of the fact that the normal wintering area is India, there were two winter records in the ten years—1st January to 26th February 1961 in Middlesex and 20th December 1964 to 15th January 1965 in Scilly—and no fewer than three more in December 1968. At least one has also been identified on the Continent in winter, in Switzerland in January 1960 (Roux 1960).

The geographical distribution of the August-November records (fig. 81) shows a scatter along the British east and south coasts, but the main concentrations were in Norfolk and Sussex (four each), Scilly (six) and Co. Cork (seven). In view of the north-east European breeding distribution (fig. 82) and eastern primary standard direction towards the Indian wintering area, it is surprising to find that as many as 45% of the autumn records were in western areas (south-west England, Wales and Ireland). Rabøl (1969) has already shown that occurrences in the south-west are later than those in the north and east and this was demonstrated during the ten years by the fact that 66% of those in south-west England, Wales or Ireland occurred in

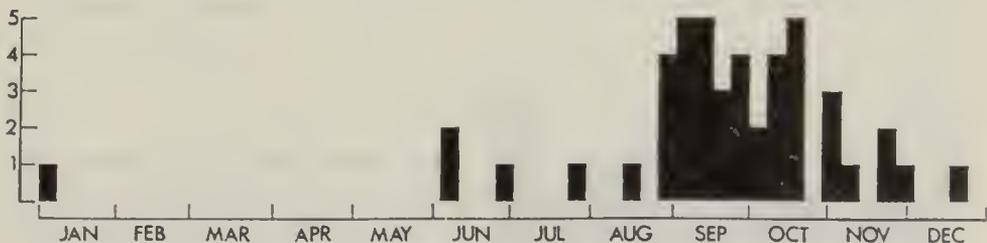


Fig. 80. Seasonal pattern of Greenish Warblers *Phylloscopus trochiloides* in Britain and Ireland during 1958-67

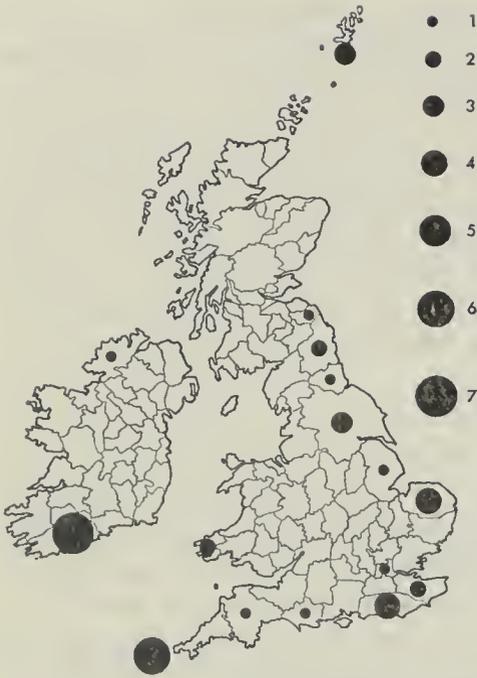


Fig. 81. Distribution by counties of August-November Greenish Warblers *Phylloscopus trochiloides* in Britain and Ireland during 1958-67



Fig. 82. European distribution of Greenish Warblers *Phylloscopus trochiloides* with the breeding range of this summer visitor shown in black (reproduced, by permission, from the 1966 edition of the *Field Guide*)

October or November, whereas 73% of those elsewhere were in August or September. The number each autumn (fig. 83) varied from two to seven and no clear pattern emerges. The ages of only three first-year birds in autumn and an adult in June have been published; only one female was sexed.

In late autumn the problem of identification of Greenish Warblers is complicated by the presence of small numbers of northern and eastern Chiffchaffs *Phylloscopus collybita* of the races *abietinus*, *fulvescens* and *tristis*, which in the field sometimes appear to have small pale wing bars (R. H. Dennis in preparation). The fact that 55% of the earlier Greenish Warblers in August-September have been trapped (and, therefore, the identification confirmed in the hand), as against

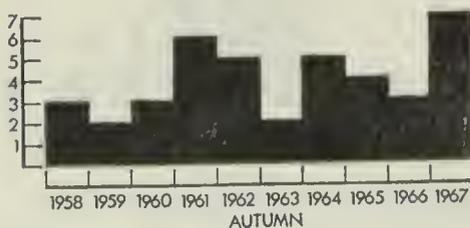


Fig. 83. Annual pattern of August-November Greenish Warblers *Phylloscopus trochiloides* in Britain and Ireland during 1958-67

only 17% of the later ones in October-November, has led to speculation whether a number of the latter may have been the result of misidentification of Chiffchaffs with wing bars. This error has certainly occurred on more than one occasion, being rectified after further observation or subsequent trapping, and must clearly be borne in mind. On the other hand, it should not be forgotten that these late individuals have occurred mainly in south-west England and Ireland at localities where recording is traditionally concerned more with observation than with trapping: taking Yellow-browed Warblers *P. inornatus* in 1958-62 as an example, 42% of those in eastern Britain were trapped, compared with only 17% in south-west England and Ireland. While the higher proportion examined in the hand in eastern Britain must make the identification of Greenish Warblers there more positive, all the records have been assessed by referees aware of the pitfalls and it is probable that the pattern is genuine.

The pattern is, in fact, common to a number of other eastern and southern species which have records distributed on the east coast of Britain in accordance with arrivals from the east and later appearances in the west of Britain and Ireland in circumstances suggesting arrivals from the south or south-east. Rabøl (1969) has concluded that this can be explained by reversed migration in a westerly direction by a part of the population, followed later either by random dispersal from the main areas of arrival in Scotland and eastern England or by redirection of these same individuals along a southerly standard direction. The latter supposes that the birds which have previously been misoriented through 180° (migrating west instead of east) suddenly assume the southerly orientation which is correct for the latter part of their migration and that those in western Britain and Ireland are derived from the northern part of the breeding range. It seems equally if not more likely that the later individuals in the west are from the southern part of the range farther to the east and that, after reversed migration westwards, they have continued, still misoriented through 180°, by turning north instead of south. 'Eastern' vagrants arrive at the western observatories with southerly or south-easterly winds (e.g. Williamson 1960) and on meteorological grounds appear unlikely to be ones which have dispersed after earlier arrival in Scotland and eastern England.

Arctic Warblers have a more northerly breeding range than Greenish Warblers, and Rabøl (1969) has demonstrated that they have a more northerly vagrancy pattern in Britain and Ireland. The 29 in Britain and Ireland in the ten years were all recorded between 14th August and 12th October and more than three-quarters in the 25 days from 28th August to 21st September. As high a proportion as 58% occurred in Scotland, mainly Shetland (fig. 84), compared with only 10% of the autumn Greenish Warblers. As well as having a more northerly dis-

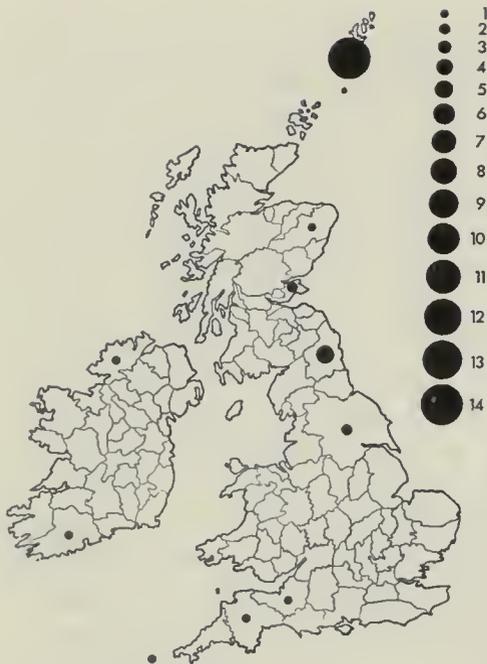


Fig. 84. Distribution by counties of Arctic Warblers *Phylloscopus borealis* in Britain and Ireland during 1958-67

tribution on the British east coast, the Arctic Warblers also differed in that only 17% were recorded in western Britain and Ireland, compared with 45% of the Greenish Warblers. Neither of Rabøl's two alternative explanations for the late south-western birds takes account of this discrepancy, for both random dispersal and southerly orientation of those in the north should result in a higher percentage in the south-west at a later date, but northerly reversed migration following westerly reversed migration by individuals from the southern part of the breeding range more readily explains the difference. This modification does not alter in essence the important contribution of the main hypothesis put forward by Rabøl (1969).

Scarlet Rosefinch *Carpodacus erythrinus*

Unlike Greenish Warblers, Scarlet Rosefinches (formerly known as Scarlet Grosbeaks) have for some time been recognised as irregular autumn visitors, mainly to Fair Isle, Shetland (see *The Handbook*). A total of at least 91 was recorded during 1958-67. Seven were in spring (2nd May to 12th June) and at least 84 (92%) in autumn (mid-August to October); 87% of those in autumn were concentrated in just six weeks from 27th August to 7th October (fig. 85). The occurrence of seven in spring in ten years is noteworthy as there had previously been only one reliable spring record (2nd April 1926 on Fair Isle). Of those in spring, four were in Shetland and one each in Kent, Pembrokeshire and Yorkshire. Two-thirds (at least 56) of the autumn birds were in Shetland, five each in Orkney, Fife and Yorkshire and

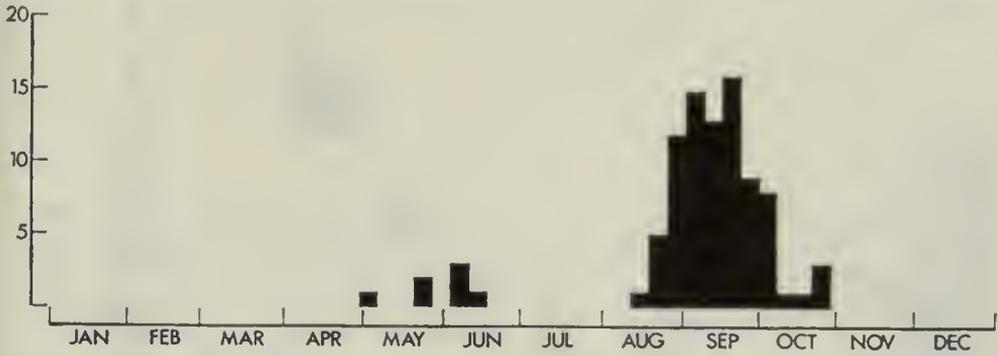


Fig. 85. Seasonal pattern of Scarlet Rosefinches *Carpodacus erythrinus* in Britain and Ireland during 1958-67

only one to three in eight other counties (fig. 87 overleaf).

The numbers of Scarlet Rosefinches each autumn varied from two to ten during 1958-65 and then there were 16 in 1966 and at least 17 in 1967 (fig. 86); the spring records were all from 1963 onwards. The recent increases in both spring and autumn may reflect the species' continuing westwards spread in Europe (e.g. Merikallio 1958, Józefik 1960, Turcek 1962-63). Ferguson-Lees and Wallace (in Smith 1968), as well as drawing attention to the rise in the number of records, also noted that more than previously were away from Shetland and Orkney and that a higher proportion was now occurring later than the time of the former peak in August and early September. They suggested that Scarlet Rosefinches from populations farther east were now included, though they also considered the possibility that escapes from increasing importations of cage-birds might be obscuring the picture. The escape question must always be borne in mind (see Goodwin 1956, Smith 1967, Scott 1969), but the age pattern of the records seems to militate against this being a serious problem. All but two of those recorded in the ten years were either females or first-year males, which are almost indistinguishable (Williamson 1962), the only two adult males having been on 2nd May 1966 in Kent and on 15th

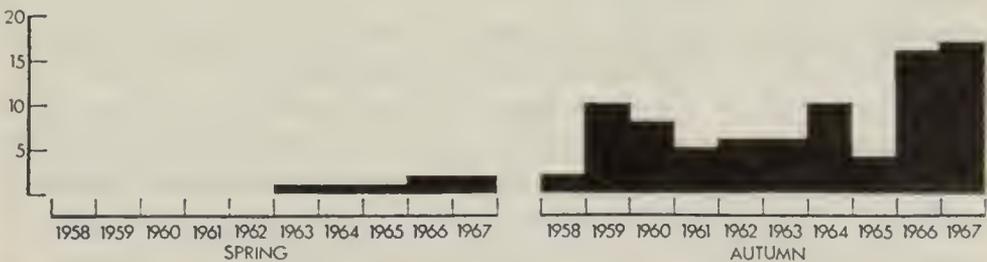


Fig. 86. Annual pattern of Scarlet Rosefinches *Carpodacus erythrinus* in Britain and Ireland during 1958-67 with the spring and autumn records shown separately

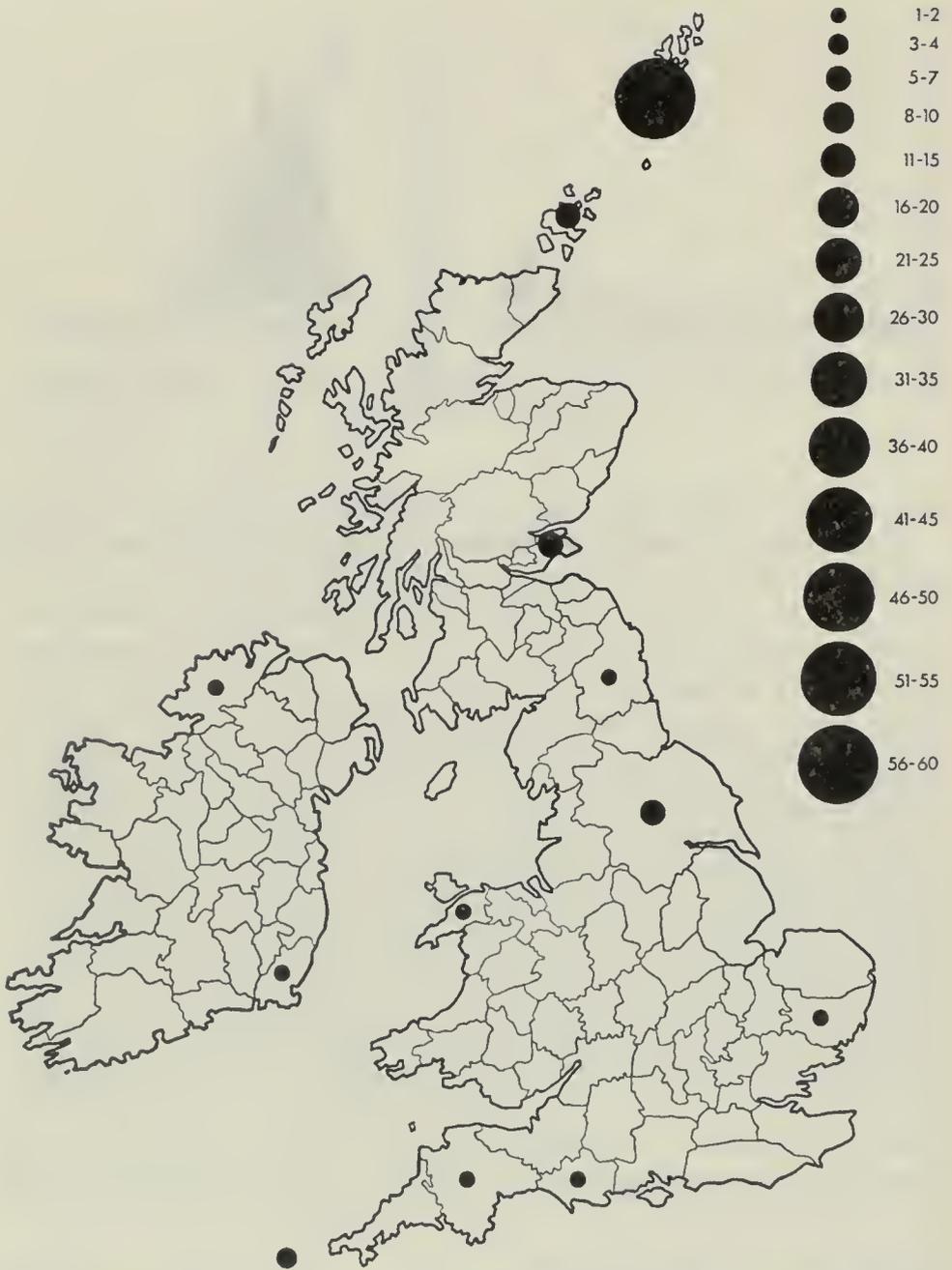


Fig. 87. Distribution by counties of autumn Scarlet Rosefinches *Carpodacus erythrinus* in Britain and Ireland during 1958-67

September 1966 in Shetland. This situation—quite different from that of, for example, the Red-headed Bunting *Emberiza bruniceps*, adult males of which greatly outnumber females (Ferguson-Lees 1967)—suggests that most of the records refer to wild birds.

Even though only small numbers are involved away from the Northern Isles, it is noteworthy that, whereas 80% of the 66 autumn

Fig. 88. European distribution of Scarlet Rosefinches *Carpodacus erythrinus* with the breeding range of this summer visitor shown in black (reproduced, by permission, from the 1966 edition of the *Field Guide*)



birds in Scotland in the ten years occurred before 17th September, exactly 50% of those on the English east coast (eight) and in south-west England, Wales and Ireland (ten) were recorded after that date. This pattern of later occurrence in the south-west is what one has come to expect, since it is exhibited by almost every vagrant passerine species from the east.

Nisbet (1962) has shown that arrivals of Scarlet Rosefinches at Fair Isle are very strongly associated with low temperatures and northerly winds in Germany and has suggested that the birds reach Fair Isle after flying westwards round the northern sides of depressions centred over southern Scandinavia. Dolnik and Shumakov (1967) found that Scarlet Rosefinches transported eastwards and tested in Kramer cages showed reorientation towards their winter quarters and also reversed reorientation (see discussion by Evans 1968). The European breeding distribution (fig. 88) is almost the same as that of the Greenish Warbler and their ranges farther east are also similar (Voous 1960); both are more southerly than the Arctic Warbler and yet the distribution pattern of vagrant Scarlet Rosefinches in Britain and Ireland is far more akin to that of Arctic than Greenish. This may be explained by the fact that the wintering area of Scarlet Rosefinches extends as far west as Iran and the standard direction is south-easterly—as against ESE or east at first, followed by south, in the cases of both Greenish and Arctic Warblers, which winter no farther west than India. Reversed migration along a north-east course would be a satisfactory explanation of the extraordinarily high concentration of records in the Northern Isles.

Franklin's Gull in Hampshire: a species new to Britain and Ireland

D. F. Billett and P. J. Grant

Plates 50-51

At 16.40 on 21st February 1970 J. T. Smith and D.F.B. were at the southern tip of Farlington Marshes, Hampshire, when a small, dark-winged gull approached low along the shore and settled immediately in front of them about 100 yards away. They were able to watch it for about ten minutes before it circled and flew off. During this time it made several short flights of a yard or two when harassed by Black-headed Gulls *Larus ridibundus* near-by. Several features suggested that it was something unusual. It was slightly smaller than the Black-headed Gulls and its mantle was rather dark grey. Its bill was short, stout and blackish; its dark red legs were also short and this accentuated a hunched appearance. The bird had an incomplete black hood and was presumably acquiring summer plumage. In flight its tail appeared pale grey down the centre, contrasting with a pure white rump. Most startling of all, however, was its wing pattern in flight: a rather small black tip, with a white terminal spot or spots, separated from the dark grey of the remainder by a broad white area across the primaries which joined a continuous white border along the trailing edge.

Both observers had previously seen the first-winter Laughing Gull *L. atricilla* which stayed in the Weymouth area of Dorset from 17th February to 6th October 1969 (*Brit. Birds*, 63: 279, plate 50) and at first they thought that this might be an adult or near-adult of that species. These suspicions were quickly dispelled, however, when they both remarked on the evident structural differences of the bird at Farlington. The Laughing Gull had been nearer in size to a Common Gull *L. canus*, certainly larger than a Black-headed, and because of its long legs had stood higher than either species. Its bill, too, had been noticeably long and stout. Unless there was an improbably great variation in structural features of Laughing Gulls, they were certain that this must be a different species. The conditions for observation and comparison with other gulls were ideal and the observers were confident that they would be able to make an identification from the appropriate literature. Albrektsson and Lindberg (1967) briefly described the field-characters of the adult Franklin's Gull *L. pipixcan*

and this appeared to fit precisely; more detailed works of reference, particularly Dwight (1925), confirmed this identification and it was possible to determine the age as second-winter or older. This was the first record of the species in Britain and, indeed, anywhere in the Old World.

The Franklin's Gull was not located again until 1st March, but it was then seen regularly in the area of Farlington Marshes until 16th May. News of its presence soon spread and Farlington quickly became an essential destination for birdwatchers from all over Britain: during the following weeks many hundreds must have gone there, including P.J.G. who was able to make very detailed sketches and notes. The bird seemed to establish a regular pattern of movement during the daytime: with other local gulls it would visit a marsh lagoon during the early morning, then move a short distance inland to a feeding area of playing fields, rough pasture and adjacent factory sites, and in the evening again visit the lagoon where it would bathe and preen before flying off in a south-westerly direction. Where it roosted was never discovered.

IDENTIFICATION

J. B. and S. Bottomley's excellent photographs (plates 50-51), which were taken on 19th March, should be compared with their shots of the first-year Laughing Gull in Dorset (*Brit. Birds*, 63: plate 50) and with those of adult and immature Laughing Gulls by Allan D. Cruickshank and Peter Lindberg (*Brit. Birds*, 60: plates 17-19). The smaller size and shorter bill and legs of the Franklin's have already been referred to: these structural differences would be particularly important in the separation of immatures, which are more difficult to distinguish on plumage features alone. The adults of the two species have more striking distinctions. The pale grey centre to the otherwise white tail, just visible in plate 50, is not shared by adult Laughing Gulls and, indeed, is unique among adult gulls, but by far the best feature for separating the adults in the field is the upperwing pattern. The dark grey of the Laughing Gull's inner wing shades evenly to the black wing tips, and the only white areas are a prominent white line along the trailing edge and some small white terminal spots on the primaries, the latter often missing in worn plumage. In Franklin's Gull the white trailing edge to the wing leads into a white band extending across the primaries and separating the black wing tips from the dark grey of the inner wing; this distinctive pattern can be seen in plates 50 and 51. Dr Kenneth C. Parkes of the Carnegie Museum, Pittsburgh, Pennsylvania, has however stated (*in litt.* to P.J.G.) that a good series of skins of breeding Franklin's Gulls from Saskatchewan shows that the actual extents of the white area across the primaries and of the black on the wing tip are extremely variable and that this

apparently has no correlation with age among individuals in their second summer and older. He has also noted that the white terminal spots on the primaries, though usually more extensive in this species than in the Laughing Gull, are subject to substantial wear in spring. This latter point is of interest because, when discovered in February, the Franklin's Gull at Farlington clearly showed white tips to the outer primaries and, although these were still present at least until 8th March, they had disappeared by the 19th when the photographs were taken. This alteration in the wing pattern through wear continued and by 16th May even the black ends to the wings had almost completely vanished, apart from a very small tip to one primary on each side.

The wings, as noted in the field, were rounded at the tip and rather broad, like those of a Common Gull, but the flight action appeared weak and rather faltering, with quick beats and angled wings rather reminiscent of a Kittiwake *Rissa tridactyla*. It has been suggested that this action may have been purely the result of sickness or the abraded state of the wings rather than a true field-character of the species.

MOULT

At the beginning of March the Franklin's Gull began to show an uneven line to the trailing edge of the midwing, suggesting that it might be undergoing a moult of the outer secondaries, and at the same time two whitish patches appeared on the upper surface near the carpal joint, presumably caused by moult of some of the median coverts. By early April the mantle and wing coverts were in heavy moult. These observations were of particular interest as Franklin's is the only gull (with the possible exception also of Sabine's Gull *L. sabini*) known to have a *complete* moult twice yearly, in spring and autumn (others moult the wing and tail feathers once a year only, usually in autumn). No further signs of moult were noted, however, and the bird did not appear actually to renew any wing or tail feathers during its stay, the wings becoming more and more abraded. Incidentally, plate 50 clearly shows that the tip of the upper mandible was damaged; this injury seems to have been sustained after the bird arrived as J.T.S. and D.F.B. clearly noted a hooked tip to the bill when they first saw it on 21st February.

DISTRIBUTION

Franklin's Gull breeds colonially around lakes in the central plains of North America, from Iowa and South Dakota northwards to southern Manitoba, Saskatchewan and Alberta. The choice of breeding site varies for no apparent reason from year to year and the size of a colony can fluctuate dramatically from none at all in one season to several thousands in the next. It is the only species of gull regularly breeding

in the northern hemisphere and migrating to winter quarters south of the equator. Although a few winter in the Gulf of Mexico and the Caribbean, and on the west coasts of Mexico and Guatemala, the main wintering area is much further south, on the Pacific coast of South America from Peru to southern Chile. On its spring migration northwards the average arrival dates for various localities are given as: Minnesota, 4th April; Manitoba, 25th April; and Saskatchewan, 3rd May. In autumn the return migration is more erratic, but the first ones usually appear in Chile during September. There are also casual records from Hawaii and the Galápagos Islands in the Pacific, from the West Indies, and from the Atlantic coast of the United States (Bent 1921, Dwight 1925).

ARRIVAL IN BRITAIN

Any discussion under this heading can, of course, be no more than speculative. In itself the occurrence of a Franklin's Gull in Britain is remarkable enough, considering its comparative rarity on the Atlantic coast of North America. The fact, however, that the one at Farlington apparently arrived in winter suggests that it had originated from further south, perhaps from the parts of its winter range in the Caribbean or Gulf of Mexico. Also, vagrancy would be more likely at that time of year as a result of the natural tendency of gulls to wander widely during the winter months. It is possibly no more than coincidence that there were strong south-westerly gales along the British south coast in the week preceding the first sighting of the bird at Farlington, although these could well have contributed to its arrival. Another sighting of a Franklin's Gull in Britain 55 miles to the east at Arlington Reservoir, Sussex, on 4th July 1970 (see 'Recent reports' in *Brit. Birds*, 63: 352, and subsequently accepted by the Rarities Committee) was no less remarkable; it was in fresh adult plumage, with full black wing tips and white terminal spots and, although it seems likely to have been a different individual from the one at Farlington, it is possible that the latter may have completed a wing moult between mid May and July.

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Studies of less familiar birds

166 Caspian Tern

I. J. Ferguson-Lees

Photographs by J. B. and S. Bottomley

Plates 45-48

The Caspian Tern *Hydroprogne tschegrava* appeared in this series as long ago as 1954 (*Brit. Birds*, 47: 393-394, plates 61-64) and we are glad to reproduce these fine photographs taken by Mr and Mrs Bottomley in Finland (with great assistance from Dr G. Bergman, to whom they are indebted). The Bothnian and Baltic coasts of Finland and Sweden are now the species' European stronghold, though even there it is hardly abundant. For example, there was a big increase in Finland between 1938 and 1958 from 200 to 700 pairs (E. Merikallio, 1958, *Finnish Birds: Their Distribution and Numbers*: 86-87), but that seems to have remained the figure for the next decade (M. Soikkeli, *Orn. Fenn.*, 47: 177-179). The other main breeding areas in Europe are the Black Sea coast of Romania and Russia. It has nested in the past in Estonia, Denmark, Corsica, Sardinia and Jugoslavia, and there is still the possibility that odd pairs breed on the coasts of Iberia. In 1956 a pair summered without nesting on an artificial sandy island in the Netherlands (C. G. B. ten Kate, *Limosa*, 29: 140-143). Outside Europe, the species has an almost cosmopolitan but patchy range in Asia, Africa, Australasia and North America.

Plates 46 and 47a give an impression of the general pattern and heavy head and bill. At about 21 inches long, this species is almost the size of a Herring Gull *Larus argentatus*. Its flight is stronger and heavier than most terns', though still buoyant and graceful, and it soars high in the air like a gull on its large wings. In winter there is no white forehead; instead, the whole crown is closely streaked with black and looks dark grey at a distance, apart from a blackish mark under and behind each eye. Juveniles have a similarly streaked crown, some mottling on the upperparts and a more orange bill. The Caspian Tern can hardly be confused with any other species. The most likely is the Royal Tern *Sterna maxima* of North and Central America and West Africa, which has recently been recorded in Spain, as well as once each in Ireland (Dublin) and England (Kent), but that is smaller with a slenderer and more yellow-orange bill.

The Caspian Tern is primarily a maritime species, but in North America and the steppes of western Asia it also breeds inland by large lakes, and it occurs regularly inland on rivers and open sheets of water. It breeds mainly on small sandy or rocky islands, shell-

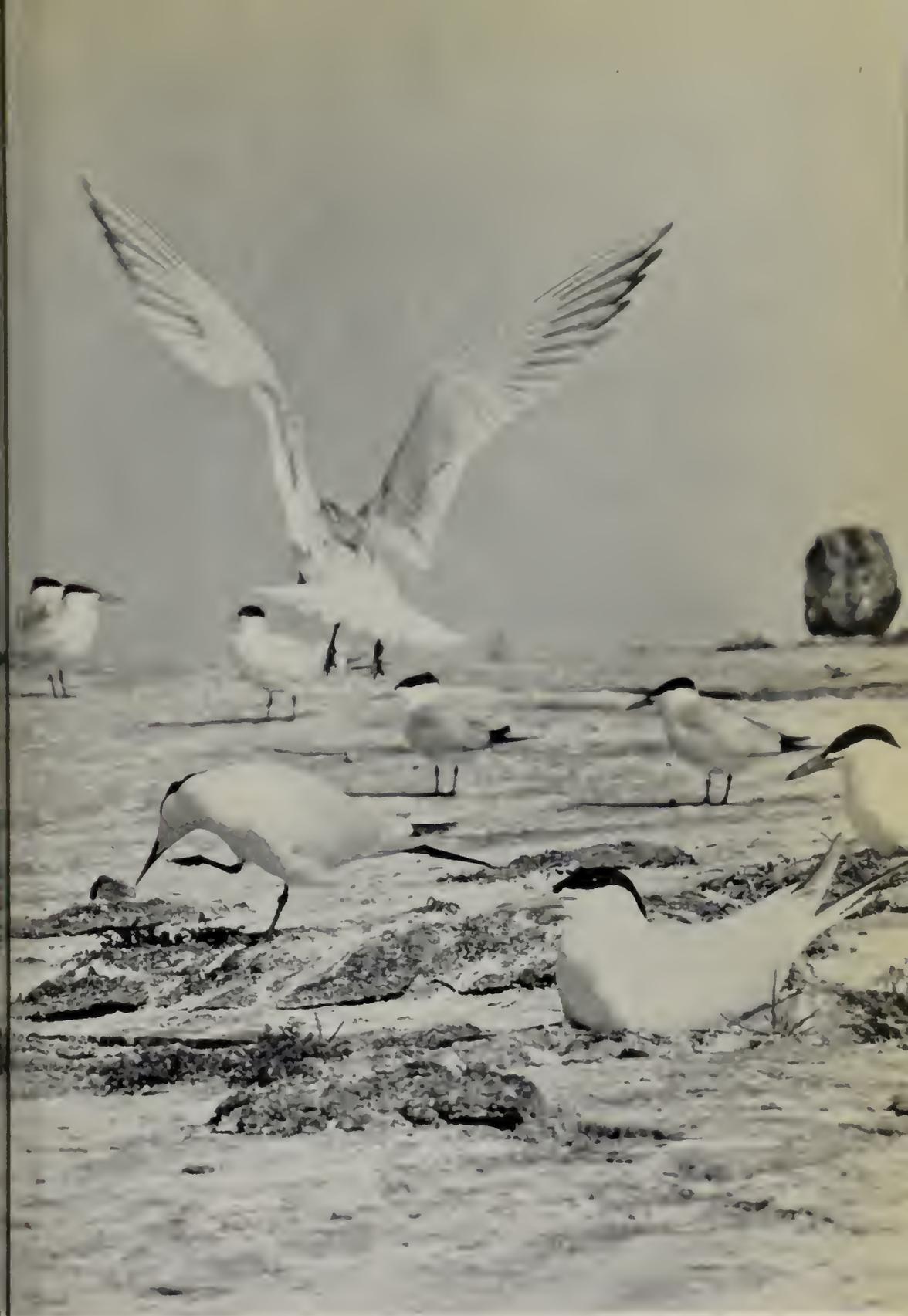


PLATE 45. Part of a colony of 63 pairs of Caspian Terns *Hydroprogne tschegrava*, Finland, June 1970. The Baltic coasts are now the European stronghold. Note the dark tips of the one landing, but it is the blackish undersides of the primaries which are characteristic; the tail is so little forked as to appear rounded when spread. Nests are rough scrapes (pages 314-316) (photo: J. B. and S. Bottomley)



PLATE 46. Caspian Terns *Hydroprogne tschegrava*, Finland, June 1970, showing the huge bill (of glistening orange-red), longish black legs, black crown extending below the eyes, and crested nape; the mantle and wings are ashy, and underparts white; size is near to Herring Gull (page 314) (photos: J. B. and S. Bottomley)





PLATE 47. Above, another close-up and, below, wider view of part of the colony. Several thousand Caspian Terns have been ringed in Finland and the hundreds of recoveries show a broad path south across Europe and then westwards along the southern shores of the Mediterranean (page 316) (*photos: J. B. and S. Bottomley*)





PLATE 48. Nests of Caspian Terns *Hydroprogne ischegrava*, Finland, June 1970. The 2-3 eggs (one chipping here) are stone-buff to olive marked with blackish-brown and underlying grey. The chicks are buffish-grey speckled blackish, and whiter below but for dusky chins and throats (page 315) (photos: J. B. and S. Bottomley)





PLATE 49. Above, juvenile Common Sandpiper *Tringa hypoleucos* and, below, autumn adult, Lincolnshire, August 1970: note different wing-coverts. Compare earlier photos of a young Spotted Sandpiper *T. macularia* (plates 18-19a) with the above rather than with the adult Common on plate 19b (pages 318-319) (photos: K. Atkin)





PLATE 50. Adult Franklin's Gull *Larus pipixcan* assuming summer dress, Hampshire, March 1970 (present February to May). Its smaller size, smaller (blackish) bill, shorter (dark red) legs, grey-centred tail and diagnostic wing pattern separate it from adult Laughing Gulls *L. atricilla*. Note the broken bill tip, the extent of the hood which becomes black, the white marks round the eye, the dark (blue-grey) mantle, and the white near the ends of the black-tipped primaries. This was the first recorded in Europe (pages 310-313) (photo: J. B. and S. Bottomley)



PLATE 51. Above, same bird in flight, showing the white trailing edge leading into a white band across the primaries, which separates the black tip from the dark grey of the rest of the wing. Below, the Franklin's Gull (front right) is smaller than a Black-headed *L. ridibundus* (left) (photos: J. B. and S. Bottomley)





PLATE 52. Grasshopper Warblers *Locustella naevia* at a nest inadvertently exposed and damaged by a forester during scrub clearance, Somerset, July 1970. The nest even had to be replaced by another from near-by, from which a brood had already flown. Despite all this, these young fledged successfully. Note the adults' worn tails, the chicks' tongue spots and the structure of the nest (built largely of grasses on a foundation of dead leaves) (pages 320-321) (photo: G. H. E. Young)

banks and sandy, muddy or pebbly shores, generally with little vegetation. Colonies in California have been found on earth dykes round saltpans (e.g. *Condor*, 33: 188; 45: 220; 56: 109). Few European colonies exceed 100 pairs, though one at Kirkkonummi, Finland, was regularly of 180-210 pairs in the 1950's (Merikallio). In America, however, much larger colonies have been recorded, up to an estimated 1,000-1,500 pairs (N. A. Wood, 1951, *The Birds of Michigan*); even so, the average of those on the Great Lakes during 1962-64 was only 151 (J. P. Ludwig, *Bird-Banding*, 36: 217-233). Large colonies may be densely packed with nests as close as 21 inches. Also characteristic, on the other hand, are solitary pairs and groups of two or three: these may be isolated or more rarely in colonies of other species, such as Ring-billed Gulls *Larus delawarensis* (O. S. Pettingill, *Jack-Pine Warbler*, 36: 183-184) or Black Skimmers *Rynchops nigra* (G. E. Woolfenden and J. A. Meyerriicks, *Auk*, 80: 365-366).

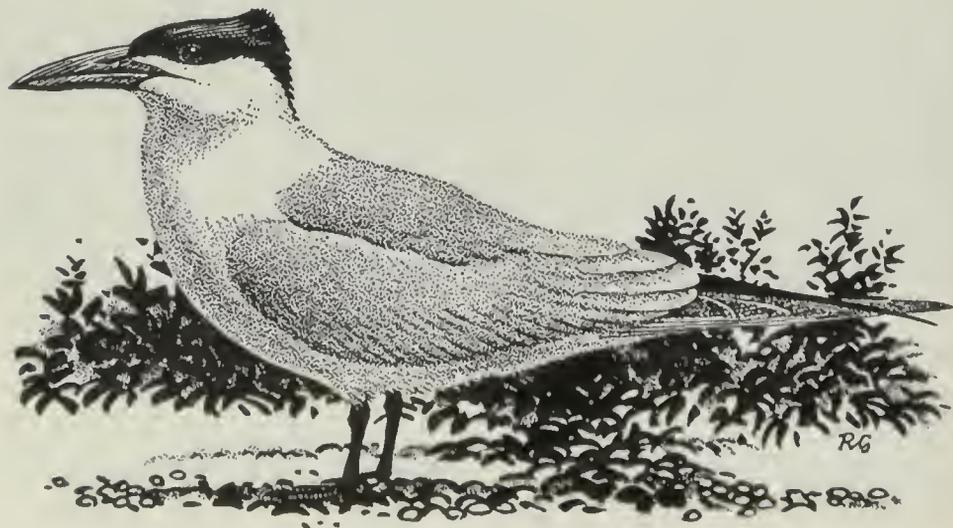
The nest itself is often an unlined scape in sand or pebbles, but sometimes a scanty lining of grasses, twigs, bits of shell and other local materials is added. The usual clutch is two or three (rarely one or four), three being commoner farther north: the average of 225 clutches on the Great Lakes was 2.81 (Ludwig). The eggs, as big as those of Cormorants *Phalacrocorax carbo*, are briefly described on plate 48a. Both sexes incubate; the period is given in *The Handbook* as 20-22 days, but subsequent studies show that 25-26 days is more correct. Small chicks can be seen on plate 48b. Dr G. Bergman, who has made a study of the Caspian Tern in Finland (e.g. *Acta Zool. Fenn.*, 77: 1-50), recorded the development of young in captivity: the first seven days were spent in or close to the nest; from eight to 30 days they lived within a territory of about ten square metres; from 31 days they moved down to the water's edge and were able to fly at 37 days, becoming independent at 60 days, their ability to fish for themselves then developing rapidly (*Vår Fågelvärld*, 15: 223-245).

The chief food of the Caspian Tern is fish and *The Handbook* particularly mentions Herrings *Clupea harengus*. In California, from a study mainly of pellets, it was found that 19 species of fish were being taken, but 76% were Shiner Perch *Cymatogaster aggregata* (E. Martini, *Bonn. Zool. Beitr.*, 15: 59-71). Similarly, 74% of prey at the Great Lakes in 1963-64 were Alewife *Alosa pseudoharengus* (Ludwig); 20 years earlier the common food there had been a species of lake herring *Leucichthys artedi* which has since greatly decreased through overfishing by Man. Caspian Terns fish mostly in deep water, flying at a height of three to ten metres with beaks pointing down, and then plunging vertically in and submerging completely. In the shallow waters of the French Camargue, however, fishing with little or no submergence was described by A. Suchantke (*Alauda*, 28: 38-44). It is frequently stated that Caspian Terns will take eggs and young

of other birds, but first-hand records seem to be few. On the other hand, they will rob other terns and small gulls in flight and settle on water to feed on ships' refuse. One in America was found eating a 36-inch Cottonmouth Snake *Agkistroon piscivorus* that had been killed on a road (R. L. Cunningham, *Wilson Bull.*, 78: 319).

Some populations of Caspian Terns are sedentary, but the northern ones migrate south for the winter. Immatures spend their first year in the wintering areas (Ludwig). Intensive ringing in Sweden and Finland had established the migration pattern of the Baltic population. (Up to 1966, 6,963 had been ringed in Finland and 289 of these recovered.) The recoveries show a broad path of movement across continental Europe to Italy and the Balkans, thence westwards along the southern Mediterranean and possibly overland across western Africa: there are concentrations of recoveries in Egypt, Tunisia, Mali, Ghana and Nigeria (Finnish ringing reports *per* R. Hudson). There are also isolated recoveries from the Baltic in west France, Iberia and Syria, while Caspian Terns ringed by the Black Sea have been found in Sicily and Tunisia (N. Mayaud, *Alauda*, 24: 206-218).

In Britain, about 80 Caspian Terns had been recorded to the end of 1970, 46 of them since 1958 and nearly two-thirds of those during 1966-69; most have been in south and east England (and there is only one record each for Scotland and Wales, and one for Ireland), in all months from April to November but now chiefly in June-August. Most of these probably originate from the Baltic, but the only ringed one recovered in Britain, in Yorkshire in August 1939, had been marked in America at Lake Michigan in July 1927 (*Brit. Birds*, 34: 184). Twelve years is not particularly old for this species: Ludwig found the average adult life span to be as high as 8.88 years and both S. H. Low (*Bird-Banding*, 21: 115) and he mentioned several individual recoveries at 20-26 years old.



Notes

Immature Heron disgorging large eel On 6th March 1971 W. Martin-Hurst found an immature Heron *Ardea cinerea* lying on its back in a meadow by the River Usk at Llansantffraed, Breconshire. It was gasping for breath and unable to stand up. He carried it about a mile to his home at Scethrog whereupon the bird suddenly disgorged, tail-first, a large eel weighing exactly one pound and measuring $25\frac{1}{2}$ inches in length, with a maximum diameter of $1\frac{1}{2}$ inches. The Heron, without the eel, weighed 3 lb 9 oz. After resting for a short time in a covered box the Heron became aggressive when approached, and on being released flew off strongly. E. BARTLETT
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Eels are among the normal diet of this species, but the above incident is remarkable for the size of the eel and its effect on the bird. *The Handbook* (3: 129) included a Grass Snake *Natrix natrix* two feet long in a list of recorded food items of the Heron. EDS

Kestrel taking prey from Short-eared Owl On 31st March 1971, at approximately 6.45 p.m., we were watching a Short-eared Owl *Asio flammeus* quartering over dune grassland on Buddon Ness, Angus. On its second stoop the owl caught a small mammal and rose high in the air carrying its prey in one foot. The victim was probably a Short-tailed Vole *Microtus agrestis*: this species was known to be present and, indeed, the remains of one were found in a pellet that same evening. Two Carrion Crows *Corvus corone corone* began to harry the owl which by then had risen to a considerable height. After a minute or two of this, a Kestrel *Falco tinnunculus* emerged from a pine wood near-by and flew at the owl on what appeared to be a collision course. The latter dropped its prey which fell past the attendant crows and was deftly caught by the Kestrel in flight. The whole sequence of events at this stage was so rapid that we were unable to determine the sex of the Kestrel before it returned to the cover of the wood.

Kestrels in this area appear to be opportunist feeders: in 1969 one was flushed from the corpse of an oiled Guillemot *Uria aalge* not far from the site of the above incident, and in January 1971 one was seen hovering over beehives and later perched on the alighting board of a hive.

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There are many references in the literature to one predator robbing another, and some—for example, kites *Milvus*, sea and fish eagles *Haliaeetus*, certain typical eagles *Aquila* and caracaras (Daptriinae), and

the Bateleur *Terathopius ecaudatus*—do this frequently or even habitually. Piratical behaviour is less commonly recorded in falcons, however: for two recent notes, see *Vogelwelt*, 88: 180 (Hobby *F. subbuteo* robbing Kestrel, probably of Common Vole *M. arvalis*) and *Brit. Birds*, 61: 264 (Kestrel robbing Barn Owl *Tyto alba* of Short-tailed Vole, the same prey as in the present note), while two incidents of a rather different nature involving falcons were described in *Brit. Birds*, 50: 353 (Magpie *Pica pica* robbing Kestrel) and *Brit. Birds*, 63: 83 (Hooded Crows *C. c. cornix* robbing Merlin *F. columbarius*). Lastly, a remarkable case of treble piracy is mentioned in *A New Dictionary of Birds* (1964, page 633): a Sparrowhawk *Accipiter nisus* caught a small chat *Saxicola* sp.; a Merlin chased and robbed the Sparrowhawk; a Honey Buzzard *Pernis apivorus* chased and robbed the Merlin; and finally a Peregrine *F. peregrinus* robbed the Honey Buzzard. EDS

Spotted and Common Sandpipers in autumn plumage While one cannot deny the value of J. B. and S. Bottomley's photographs of a Spotted Sandpiper *Tringa macularia* as a further aid to the identification of that species in juvenile plumage in autumn, it is unfortunate that one of an adult Common Sandpiper *T. hypoleucos* was used for comparison (*Brit. Birds*, 64: 124-125, plates 18-19). This tended to over-emphasise the differences and as a result some of the distinctions made were invalid. As D. I. M. Wallace pointed out in his original paper (*Brit. Birds*, 63: 168-173), the differences are slight and apply only to immatures.

During August 1970, I photographed juvenile and adult Common Sandpipers in Lincolnshire (see plate 49). There is clearly a marked difference in appearance between the two age groups. Although the adult (plate 49b) is similar to that on plate 19b, the dark bars and streaks on its upperparts are generally broader and bolder. The juvenile (plate 49a) is quite different, however, most of the feathers of the upperparts having pale tips which contrast with subterminal dark bars to produce an effect similar to that on the immature Spotted on plates 18 and 19a. Most of the distinctions made by Mr Wallace can be seen by comparing these photographs. The Common Sandpiper shows less contrast on the wing-coverts due, as he stated, to the tips being dark brown and buff rather than blackish and greyish-white. Another point to notice on the Common is that the scapulars and tertials are edged and tipped almost as boldly as the wing-coverts, producing a more uniform appearance. The mantle is also finely barred and lacks any noticeable dark shaft-streaks, though the latter are clearly visible on the Bottomleys' Spotted Sandpiper. The throat of the Common shows fine dark streaks, whereas that of the Spotted is unmarked. The Common Sandpiper's breast-patches appear barred or mottled, resembling Mr Wallace's sketch of the Spotted

(fig. 1 on page 170); in all the photographs of the latter, however, this area appears more uniform, and this would seem to be supported by Mr Wallace's text.

The purpose of this note is to prevent observers from submitting records of juvenile Common Sandpipers as possible Spotted Sandpipers. It would now be extremely valuable if the editors could obtain some photographs of adult Spotted in autumn. These could then be compared with available photographs of adult Common Sandpipers and, with the other field-characters detailed by Mr Wallace, it might be possible to determine criteria for separating adults as well as juveniles in autumn.

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Mr Atkin is quite right in drawing my attention to this fundamental mistake and, while apologising to our readers for any confusion that may have arisen, I must also thank him for providing the above clarification so promptly. His photographs and those by the Bottomleys support Mr Wallace's text very well, though further field study of the extent of shaft-streaks on the mantle and the appearance of the chest-patches in juveniles of both species would be valuable. I fully agree with Mr Atkin's closing paragraph (though we are publishing his note and photographs straight away in case any juvenile Spotted Sandpipers appear this autumn): it is of considerable interest in this connection that an adult Spotted Sandpiper in breeding plumage was reported at the gravel pits between Lydd and Dungeness, Kent, on 28th May 1971. This bird could well have arrived as a juvenile among the influxes of American waders in the autumn of 1970 and wintered on this side of the Atlantic, in which case there is a possibility of its being seen again in Britain in the autumn of 1971. P.F.B.

Swift drinking from sea The morning of 17th July 1969 was calm and hot at Portland Bill, Dorset. At about 09.30 BST two Swifts *Apus apus* flew out over the glassy surface of the sea and, while watching one of them through binoculars, I was surprised to see it go into a shallow glide down to the surface and take a drink. It was about 200 yards offshore, but in the perfect conditions I could plainly note the ripple as it touched; there did not appear to be any hovering insects that it might have been trying to snatch near the water. The bird then turned and flew back inland to be joined once again by its companion, which I had not been able to watch at the same time. It is worth noting that there are at least six small colonies of Swifts on the island of Portland, but no stretches of fresh water large enough for them to drink from, and so it is conceivable that they may regularly take sips from the sea.

F. R. CLAFTON

Bird Observatory and Field Centre, Old Lower Light, Portland, Dorset

Large weight gain by migrant Nightingale At Portland Bill, Dorset, Nightingales *Luscinia megarhynchos* occur annually in small numbers on spring and autumn passage. One caught at 18.55 BST on 27th August 1968 weighed 22.8 gm; it was retrapped on 29th and 30th, and on the latter date its weight was 22.7 gm, almost identical with that of three days earlier. It remained in the area, among dense brambles and blackthorn in a corner of the trapping garden of the bird observatory, and was seen on a number of occasions. It was again caught at 19.30 BST on 2nd September when it weighed 25.2 gm, an increase of 10.5% after six days (or 11.0% after only three days). It was then trapped for the fifth and last time at 16.00 BST on 11th September, by which time its weight had risen to an astonishing 34.8 gm (double-checked by an independent observer), an increase of 52.6% on the original figure of 15 days previously. A second Nightingale, first caught on 26th August 1968 and also trapped on 2nd September, had increased from 20.85 to 23.1 gm in the seven days, a gain of 10.8% which was very similar to that of the first individual at the same period; unfortunately, this second one was not caught subsequently. It may be added that the weights of 15 Nightingales trapped on arrival at Portland in *spring* in recent years have ranged from 17.95 to 23.25 gm, with a mean of 21.4 gm.

F. R. CLAFTON

Bird Observatory and Field Centre, Old Lower Light, Portland, Dorset

Grasshopper Warblers rearing young in exposed and substituted nest The slopes of Pen Wood, on the Somerset/Dorset border between Crewkerne and Yeovil, have been planted by the Forestry Commission with Norway spruce, European larch, red cedar and Scots pine. In 1970 some 240 acres of Norway spruce had reached the stage when the bramble, hazel, ash and tough sedge grass are cut for the last time. On 16th July, Robert Strawbridge, one of the foresters and a keen naturalist, showed me three nests of Grasshopper Warblers *Locustella naevia* which he had found on the 5th, 7th and 12th while cutting away the tangled growth. In spite of the care which he obviously took, the first had been destroyed, but the second held four chicks which later fledged successfully and the third contained four eggs; two of these had been broken by the cutting hook and the other two later hatched, though the chicks were then taken by a predator. On 20th July Mr Strawbridge found a fourth nest containing five young about three days old, and on the 27th a fifth with four young and one addled egg.

The photograph on plate 52 was taken at the fourth nest. The sedge grass above had been cut away completely just before its discovery, but Mr Strawbridge had piled vegetation around and over the nest, as he usually did in such cases, and the adults had continued to tend the brood. They were not disturbed by the erection of a hide and during my photographic sessions I had many demonstrations of their efforts

to avoid open spaces and of their confidence as long as they were in cover. On several occasions they even came into the hide: I would hear a faint rustling of leaves as they hurried past my legs on their way to the nest. Once the female returned through the dense growth behind the nest and began to brood while I was still setting up my apparatus; she actually allowed me to touch her on the nest, though she did peck my finger as I gently withdrew it. On my third visit I noticed that the nest had been more seriously damaged by the forester than we had thought and, when I tried to repair it, three of the chicks fell through the bottom. Remembering the second nest, from which four young had flown, I was fortunate to find it still in good condition, but infested by ticks. Having killed these by putting it into a butterfly killing jar, I substituted this nest for the damaged one and transferred the chicks to it. Both parents returned to feed their brood within ten minutes, and nine days later the young flew. G. H. E. YOUNG

Meadows, Broadway, Ilminster, Somerset

Starlings grounded after bathing in very cold weather After sunset on 7th January 1970, in a small grove bordering the River Hipper near Chesterfield, Derbyshire, I flushed from the trees and riverside many Starlings *Sturnus vulgaris* which, by the sound of their wings, had wet plumage. Most flew off in the direction of a roost half a mile away, but about 20 were running around on the snow-covered ground, unable to fly more than a few feet, evidently after bathing in the river. The weather was calm and dry with the temperature below freezing, and it seemed that the Starlings were unable to get dry in these conditions, though I could not say whether their plumage was at all frozen. I stayed in the area for a few minutes, but did not see any of the grounded birds fly away. R. A. FROST

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House Sparrow attacking Weasel At about 12.30 p.m. on 16th April 1970 I was sitting in a car at Chesterfield, Derbyshire, when a Weasel *Mustela nivalis* came out from a stone wall about eight yards away. It began to approach me inquisitively when a female House Sparrow *Passer domesticus* flew down and attacked it. The Weasel ran for about ten yards and then took cover in a patch of berberis. The House Sparrow settled about three feet from the point where the Weasel had disappeared and waited for it to come out; when it did so after about three minutes the sparrow again attacked it and drove it back into the berberis. The manner of both attacks was much the same as when one sparrow attacks another, but I gained the impression that the bird never actually managed to peck the Weasel. Five minutes later the Weasel had still not reappeared, and the sparrow flew off.

I was very surprised to see a House Sparrow attack a Weasel and even

more surprised when the latter ran away from it on two separate occasions.

P. SHOOTER

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Letters

Sooty Shearwaters in the English Channel I read with much interest the recent paper by P. J. Oliver (*Brit. Birds*, 64: 56-60). Although I agree that the regular autumn watches at Cap Gris Nez have shown that Sooty Shearwaters *Puffinus griseus* occur in the Straits of Dover far more frequently, and often in greater numbers, than was formerly supposed, I suggest that the facts presented lead one to conclude that, while the single birds and small parties may have been genuine migrants returning from feeding grounds in the North Sea to the Atlantic via the English Channel, the majority, particularly the concentrations passing west over short periods after rain and strong winds such as accompany depressions, are more likely to have been birds temporarily displaced eastwards by unfavourable conditions along the English Channel to the southern North Sea. Such Shearwaters should not be classed as 'migrating' past the point of observation. If, on the other hand, the author's assertion that all the Sooty Shearwaters seen heading west at Cap Gris Nez had previously travelled around the north of Scotland to reach the North Sea is correct, we are asked to believe that, while those which leave by a northerly route do so in a leisurely manner and over a period of several weeks (as shown by observations from north-east England and Scotland), this small but extremely variable minority which elects to leave on a southerly course does so quite erratically, sometimes all in a single day.

Again, can one examine Mr Oliver's table of annual totals and really say with any justification that such figures 'broadly represent a genuine pattern of occurrence'? They vary from none in 1964, three in one ten-day period in 1962 and three between mid-September and late October in 1966 to passages of 201 in 1963 (192 on one day) and 327 in 1968 (all but three in one three-day period). Even if, as the author asks, we consider the periods when the observatory has been manned (a factor affecting all sea-watch and observatory data), the lack of sightings in 1966 and the other variations in numbers are still not explained.

Mr Oliver comments that major movements have always been associated with westerly winds, generally following the passage of deep depressions across the North Sea. It would therefore be logical to look for an explanation for these unusual and erratic movements in the weather immediately preceding them. The appearance of seabirds in

greater numbers in north-westerly weather following the passage of a depression is a feature of sea-watches on many coasts; often such sightings must necessarily be of displaced birds, as in the upper reaches of the Bristol Channel where much of my watching has taken place. On a north-facing coast, as at Cap Gris Nez, many of the seabirds passing west must be returning after previously being displaced eastwards by unfavourable weather. The irregularity of the sightings and their coincidence with depressions would thus be more easily explained, such displacements necessitating the presence of a number of shearwaters in a position in the western Channel or western approaches where avoidance of an oncoming deep depression was impossible and their displacement eastwards advisable, perhaps inevitable. Their main object would be the avoidance of a lee shore and, even in the narrowest part of the Straits, they could easily pass out of sight of land. This would happen infrequently and would be most likely when Sooty Shearwaters were present in some numbers in south-western coastal waters and the weather was unsettled, as in the late autumn. Occasional Sooty Shearwaters have been recorded during movements of displaced seabirds at Bardsey in the Irish Sea (*Seabird Report 1969*: 27) and it would be illogical to argue that they had not been influenced by the same conditions. Mr Oliver comments that other seabirds (including Gannets *Sula bassana* and, especially in October, Kittiwakes *Rissa tridactyla*) are normally seen during these movements of Sooty Shearwaters and that, when the winds moderate, the passage of shearwaters generally diminishes but movement of other species (including small skuas *Stercorarius spp*) often starts. This is typical of the pattern followed by returning displaced seabirds, though of course not all would be displaced: many would be migrants passing in the normal way.

In this context I should like to comment on one of Mr Oliver's references, the letter by A. Gibbs *et al.* (*Brit. Birds*, 58: 56-57). This gave details of unusual numbers of Sooty Shearwaters at Cap Gris Nez on 27th September 1963 and off Portland Bill, Dorset, two days later. This period, as acknowledged by the writers, was remarkable for unusual seabird movements on all coasts of Britain and Ireland, the aftermath of a great gale on 26th September (see P. Davis, *Bird Study*, 11: 108-110). The conclusion reached in the letter, however, was that there was no reason to suppose that the shearwaters were not returning from the North Sea to the Atlantic through the English Channel instead of around Scotland, by which I take the writers to mean, necessarily, that the birds had already been in the North Sea for some time, having arrived there voluntarily by the normal Scottish route. They also pointed out that no other concentrations of Sooty Shearwaters were seen, except off south-west Ireland where they regularly occur in some numbers. This may have been so, although

observers at Malin Head, Co. Donegal, reported a sudden increase at that time, but this means no more than that the Sooty Shearwaters sighted in the English Channel were probably the only ones in the right place and at the right time to be affected by the gales.

Gibbs *et al.* also stressed that all the shearwaters at Cap Gris Nez were watched coming from the north-east and moving on down-Channel, while all except seven of those at Portland were also moving west. This proves nothing except that the birds at Cap Gris Nez had come from the North Sea, but so, during this period, did many thousands of others which had been blown eastwards, including large numbers even as far as the Elbe estuary (P. Davis, *loc. cit.*). Apart from the common direction, a natural one in the circumstances, there is very little to support the idea that those at Portland were the ones which had been seen earlier at Cap Gris Nez. If this were so, then after flying rapidly down-Channel at Cap Gris Nez they would have had to cross the Channel to appear two days later at Portland, where at least seven were seen heading back east. Assuming that separate individuals were involved at each site, the fact that the Portland shearwaters had not been seen at Cap Gris Nez, where watchers were very much on the alert, seems to indicate that they had never been as far east as that headland before turning back. This gives a picture, in keeping with the whole, of several groups of Sooty Shearwaters displaced eastwards along the Channel for various distances, some even into the southern North Sea. Mr Oliver does, in fact, mention briefly at the end of his paper that 'the large numbers off Portland Bill in 1963 (Gibbs *et al.* 1965) appear to have been an isolated and exceptional occurrence'.

I am not saying that the same weather patterns are responsible for all sightings of groups of Sooty Shearwaters as defined in my opening paragraph, nor do I dispute Mr Oliver's comments on the large passage of 1968, but there are several points of similarity with other seabird movements and I suggest that the controlling factor was again meteorological, so that this was not a migratory movement as such. In point of fact, it has yet to be proved that even one of the Sooty Shearwaters which enter the North Sea around Scotland as part of a regular feeding movement leaves by any other route, while it is not impossible, though there is no proof or disproof, that all the birds which leave via the Straits of Dover have entered the North Sea the same way.

W. E. JONES

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I am gratified to see that Mr Jones has taken the point made in my paper that there appears to be a direct connection between the weather and the appearance of Sooty Shearwaters off Cap Gris Nez. His interpretation of this connection—that the shearwaters are returning

from whence they came after having been blown east—is not in my view supported by the facts. Firstly, the weather conditions preceding the eastward passage of fronts across the North Sea, and in particular the wind strength and direction, are typically not such as to be likely to blow these birds off course. Secondly, there is, so far as I am aware, not the least evidence to support his suggestion that these shearwaters fly eastwards up the English Channel in any weather conditions. In spite of intensive observations from sea-watching stations on the Channel coast, and transects carried out from cross-Channel ferries both immediately before and immediately after major westerly movements at Cap Gris Nez, there have been no reports of even modest numbers of Sooty Shearwaters flying east or north-east. Mr Jones's suggestion that such movements might take place out of sight of land, whereas the so-called return movements can be seen from Cap Gris Nez, requires some supporting evidence before it can be accepted.

Mr Jones also dismisses the erratic annual figures and the irregular incidence of manning, though the point that the latter is likely to affect all sea-watching is irrelevant. In fact, to take the years he mentions, there were but two weeks of manning in each of 1962 and 1964, and the only year of more extensive manning when no major movements of shearwaters were seen was 1966. As Mr Jones states, the bulk of these shearwaters may well pass Cap Gris Nez in only one or two days in an autumn, so it would not be surprising if a movement were missed occasionally.

It is admitted by Mr Jones that, of the other seabirds seen, 'many would be migrants passing in the normal way': why 'many' and not 'all' is not stated. Nor is it apparent why, without any evidence given in support, it should be assumed that Sooty Shearwaters are behaving differently. In fact, it seems to me extremely unlikely that the skuas, Gannets and Kittiwakes are anything other than migrants from northern waters—it has already been noted by P. F. Bonham (*Brit. Birds*, 64: 44) that the movement on 19th-22nd October 1970 coincided with a noticeable departure of Great Skuas *Stercorarius skua* from Shetland—and the fact that Sooty Shearwaters are associated with these movements is to my mind fairly strong evidence that they, too, originate from the North Sea.

Why only some shearwaters should behave in this way is, I agree, a matter for conjecture. It is not unreasonable to assume, however, that only relatively small numbers habitually feed in the southern North Sea (see, for example, *Norfolk Bird and Mammal Report* for 1968) and that, when a front passes, the shearwaters, far from being blown off course by the wind, take advantage of this and the clear skies that follow to make a quick passage back to the Atlantic through the Straits of Dover. Having seen some hundreds of Sooty Shearwaters flying with consummate ease and at great speed across strong or gale-

force winds, I find it difficult to accept that they are likely to be blown off course by such winds. Furthermore, there is circumstantial evidence that they can make such flights at night, since on one occasion they were seen passing Cap Gris Nez as darkness fell and again at first light the next morning.

There is nothing inconsistent in the foregoing with the movement at Cap Gris Nez described by Gibbs *et al.*, but I do not pretend to be able to offer a categorical explanation of the occurrence of Sooty Shearwaters two days later at Portland Bill, no similar movement having been noted there subsequently. That they may have been the Cap Gris Nez birds is not, however, implausible and in the absence of evidence to the contrary there seems no reason at the moment to assume otherwise.

On the basis of the available evidence I therefore disagree with all Mr Jones's assertions, except that undoubtedly there is a close relationship between these movements and the weather. In any event, I suggest that he is splitting hairs on the definition of migration, since he seems to be suggesting that *because* the occurrence of these birds is controlled by weather they are not, therefore, migrants. On this basis, by way of example, Bluethroats *Luscinia svecica* and Barred Warblers *Sylvia nisoria* on the east coast of England could no longer be regarded as migrants either.

P. J. OLIVER

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Reviews

A Field Guide to the Birds of Southern Africa. By O. P. M. Prozesky. Collins, London, 1970. 350 pages; 40 plates, 32 in colour. £2.50.

Roberts Birds of South Africa. By G. R. McLachlan and R. Liversidge. Published for the Trustees of the John Voelcker Bird Book Fund by the Central News Agency, Cape Town, 1970. 643 pages; 64 plates, 56 in colour; many distribution maps. R6.75.

Almost simultaneously, two important books on the avifauna of Southern Africa have appeared. One is a field guide more or less following the lines of the system developed by Dr Roger Tory Peterson; the other is the third edition of a much used book which, since its first publication in June 1940, has gone through no fewer than 17 impressions. The latter has already stimulated Southern African ornithology to a considerable extent and has helped to bring it to high standards; the former fills the niche of a handy pocket book, aiming to be 'as authoritative and as complete as any of the books published on birds of Southern Africa'. This will be a hard task to achieve, for there are at present several other fine and helpful volumes on the

birds of that part of Africa, such as the two popular books by Dr G. Broekhuysen (*The Birds Around Us*, 1966, and *Field-Guide to the Birds of the South African Sea-Shore*, 1969), the monographs by C. J. Skead and others (*Canaries, Seedeaters and Buntings*, 1960, and *Sunbirds, Sugarbirds, White-eyes and the Spotted Creeper*, 1967), and P. A. Clancey's handbook on *The Birds of Natal and Zululand* (1964), besides that simple, but remarkably good book by E. Leonard Gill, *A First Guide to South African Birds* (1936), which by 1956 had sold 28,000 copies.

Like the second (1957), this third edition of *Roberts Birds of South Africa* went through the able hands and minds of Dr G. R. McLachlan of Cape Town and R. Liversidge of Kimberley. The contents have not been changed greatly, but the layout has been modernised and the text for each species rearranged under separate headings, which facilitates checking and comparing details. The maps have been reprinted in the margins and brought up to date. The illustrations on the 56 colour plates are those by Norman C. K. Lighton as they appeared in the first edition: accurate, but reproduced on a small scale and lacking a balanced selection of different plumages. The eight black-and-white plates of flying albatrosses, petrels, birds of prey and waders by J. Perry and K. Hooper are of a high quality. The book covers roughly 875 species occurring south of the Cunene and Zambesi rivers and the southern boundaries of Angola and Zambia, and will probably remain Southern Africa's standard reference work for a long time to come. Renewal of the colour plates in new editions will become essential, however, not least to eliminate errors which, though mostly minor, affect in places the distinctions between species. It would have been worthwhile, also, to have added a little more about the decline of certain birds, such as the Jackass Penguin which, despite serious threats from recent oil spillage, is still referred to as 'a common resident of the coastal islands'.

May I take this opportunity of mentioning a plumage detail in a widely distributed raptor, which has long intrigued me? The underwings of the Long-crested Hawk Eagle are shown in *Roberts Birds of South Africa* as virtually white. In the new field guide by O. P. M. Prozesky they are described as white, with the ends of the flight feathers distinctly barred, and this is what I have seen both in specimens and in the field. But I have also seen black undersides to the wings of this species, with distinct and extensive white patches formed by the basal halves of the primaries, as illustrated by J. G. Williams in his *Field Guide to the Birds of East and Central Africa* (1963) and depicted in Leslie Brown and Dean Amadon's *Eagles, Hawks and Falcons of the World* (1968). I have tried in vain to find any pattern of geographical, sex or age variation in this obvious difference.

Mr Prozesky's field guide presents a difficulty both for the reviewer and for the ultimate user. Although it is well produced and contains

a wealth of information based on the author's personal experience in the field, it is only honest to state that the 40 plates by Dick Findlay are below the standard that must be set for a book like this. One needs merely to compare the Garden Warbler and the Willow Warbler on plate 31, or the Common Sandpiper and other Palearctic waders on plate 15, with current British and European field guides to appreciate this. In describing the 900 or so Southern African species (including numerous northern migrants which mix annually with the indigenous bird-life), Mr Prozesky, a well-known ornithologist at the Transvaal Museum in Pretoria, states that 'only half the number could be illustrated'. This means that the text and illustrations cover about 410 of the species recognisable in the field, leaving an equal number mentioned in the text only under a heading 'Allied species' or merely referred to by name as 'rarer species'. This system, which was also followed by Williams in his field guide referred to above, works out rather unsatisfactorily, as I know from personal experience in East Africa. Apart from identification there are also remarks on general habits, food, habitat, voice and distribution, and, where appropriate, names are given in Afrikaans, Zulu, Xhosa and Sotho as well as English.

Nevertheless, Mr Prozesky and Mr Findlay have produced an economical and convenient introduction to the rich and colourful avifauna of the East and South African savannah, high veld and arid regions, the montane and tropical riverine forests and the wonderful Cape area. Rocco Knobel, director of the South African National Parks, has written a fine foreword for this guide to the birds of his enormous country, where both the destruction and the conservation of nature have been on such a grand scale. K. H. VOOUS

Die Graugans. By Karel Hudec and Jan Rooth. Number 429 in the series *Die Neue Brehm-Bücherei*, A. Ziemsen Verlag, Wittenberg Lutherstadt, East Germany, 1970. 148 pages; one colour plate; 87 black-and-white photographs; 27 maps and drawings. DM 13.00.

The Czech and Dutch authors of this monograph have produced an excellent, methodical review of our present knowledge of the Grey Lag Goose. Systematics, scientific and popular names precede descriptions of the nominate race and the eastern *Anser anser rubrirostris*, whose exact distributions are difficult to define because of the many intermediates in central and perhaps northern Europe. A colour plate by D. Bárta illustrates the bills of the two races and of various intermediate forms present in a mixed population, as observed in the Czechoslovak reserve of Lednice in June 1966. The status of the breeding and wintering populations in the countries of Eurasia and the movements during migration are discussed with data from numerous

sources. All the recorded food components, mentioning which parts of the plants are taken and when, are shown in an interesting table. Voice and behaviour also receive ample attention. Accounts of breeding biology and the development of the young are followed by chapters on mortality, longevity, diseases and enemies. Agricultural damage appears to be negligible, and in many instances grazing seems merely to have the effect of clearing fields of weeds: grazing tests in wheat-fields in May made no significant difference to crop results. An extensive list of references concludes this very useful book which also contains a great number of good photographs, characteristic drawings and interesting maps.

E. CARP

Norges Fugler. By Svein Haftorn. Scandinavian University Books, Oslo, 1971. Norwegian text. 873 pages; 48 black-and-white photographs; numerous maps. Norwegian Kr160.

The last work dealing with the birds of Norway—*Håndbok over Norges Fugler* by H. L. Lövenskiöld—was published in 1947. To regard this useful volume as out of date is no reflection on its author. Apart from additions to the Norwegian list, the years between have seen changes, often striking, in the status and distribution of many species. Ornithologists, therefore, can hardly have been surprised to find the first printing of Professor Haftorn's eagerly-awaited manual sold out in a matter of days. The new work is more comprehensive than its predecessor, three or four pages of double-columned text—the equivalent of nine in an English octavo format—often being devoted to one species. Following modern practice, the text is conveniently divided under appropriate headings. The opening paragraphs on plumage and structure amply fulfil their purpose of assisting identification in the field. Brief notes are given of any outstanding varieties, such as the parti-coloured Black Grouse found in the south of the country. As attention is called to hybridisation among ducks and game-birds, and at greater length to interbreeding between Guillemots and Brünnich's Guillemots, mention might well have been made of the very interesting thrush hybrids recorded by Robert Collett (1906, *Forh. Vidensk Selsk. Christ.* 1905, no. 11). Professor Haftorn has drawn largely on his own wide experience for his excellent renderings of bird calls and songs, and for his equally commendable descriptions of display. Students of breeding biology will find here a wealth of Norwegian data; and in his very full notes on food, he also gives prominence to Norwegian material, such as that assembled by Yngvar Hagen in his outstanding field-work on predators (1952, *Rovfuglene og Viltpleien*).

British readers will perhaps be most interested, however, in the very full paragraphs on distribution in Norway, many of which are so detailed as to amount to histories of the species concerned. In com-

piling these, the author has clearly appreciated the importance of reassessing the work of earlier Norwegian ornithologists so often ignored by their successors. A small map of Fenno-Scandia showing the normal zone of distribution, together with any isolated nesting records, is provided for nearly every breeding species. Equally informative are the paragraphs on migration with their lists of ringing recoveries. In the very useful systematic list, which includes four recent additions, square brackets indicate that the evidence for the admission of certain rarities cannot be regarded as entirely satisfactory. Records received too late for incorporation in the main text are given in an appendix, and the volume concludes with a glossary of scientific names and a well-compiled index.

When quoting from literature, Professor Haftorn contents himself with adding the author's name and the year of publication. This may suffice in the case of a book, but becomes totally inadequate when the source is a scientific journal. This minor criticism apart, I can unhesitatingly recommend this important book to all who are familiar enough with the Norwegian language to avail themselves of it. This will remain the standard work on the subject for many years to come.

H. M. S. BLAIR

News and comment *Robert Hudson*

Autumn expedition to Morocco Most ornithological expeditions to Morocco are timed for the breeding season, yet there is valuable work to be done on the migratory and wintering birds. To this end, a group from the University of East Anglia, composed of people associated with the Wash Wader Ringing Group, is spending August and September 1971 on the Atlantic coast of Morocco to study the migration of waders through that region. Basic quantitative information is required to help assess the international effects on waders of proposed European barrage and drainage schemes and the relative importance of the Moroccan wetlands. Samples will be trapped for ringing and also in the hope of controlling some of the many thousands of waders which have been ringed in Europe (including Iceland) in recent years; at the same time, measurements of trapped birds will help to distinguish between various breeding populations. Knot and Sanderling are likely to be the principal species handled, because they build up fat reserves in the north and migrate in long continuous flights to reach Africa ahead of the main masses of other waders. This University of East Anglia Expedition to Morocco will be led by M. W. Pienkowski; its results are awaited with interest.

African award to B.B.C. producer The Haile Salassie I Gold Medal, awarded for services to the Ethiopian people, has been bestowed upon Jeffery Boswall, a producer with the B.B.C.'s Natural History Unit. This award was for the highly successful 'Wildlife Safari to Ethiopia' series of colour films which was shown on television at the end of last year to an estimated audience of seven million; the series is to be repeated during August 1971.

Birthday Honours In the Queen's Birthday Honours list, published on 12th June, the high distinction of Commander of the Royal Victorian Order (C.V.O.) was bestowed on both R. E. Boote and E. M. Nicholson for their services on behalf of international conservation, fitting acknowledgement of the important parts they played in achieving success for ECY 70. Mr Boote is Deputy Director (Conservation and Management) of the Nature Conservancy and Mr Nicholson was formerly Director-General (as well as, of course, an editor of this journal since 1950). Dr W. J. Eggeling, who recently retired as Director of the Nature Conservancy (Scotland), was appointed a Commander of the British Empire; his name has long been associated with Scottish ornithology, particularly the Isle of May, and he is a past chairman of the Scottish Ornithologists' Club. E. R. Parrinder was also appointed a C.B.E. for professional services as a quantity surveyor; he will be better known to most readers as a prominent amateur ornithologist of long standing, particularly as a past treasurer of both the British Trust for Ornithology and the Royal Society for the Protection of Birds and for his periodical papers in *British Birds* on Little Ringed Plovers.

A sickening tale from Israel The immaturity of official attitudes in Israel towards wildlife may be gauged from the following distasteful saga related in the I.C.B.P. newsletter no. 22 (April 1971). In the semi-arid areas of south-central Israel and the northern Negev Desert there has been a marked increase in the number of larks of various species in recent years, coinciding with the virtual extermination of breeding and over-wintering raptors which followed the widespread use and misuse of toxic chemicals in agriculture; it is thought that previously the numbers of larks were checked by the birds of prey. In 1970, crop damage by larks was so extensive that the Plant Protection Department spread grain poisoned with endrin over large areas (in order to increase toxicity the grain had also been boiled in endrin solution). Large numbers of larks were killed and, even worse, there were serious levels of secondary poisoning among mammals and migrating raptors which fed on the affected birds. Though glucochloralose and alphachloralose were available, the Plant Protection Department insisted on the use of endrin because they were of the opinion that the convulsions of the dying victims would scare away other birds from the crops to be protected. One would like to think that few other countries would deliberately exhibit such ugly insensitivity.

Obituary of G. C. S. Ingram It is with regret that we record the death, on 25th April, of the prominent Welsh ornithologist, Geoffrey C. S. Ingram, who was in his 89th year. A consistent contributor to ornithological literature over several decades, his first note to *British Birds* was published in 1919; but he is best known for the series of works he wrote in conjunction with his old friend and colleague, Colonel H. Morrey Salmon: *Birds in Britain Today* (1934), followed by a string of county avifaunas for Glamorgan (1936), Monmouthshire (1937, revised 1963), Pembrokeshire (1948), Carmarthenshire (1954), Radnorshire (1955) and Brecknock (1957). He was a life member of the British Ornithologists' Union, which he joined in 1923. Geoffrey Ingram was not well known to the younger generation of birdwatchers on account of his advanced age and poor health which forced him in 1952 to resign as joint bird recorder for the Cardiff Natural History Society, after as long as 34 years. He had been virtually blind for the past decade (having lost one eye during service in the 1914-18 war) and had been a total invalid for the last three years of his life.

B.O.U. office moves For many years the British Ornithologists' Union has had a permanent office at the British Museum (Natural History), a reflection of its long association with the Bird Room there. Owing to the pending removal of the Bird Room to Tring (see *Brit. Birds*, 63: 435), however, the Union has had to move out.

The Zoological Society of London, which already accomodates the Fauna Preservation Society and the Council for Nature, has been kind enough to provide an office for the B.O.U. secretariat, whose address is now: British Ornithologists' Union, c/o Zoological Society of London, Regent's Park, London NW1 4RY (telephone 01-722 3333).

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

Recent reports P. F. Bonham

These are largely unchecked reports, not authenticated records

This summary deals mainly with April 1971, to which all dates refer unless otherwise stated. For most of the month pressure was high to the north of Britain and low over central and southern Europe, preventing migration from the south and bringing basically easterly winds, except for a brief interval of south-westerlies during 16th-20th (caused by the passage of two depressions north of Scotland) when most migrants arrived in force. There was an influx of Little Ringed Plovers, Sandwich Terns, Swallows and Sand Martins during 2nd-4th, while the anticyclonic conditions and low cloud over the North Sea and Scandinavia which followed were probably responsible for an unusual number of Great Grey Shrikes, more than half of which seemed to be new arrivals; it was too early for other Scandinavian species, however, but some appeared in the cold spell about 25th. April was mainly dry, dull and rather cold, the only really warm weather, during 21st-24th, being followed by three very cold days, but some of the more exciting events occurred during these unsettled periods.

SOUTHERN HERONS, STORKS AND CRANES

In Kent, following an early **Purple Heron** *Ardea purpurea* on 31st March (*Brit. Birds*, 64: 290), an adult **Night Heron** *Nycticorax nycticorax* remained at Faversham from 2nd to 14th when it died of peritonitis, a **Spoonbill** *Platalea leucorodia* appeared in the Stodmarsh area on 3rd and 4th, and a second **Purple Heron** was seen at Kennington, Ashford, on 23rd and 24th. Two **White Storks** *Ciconia ciconia* frequented various localities in the Isles of Scilly from 11th, and a **Night Heron** arrived on St Agnes in late April, moving to St Mary's on the following day. A **Little Egret** *Egretta garzetta* appeared in the Teign estuary (Devon) on 28th. There was another **Purple Heron** in the Walton-on-the-Naze area (Essex) on 29th and a **White Stork** at Stickney (Lincolnshire) on 29th and 30th. Four sightings of single **Cranes** *Grus grus* might have concerned only two individuals: at Clevedon (Somerset) on 31st March, flying up the Severn estuary; at Aynho (Northamptonshire) on 2nd; at Pitsford Reservoir (also Northamptonshire) from 27th to 29th (but, according to hearsay, as early as about 15th); and at Holy Island (Northumberland) on 24th.

WILDFOWL AND RAPTORS

Drake **Green-winged Teal** *Anas crecca carolinensis* were identified at Barn Elms Reservoir (Surrey) on 11th and at King George VI Reservoir, Staines (Middlesex) on 13th—possibly the same bird?—and the fourth **Ring-necked Duck** *Aythya collaris* of 1971 was found at Blagdon Reservoir (Somerset) on 4th, where it stayed

for at least three weeks before moving to Chew Valley Lake. Garganey *Anas querquedula* continued to be reported in small numbers, with peaks on 5th-6th and 11th-12th. Miscellaneous duck reports included a drake King Eider *Somateria spectabilis* at Rhubodach, Isle of Bute, on 2nd; as many as 46 Long-tailed Ducks *Clangula hyemalis* off Hunstanton (Norfolk) on 7th; a late Smew *Mergus albellus* at Broomlee Lough (Northumberland) until 8th; and a Velvet Scoter *Melanitta fusca* well inland at Bethersden (Kent) on 25th. Eight Bewick's Swans *Cygnus bewickii* arrived at Minsmere (Suffolk) on 6th and left next day while the last two of the winter also departed from the central stretch of the Ouse Washes (Cambridgeshire/Norfolk) about then; five were seen near the southern end of the Washes at Earith (Huntingdonshire) on 11th, however, and there were a few scattered singles elsewhere until the end of the month. The only Whooper Swans *C. cygnus* in the southern two-thirds of England were two on the Ouse Washes on 1st and an immature at Ogston Reservoir (Derbyshire) until 4th.

At Loch Garten (Inverness-shire) the breeding female Osprey *Pandion haliaetus* arrived on 8th, and her mate on the following day (several days later than in 1970); at another Scottish site, however, the pair had returned much earlier than this. Thirteen migrant Ospreys were reported in England from 13th—four in Sussex, two each in Kent, Norfolk and Northumberland, and singles in Somerset, Lancashire and Yorkshire. The first Hobby *Falco subbuteo* of the spring was reported at Oxford on 3rd; then at the Midrips and Wicks (Kent/Sussex) there was another Hobby and also a Peregrine *F. peregrinus* on 12th, and male and female Montagu's Harriers *Circus pygargus* on 14th, while on the latter date two Montagu's were seen at Dalditch (Devon). Other raptors included a Goshawk *Accipiter gentilis* at Hunstrete (Somerset) on 16th, a Honey Buzzard *Pernis apivorus* flying in from the sea at Rame Head (Cornwall) on 27th, and at least two Red-footed Falcons *F. vespertinus*—a female at Sunderland (Co. Durham) from 24th to 29th and a male at Sevenoaks (Kent) on the latter date.

CRAKES AND WADERS

The Spotted Crake *Porzana porzana* found on 31st March at Mablethorpe (Lincolnshire) (*Brit. Birds*, 64: 292, plates 43-44) stayed until 7th; then there was one at Falmouth (Cornwall) from 13th until the end of the month, and four more singles, at Slapton (Devon), at a locality in Kent, at Havergate (Suffolk) and at Cley (Norfolk), between 15th and 21st. A Little Crake *P. parva* was also reported in Kent, on 29th. The first Corncrakes *Crex crex* seem to have been on the Calf of Man on 12th and on Fair Isle (Shetland) on 14th; then at least three singles were found on 19th, in Kent, Lincolnshire and Warwickshire, and more subsequently, mainly in the west.

The most interesting feature of April as far as waders were concerned was the number of Kentish Plovers *Charadrius alexandrinus* scattered along the south coast and elsewhere. The main arrival, extending from about 8th to 14th, produced a total of twelve reports in Cornwall, Dorset, Sussex, Kent, Suffolk and Norfolk; there were five or six more during 17th-19th in Devon, Dorset, Kent and Suffolk, three at Marazion (Cornwall) during 25th-27th and finally one at Slimbridge (Gloucestershire) on 27th. The only other highlight of a poor month for rare waders was a Broad-billed Sandpiper *Limicola falcinellus* at Marazion on 14th and 19th. Commoner species included 40 or more returning Jack Snipe *Lymnocyptes minimus*, modest arrivals of Little Ringed Plovers *C. dubius* (mainly on 3rd and 4th, and from 9th), Whimbrels *Numenius phaeopus* and Common Sandpipers *Tringa hypoleucos* (first on 4th, 5th and 6th, then occasionally through to 16th-21st when there were large influxes of both), and Greenshanks *T. nebularia* (odd ones from 11th, but no major arrivals). Two Dotterels *Eudromias morinellus* made a brief stop on the downs near Upottery (Devon) on 21st; early Wood Sandpipers *T. glareola* appeared at Beddington sewage-farm (Surrey) in mid-month, at Tring Reservoirs (Hertfordshire) on 25th and at Minsmere on 29th; nine Little Stints

Calidris minuta were recorded at Havergate on 25th and a few singles elsewhere; and **Curlew Sandpipers** *C. ferruginea* appeared at Frodsham (Cheshire) on 15th and at Marazion on 25th. As is usual in spring, **Avocets** *Recurvirostra avosetta* were noted on passage at a number of localities on the south and east coasts, but 23 heading east on 13th and again the same number next day at Beachy Head (Sussex) are worth mentioning, while three at Hams Hall (Warwickshire) on 13th were also exceptional. **Stone Curlews** *Burbinus oedicnemus* were heard at Dungeness (Kent) on 17th and 24th, but some breeding pairs had already returned to sites in Breckland (Norfolk/Suffolk) and the Berkshire downs earlier in the month.

GULLS, TERNS AND SEA-PASSAGE

Numbers of **Glaucous Gulls** *Larus hyperboreus* and **Iceland Gulls** *L. glaucooides* were about the same as in April 1970 (*Brit. Birds*, 63: 144), but this year three Iceland Gulls were reported from Cornwall and one from Belvide Reservoir (Staffordshire); there was also a **Kittiwake** *Rissa tridactyla* at the latter locality on 17th. At least 65 **Little Gulls** *L. minutus* were widely scattered on the coast and inland: as with most of the passerines (see pages 335-336), the peak passage apparently occurred during 17th-20th, and the largest concentration was of 13 at Chew Valley Lake. Two new **Mediterranean Gulls** *L. melanocephalus* were reported, at Ross (Northumberland) on 17th and at Dungeness on 25th. Eleven **Black Terns** *Chlidonias niger* at Chew Valley Lake on 18th were the earliest of which we heard; during 20th-25th at least 80 more were noted at 20 places, a very different situation from that in 1970 when only two April reports reached us and there was a sudden enormous passage in early May (*Brit. Birds*, 63: 144, 224). **Sandwich Terns** *Sterna sandvicensis* were, as usual, the first terns to appear and, after a trickle in March (*Brit. Birds*, 64: 292), there was a small influx during 2nd-4th; the main arrival, however, occurred two weeks later at about the time that **Common Terns** *S. hirundo* and **Little Terns** *S. albifrons* were arriving in numbers. (The first Common Terns were on 10th, as in 1970, and the first Little Terns on 15th.) **Roseate Terns** *S. dougallii* were seen at Dungeness on 22nd and 25th (two), at Worthing (Sussex) on 26th and at Rye Harbour (also Sussex) on 30th; **Arctic Terns** *S. paradisaea* were identified at a dozen places from 15th, though they remained very scarce until 24th (there were 14 at Staines Reservoir that day and 23 the next); and a **Caspian Tern** *Hydroprogne tschegrava* was reported at Kingsdown, Deal (Kent) on 19th.

Up-channel sea-passage at Dungeness included the remarkable totals of 7,870 **Common Scoters** *Melanitta nigra*, 78 **Red-breasted Mergansers** *Mergus serrator*, 850 **Common/Arctic Terns**, 330 **Sandwich** and 80 **Little Terns** on 22nd; also 1,720 **Bar-tailed Godwits** *Limosa lapponica* on 25th and 2,020 on 26th. Movements of skuas and shearwaters call for little comment: during the peak period, about 21st-25th, single **Pomarine Skuas** *Stercorarius pomarinus* were noted at Cape Clear Island (Co. Cork), Portland (Dorset) and Beachy Head, and on 22nd seven **Manx Shearwaters** *Puffinus puffinus* passed Spurn (Yorkshire).

NEAR-PASSERINES AND PASSERINES

This section includes most of the commoner summer-visitors, but begins with a summary of the rarer migrants, vagrants and belated winter-visitors. Undoubtedly the most prominent of the scarce migrants were **Hoopoes** *Upupa epops*. The first ones were at St Buryan (Cornwall) at the end of March and at Strete, Slapton (Devon) from 2nd; several more appeared during 10th-18th and then the main arrival was from 22nd to 26th. Up to 30th April, 46 were reported in the following counties: Co. Cork (one), Isles of Scilly (four), Cornwall (eleven), Devon (three), Shropshire and Sussex (one each), Kent (five), Middlesex (three), Essex (one), Suffolk (four), Norfolk (nine), Lincolnshire (two) and Yorkshire (one). In contrast, the only **Golden Orioles** *Oriolus oriolus* were a pair at Churston Ferrers, Brixham (Devon) on 15th and singles on St Agnes about 20th and 28th. Also in Scilly, a

Great Spotted Cuckoo *Clamator glandarius* stayed on St Mary's from 21st to 29th, and in Yorkshire a **Red-rumped Swallow** *Hirundo daurica* was identified at Fairburn on 27th. There were more **Wrynecks** *Jynx torquilla* than in April 1970, eight in all, at the Midrips/Wicks on 12th, at Minsmere on 16th and 18th, and in Co. Cork, Kent, Yorkshire, and Northumberland and Shetland from 21st. **Woodlarks** *Lullula arborea* are now very infrequently seen on passage, so a total of 13 at five Kentish localities between 8th and 20th, including seven at Dungeness on 10th, are worth a mention.

The sole reports of **Bluethroats** *Luscinia svecica* came from Redcar (Yorkshire), a female on 24th and a male on 25th. Skomer (Pembrokeshire) produced the only **Icterine Warbler** *Hippolais icterina* on 13th and a **Subalpine Warbler** *Sylvia cantillans* on 20th, while another Subalpine was found dead far inland at Billericay (Essex) about 27th—a most unusual record. Even more remarkable, if accepted, were two extremely early **Lesser Grey Shrikes** *Lanius minor*, near Inverness on 2nd and 3rd and at Coldingham (Berwickshire) on 8th; **Woodchat Shrikes** *L. senator* were at Billingham (Co. Durham) on 24th-25th and at Dungeness on 25th. There were two **Serins** *Serinus serinus* at St Catherine's Point, Isle of Wight, about 10th, and singles at Portland on 15th-16th and, very far north for this species, on Coquet Island (Northumberland) on 22nd (see *Brit. Birds*, 64: 213-223 for a summary of British and Irish records). Two **Lapland Buntings** *Calcarinus lapponicus* were seen on Holy Island on 13th and a late **Snow Bunting** *Plectrophenax nivalis* at Old Head of Kinsale (Co. Cork) on 30th.

Waxwings *Bombycilla garrulus* were still further reduced in numbers, only about 100 being reported from some 15 localities, all on the east side of Britain apart from singles in Glasgow and Worcester on 5th and 19th respectively; there were still about 30 in the Loch Garten area on 28th, however. **Great Grey Shrikes** *Lanius excubitor* were exceptionally widespread—compared with only a handful in April 1970 (*Brit. Birds*, 63: 184)—and at least 70 were seen in 40 localities, mainly in eastern Britain from Norfolk northwards, in the London area, on the Kent coast and in the north and west Midlands; there was also one in Bristol on 12th and late birds at Enfield (Middlesex) on 23rd and in the Roding Valley (Essex) until 25th. Forty-two of the 70 were apparently new arrivals, recorded between 3rd and 12th, all but six on the east coast, with a clear peak (a total of 22) on 5th, 6th and 7th, suggesting a westerly drift of Continental winterers rather than a return movement of British ones.

Finally, an analysis of the arrivals of some summer-visitors is set out below (see also *Brit. Birds*, 64: 292, for March arrivals). This does not pretend to be exhaustive, though over 1,200 reports of first dates and major influxes were tabulated in its compilation. All instances are of single birds except where otherwise stated.

Turtle Dove *Streptopelia turtur* Distinctly early arrival: small numbers 13th-19th; more from 20th.

Cuckoo *Cuculus canorus* Small numbers 10th-14th; main arrival 15th-21st.

Nightjar *Caprimulgus europaeus* Only record at Eccles (Kent) on 28th.

Swift *Apus apus* One on Jersey on 9th; small numbers in Britain 16th-19th; more from 20th but main arrival not until May; about 40 at Staines Reservoir on 20th.

Swallow *Hirundo rustica* Considerable arrival 2nd-4th, but then very few more until 12th when 300 were noted at Rame Head and a large arrival began; most well-watched localities, except in the far north, had recorded their first by 18th.

House Martin *Delichon urbica* A trickle 1st-4th, small numbers 11th-15th, a considerable arrival 16th-18th, and a general increase from 24th.

Sand Martin *Riparia riparia* Large arrivals 2nd-4th, then few more until a general influx from 16th; at least 100 at Chew Valley Lake on 2nd, but there had been about 50 at Gatton Park (Surrey) as early as 31st March.

Ring Ouzel *Turdus torquatus* Steady but modest arrivals from 7th, with a few earlier; a total of 34, mostly males, at Wavering Down (Somerset) on 3rd.

Whinchat *Saxicola rubetra* First at Broadstairs (Kent) on 7th; a few 12th-20th, then a general increase, but not widespread until May.

Redstart *Phoenicurus phoenicurus* First at Burham (Kent) on 2nd and Portland on 3rd; occasional singles 6th-14th, followed by a steady influx from 15th, but again not at all widespread or numerous.

Nightingale *Luscinia megarhynchos* First at Rye Harbour on 15th; then very small numbers from 18th; one at South Gare (Yorkshire) on 25th coincided with a Bluethroat at Redcar near-by (see above) and was only the third Teesside record for 40 years, the other two having been in May 1970 (*Brit. Birds*, 63: 263).

Savi's Warbler *Locustella luscinioides* Present in Kent from 19th (same date as in 1970) and in Suffolk from 23rd.

Grasshopper Warbler *L. naevia* A few 11th-17th; steady and sizeable arrival from 18th to end of month.

Reed Warbler *Acrocephalus arundinaceus* Reported from 18th in very small numbers.

Sedge Warbler *A. schoenobaenus* A few 9th-14th, small arrivals 15th-17th, then more from 18th and a general increase about 25th, though numbers not particularly large.

Blackcap *Sylvia atricapilla* Generally late arrival: wintering birds confuse the picture to some extent, but the first migrant seems to have been at Portland on 28th March; then three at Bristol Forest on 3rd, one in Hyde Park (London) on 6th, small numbers 7th-18th and a more general influx from 19th onwards.

Garden Warbler *S. borin* First at Sandhurst (Kent) and Coombe Dingle (Somerset) on 5th, then small numbers 19th-30th with no marked arrival.

Whitethroat *S. communis* First were six at Long Ashton (Somerset) on 11th; a trickle 13th-17th, then small influxes 18th-20th and 23rd-25th.

Lesser Whitethroat *S. curruca* First at Hartford (Northumberland) on 10th; small numbers 15th-24th, and a rather larger arrival on 25th, the latter probably Scandinavian, though weekend bias may have been significant as it was a Sunday.

Willow Warbler *Phylloscopus trochilus* Small numbers 1st-6th; then a steady but slow arrival 7th-14th, and a general increase from 15th; 23 in song at Chew Valley Lake on 7th.

Wood Warbler *P. sibilatrix* First were two in Leigh Woods, Bristol, on 13th and one at Tenterden (Kent) on 14th; reported from seven other localities 18th-30th.

Spotted Flycatcher *Muscicapa striata* Reported from nine localities 22nd-30th.

Pied Flycatcher *Ficedula hypoleuca* A trickle 12th-18th, slightly more 19th-23rd, and a small influx 24th-26th, the last probably of Scandinavian migrants.

Tree Pipit *Anthus trivialis* Late arrival, as in 1970; first at Bodymoor Heath (Warwickshire) on 4th and at Dungeness and Portland on 7th; small numbers 9th-17th, and a general arrival from 18th.

White Wagtail *Motacilla a. alba* Reported from 43 localities: steady but slow passage 1st-17th, widely reported on 18th (a Sunday) and then occasionally to end of month; no marked peaks except on 18th.

Yellow Wagtail *M. flava* Very late arrival: first at Farmoor Reservoir (Berkshire) on 24th March and at Chew Valley Lake on 1st; a trickle 3rd-10th, then a considerable arrival 11th-16th and even more from 17th onwards, especially about 20th-21st.

Blue-headed Wagtail *M. f. flava* First at Dungeness on 12th; then nine reported between 16th and 28th.

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Notes should be worded as concisely as possible, and drawn up in the form in which they will be printed, with signature in block capitals and the author's address clearly given in one line at the foot. If more than one note is submitted, each should be on a separate sheet, with signature and address repeated.

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**Report on rare birds in Great Britain in 1970
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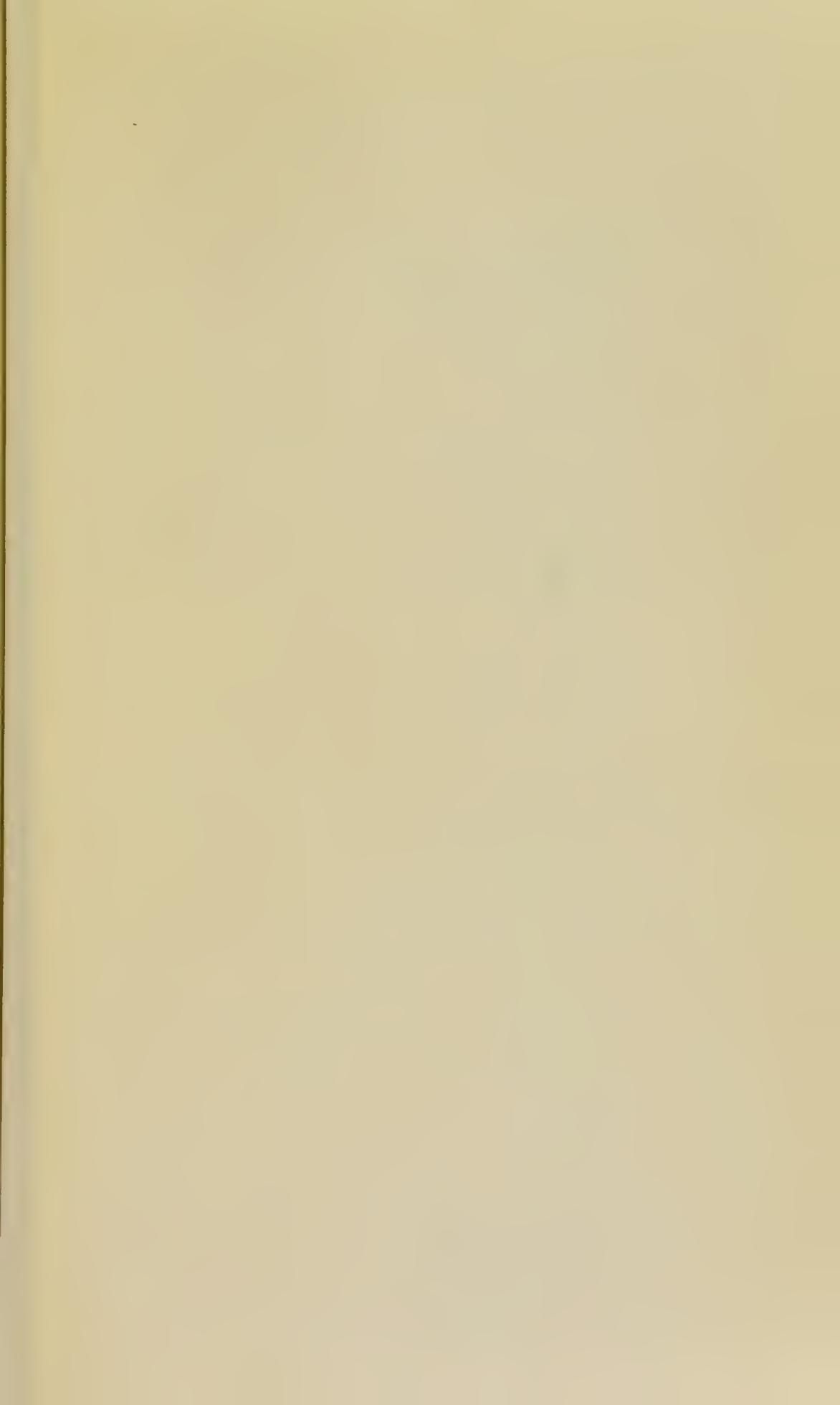




PLATE I. Buff-breasted Sandpiper *Tryngites subruficollis*, Scilly, September 1970: short bill, round head, yellow legs, clear-cut blackish and buff pattern above, and buff beneath with paler belly. Below, Wilson's Phalarope *Phalaropus tricolor*, Cornwall, September 1967: thin black bill, small head, long neck, and yellowish legs and mainly grey and white plumage of winter (photos: J. B. and S. Bottomley)



British Birds

Editorial

The collection and analysis of records

The next few weeks should see the long-awaited publication by the British Ornithologists' Union of *The Status of Birds in Great Britain and Ireland*. The latest in the line of B.O.U. check-lists, it is much more than its predecessors, being a fully-fledged book of well over 300 pages which sets out to review every species recorded in these islands, summarising the distributions of the breeding birds and analysing the patterns of migrants and vagrants. Such a compilation would not have been possible without the network of recording systems now operating throughout both countries. This network has largely been set up since the publication of *The Handbook of British Birds* in 1938-41 and has become much more complete during the last 15 years. Invaluable as its foundation are the county and regional reports, without which the whole structure would fall, but their work is complemented by that of such bodies as the Rarities Committee and the Irish Records Panel.

The Atlas of Breeding Birds, organised by the British Trust for Ornithology and now at the end of the fourth of its five years of fieldwork, has generated new enthusiasm in another direction and attracted assistance from over 8,000 observers (nearly twice the membership of the B.T.O.). It would be difficult to say how many people contribute even irregularly to the county and regional reports, but the total is likely to be much smaller. On the other hand, the combined membership of county and local ornithological societies and ornithological sections of natural history societies certainly far exceeds that figure. Many of these people have only a vague interest in the subject—they may do no more than feed the birds in their gardens—but there is clearly a large number of active birdwatchers who make observations that would be worth recording and yet do nothing with them. This may arise from humility concerning the significance

of what they have seen, from uncertainty about where to send their records, from laziness, or even from antipathy towards the people or committees who compile the reports.

Those who doubt the significance of their observations should take their courage in both hands because the county recorder will often be better able to assess them and, because he is looking at the whole, may find that a seemingly unimportant piece of information is just what he needs to complete the picture. The excuse of not knowing where to send one's records is no longer really defensible: although the periodical lists of county and regional recorders (e.g. *Brit. Birds*, 64: 241-244) have only a limited circulation, most national and regional organisations and publications are more than willing to channel information to its proper destination. Laziness and local antipathies are more serious. Laziness is tantamount to selfishness. We are spoon-fed these days by a battery of field identification guides and reference works, but these could not have been written if others in the past had not taken the trouble to put pen to paper. Thus, although many of the lazy ones will simply say that they watch birds for pleasure and not for posterity, they would do well to reflect whether their debt to the pioneers who paved the way is not such that they ought to put something back into their hobby in return.

Not so many years ago, many county and local societies went their own ways without concern for their neighbours, resulting in incomplete overlaps and gaps in the recording network. This situation has greatly improved in recent years and no little thanks are due to the B.T.O. for organising periodical conferences for the local editors and for acting as mediators when disagreements arose. Feuds on a more personal level are harder to conquer. Every county editor has had experience of observers who refused to send him records because they do not consider him competent to judge them or, more probably, because he has been so bold as to reject an identification of theirs in the past. Obviously no individual or editorial committee is infallible and *quis custodiet ipsos custodes*, but those involved must make their best judgment on the evidence available. Would those who criticise the system prefer that all reports were accepted willynilly from everyone or can they suggest a better way of doing things? If the answer in both cases is no, they should think again and try to rise above their differences for the sake of advancing knowledge; such knowledge may in the end help towards the conservation of the birds themselves, which is what really matters.

This issue is largely devoted to the report on rare birds in 1970. Despite the last-minute collection, consideration and inclusion of a number of records which had to be solicited individually, it is not as complete as all concerned would have liked because there are still those who have not yet submitted their 1970 records.

Report on rare birds in Great Britain in 1970 (with 1960, 1966, 1968 and 1969 additions)

F. R. Smith and the Rarities Committee

Plates 53-60

This is the thirteenth annual report of the Rarities Committee. The abrupt fall in 1969 of 20% in the number of records submitted, to 400 (of about 103 species), was followed in 1970 by an equally sharp rise, to about 550 (of 114 species): this was more than the peak of 510 in 1968, which had followed a steady increase annually since 1966 when there were only 360. Although this latest rise was very largely caused by the unprecedented influx of rarities of southern origin in the spring, there was additionally a resumption in the autumn of the influx of American species that has been particularly evident since 1960 (but less so in 1969) and, from the opposite direction, a steady flow of rarities of eastern origin, including about 120 Richard's Pipits *Anthus novaeseelandiae*.

The acceptance rate also resumed a high level of 85%, slightly higher than the 83% of 1968 and much more than the 79% of 1969. The rate is bound to fluctuate, however, being higher whenever there is an influx of species that are easily identifiable. Of the 114 species involved, about 96 were ones of which less than ten are recorded annually. The use of the 'Unusual Record' form (*Brit. Birds*, 58: 228-229), which is obtainable free from the address on page 371, was continued, and it is of interest that the recently constituted committees covering Denmark and California have adopted similar forms after consultation with us on the whole subject of assessment of rarities.

Appendix 1 on pages 369-371 lists the 81 rejections for 1970 and this is followed by one additional 1968 rejection and three 1969 ones. Supplementary accepted records for previous years are listed on pages 367-369 at the end of the main systematic list and comprise one for 1960, one for 1966, three for 1968 and 15 for 1969.

The procedure adopted in 1968 (*Brit. Birds*, 62: 457) resulted in the retirement of G. A. Pyman as next in order of seniority. He had served as honorary secretary from the inception of the committee until 1960 and had continued since then as a member. In addition, R. Wagstaffe retired owing to ill health, having served since 1962: his help in scrutinising records and comparing descriptions with specimen skins, with the assistance of the staff of the Liverpool Museums, was invaluable. We take this opportunity of expressing our appreciation of the service that these two members have so willingly given. The committee now consists of P. A. D. Hollom (chairman), F. R. Smith

(honorary secretary), D. G. Bell, A. R. M. Blake, Peter Davis, R. H. Dennis, P. J. Grant, R. A. Richardson and Dr J. T. R. Sharrock. The new member, P. J. Grant, was appointed with the support of the county and regional organisations and bird observatories. Following the retirement of R. Wagstaffe, it has now been arranged with the British Museum (Natural History) for special cases involving museum research to be referred to Derek Goodwin for examination and comparison with skins. Thus there is still another vacancy for a full member and steps are being taken to fill this (see page 378).

The comments on the individual species have been prepared by P. F. Bonham. The Irish records have again been taken into consideration, and general statements in the species comments always cover both the British and Irish data, but the acceptance or rejection of Irish records has continued to be the responsibility of the editor of the *Irish Bird Report* (and of the Northern Ireland Bird Records Committee). All Irish records are published annually in the *Irish Bird Report* (obtainable from David Scott, Granite Cottage, Ulverton Road, Dalkey, Co. Dublin, at 30p) and once again we must express our gratitude to its editor, Major R. F. Rutledge, for agreeing to our repeating them and for providing advance information. For each species, the Irish records are given at the beginning of the species comment after the summary (in brackets) of the world breeding range. Where appropriate, a few records from the Channel Islands have also been mentioned at the end of the species comments, though these are not included among the totals of British, or British and Irish, records.

Photographs of some of the 1970 rarities are reproduced on plates 53-60 and colour plate Ia. Observers are again urged to submit any black-and-white prints of rarities for publication and there may continue to be scope for reproducing one or two colour transparencies of outstanding quality. A list of the species considered by the committee was last published with the 1965 report (*Brit. Birds*, 59: 304-305), but revised reprints are available from the address on page 371. It should be noted that records of Arctic Redpolls *Acanthis hornemanni* are now considered only if the bird or birds have been examined in the hand, and that Richard's Pipits (see pages 362-363) will no longer be considered by the committee.

The principles and procedure followed in considering records were explained in the 1958 report (*Brit. Birds*, 53: 155-156) and the systematic list is set out in the same way as in the report for 1969 (*Brit. Birds*, 63: 269-291). The following points, some of which were outlined more fully in the 1958 report (*Brit. Birds*, 53: 156-158), should be borne in mind, as they show the basis on which this information has been put together:

(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 cases of spring and

summer records, however, the age is normally given only where the bird concerned was not in adult summer plumage); (4) if trapped or found dead; (5) date(s); and (6) observer or observers up to three in number, in alphabetical order.

(ii) No record which would constitute the first for Britain and Ireland is published by us, even if we consider it acceptable, until it has been passed by the Records Committee of the British Ornithologists' Union.

(iii) In general, the report is confined to records which are regarded as certain, and 'probables' are not included. In the case of the very similar Long-billed and Short-billed Dowitchers *Limnodromus scolopaceus* and *L. griseus*, however, we are continuing to publish indeterminable records and this also applies to observations of such 'difficult' groups as frigate-birds *Fregata spp* and albatrosses *Diomedea spp*.

(iv) The sequence of species is based on the last B.O.U. *Check-List of the Birds of Great Britain and Ireland* (1952) with a few small changes resulting from more recent research and the many later additions inserted where they seem most appropriate. The scientific nomenclature and speciation, on the other hand, follow the more up-to-date work of Dr Charles Vaurie's *The Birds of the Palearctic Fauna* (1959-65) with only minor exceptions. Any sight records of subspecies (including those of birds trapped and released) are normally referred to as 'showing the characters' of the race concerned.

Duplicated drafts of the lists of records in this report have been sent to all the county recorders concerned in England and the regional recorders in Scotland, Wales and the Isle of Man; proofs have also been approved by the appropriate authorities in Scotland, Wales and Ireland, and individually by the members of the committee. This double-checking of the details, and improvements in the exchange of information, have reduced the likelihood of discrepancies between the reports of this committee and the regional publications. Observers are once more urged to make sure that the last dates on which birds are seen are supplied.

M. D. England has continued his correspondence with British and Continental aviculturists and zoos on escapes within this country and those that might reach us from abroad. He has added considerably to our knowledge about imported species that are breeding in a feral state. Consultations with the Wildfowl Trust about special cases of wildfowl identification and escape problems have once again proved very helpful.

The committee are most grateful to the many observers and organisations whose co-operation has made the publication of this report possible. All records should continue to be directed to F. R. Smith, 117 Hill Barton Road, Exeter, Devon EX1 3PP.

Systematic list of records accepted

Albatross *Diomedea sp* (probably **Black-browed** *D. melanophris*)

Northumberland: St Mary's Island, Whitley Bay, 7th May (Dr J. D. Parrack).

(Southern oceans) The eighth successive year with at least one albatross sighting. British and Irish records now total about 30,

though some have very probably involved the same individuals; more than half have been specifically identified, all as Black-browed.

Wilson's Petrel *Oceanites oceanicus*

Cornwall: St Ives, 20th October (J. A. Bailey, R. V. A. Marshall).

(Southern oceans) Only the third record this century, the others having been in 1967 (also off St Ives, on 29th October) and 1969.

Cory's Shearwater *Calonectris diomedea*

Aberdeenshire: Collieston, 21st August (Dr C. J. Feare *et al.*). Rattray Head, almost certainly the same bird, 21st August (M. R. Williams).

Cornwall/Scilly: Wolf Rock area, 9th and 19th October (J. A. Bailey).

Dorset: Portland Bill, 13th June (F. R. Clifton, G. Walbridge).

Norfolk: Cley, two, 4th October (D. K. Bond).

Orkney: off Hoy, 24th September (Professor M. F. M. Meiklejohn).

(Eastern Atlantic and Mediterranean) Also two off Cape Clear Island, Co. Cork, on 21st August and two more there on 4th September, as well as three off Brandon Point, Co. Kerry, on 31st August. (In addition, two off Cape Clear Island on 4th September 1969 were omitted from the 1969 report.) The British total of about seven individuals is rather high, being similar to the second highest total of seven records involving nine birds in 1967, but the number off the Irish coast was exceptionally low. The best year by far for British records was 1965, with about 130 individuals; excluding that year, the annual average during 1958-69 was between two and three, the majority in August or September.

Purple Heron *Ardea purpurea*

Cardiganshire: Cors Tregaron, adult, 17th to 22nd May (P. E. Davis *et al.*).

Devon: Lundy, adult, 19th April (R. and Mrs H. Machin, Mrs H. Stormont). Sherper Marshes, Braunton, two adults, 12th to 26th May (I. Taylor, A. J. Vickery *et al.*).

Dorset: Lodmoor, Weymouth, adult, 11th to 14th May (D. N. Arnold, F. R. Clifton, D. A. Dolphin *et al.*).

Essex: Fingringhoe Wick, immature, 2nd to 18th August (S. E. Linsell *et al.*). Hanningfield Reservoir, adult, 15th November (R. P. and S. H. Hudgell); 30th (Mr and Mrs H. E. Howes).

Glamorgan: Langland Bay, Swansea, immature, 23rd April (K. R. Lloyd).

Hampshire: Christchurch Harbour, adult, 13th September (C. I. Husband).

Kent: Stodmarsh, adult, 24th to 26th May (J. N. Hollyer *et al.*).

Lancashire: Leighton Moss, adult, 4th to 7th May (J. A. G. Barnes, A. Grieve, J. Wilson *et al.*); immature, 18th to 20th June (J. A. G. Barnes, P. Carah, J. Wilson). Freckleton, adult, 8th May (P. Carah).

Lincolnshire: Chapel St Leonards, adult, 7th and 8th May (K. Atkin, A. D. Townsend, R. B. Wilkinson *et al.*). Anderby, probably the same adult, 23rd May (K. Atkin, M. Frettingham).

Middlesex: Shepperton gravel pits, adult, 2nd June (F. R. Cannings).

Scilly: St Mary's, adult, 26th April to 3rd June (M. Harrison, D. B. Hunt *et al.*); adult found dead, 30th May, ringed as a nestling at Noorden, Netherlands, on 6th June 1968 (D. B. Hunt *et al.*). St Agnes, 11th May, the adult from St Mary's was seen in flight (N. J. Phillips *et al.*); immature, 13th October (D. J. Holman, A. J. Livett *et al.*). Annet, flying south, 23rd May (D. B. Hunt).

Shetland: Fair Isle, immature, 4th to 11th June (R. H. Dennis, Dr B. Marshall *et al.*).

Somerset: Chew Valley Lake, immature, 20th April (Mrs A. Heathcote); 2nd and 3rd May (R. Angles, A. J. Parsons *et al.*).

Suffolk: Minsmere, immature, 31st May and 24th to 30th June (H. E. Axell, P. J. Makepeace, D. Mower *et al.*).

Sussex: Litlington, adult, 10th May (P. J. Wilson).

Warwickshire: Wormleighton Reservoir, adult, 18th April (G. J. M. and Miss A. E. M. Hirons).

Yorkshire: Leeds, adult, 20th June (P. E. Larner, C. and Mrs J. Massingham *et al.*).

(South-central Eurasia, north to Netherlands, and Africa) Also one on Cape Clear Island, Co. Cork, on 26th August. This total of at least 25 in 18 counties exceeds even the 1968 peak of about 20. The distribution of the five found during 18th-23rd April, a period of marked anticyclonic activity over Iberia and Biscay, suggests that they crossed the south-western approaches and turned north-east; further arrivals from 4th May were more widespread, though still with a westerly bias indicating southern rather than the more usual Dutch origin, though the recovery on St Mary's and another of a Dutch-ringed bird in May 1969 (*Brit. Birds*, 63: 270) support the belief that most come from the Netherlands rather than southern Europe. There were associated influxes of other herons (see below). Of the five in autumn, the one in Co. Cork was only the third Irish record.

Little Egret *Egretta garzetta*

Argyll: Loch Feochan, 1st February (A. Gregory, Miss S. G. Hill). Loch Gorm, Isle of Islay, 25th May to 4th July (R. Hodgkinson, Miss J. R. Murray, D. Tomlinson).

Cardiganshire/Merionethshire: Dyfi Estuary, 23rd June to 23rd August (W. M. Condry, P. E. Davis *et al.*).

Cornwall: Marazion, 18th April; Hayle, two, 18th and 19th April (P. D. Round, L. P. Williams *et al.*); one, 28th April to 2nd May (J. H. Johns, L. P. Williams). Newbridge, 20th April (F. Hull, F. J. Lawry). Heamoor, 30th April to 3rd May (J. H. Johns). Also unconfirmed reports of one or two at several localities in west Cornwall during 20th-24th April. Probably only two or three individuals involved in all these sightings.

Dorset: Lodmoor, 17th April, five from 18th to 30th, six on 1st May, four on 2nd, two from 3rd to 5th, last one 11th May; Portland Bill, 17th to 29th April, two briefly on 19th, one trapped; North Portland, 18th and early on 19th April; Langton Herring, late 19th to 28th April; Ferrybridge, 29th and 30th April (F. R. Clifton, J. A. Hazell, P. Walbridge *et al.*). At least seven birds involved in all. Sightings in Poole Harbour, considered to involve almost certainly the same individuals, were as follows: Arne, three 3rd May, one 4th, 6th and 12th, two or three 16th, three 17th and 18th, one 28th, then one all summer mainly in the vicinity of Brownsea Island where last seen 26th September (B. P. Pickess *et al.*).

Essex: Fingringhoe and Langenhoe area, 29th May to 21st June (R. P. Hull, S. E. Linsell *et al.*).

Hampshire: Pennington Marshes, Lymington, 30th May (J. S. M. Albrecht, N. G. C. Moll).

Kent: Windmill Creek, Murston and Stoke Lagoon, 6th to 13th June (D. L. Davenport, P. J. Oliver, R. Smith *et al.*).

Lancashire: Leighton Moss, adult, 25th May (A. Grieve, J. Wilson, S. Woodhouse *et al.*).

Lincolnshire: Donna Nook, two, 5th May (G. K. Brown, S. Lorand). North Coates, 25th May and 29th June (I. McNish).

Lincolnshire/Nottinghamshire: Marton and Littleborough, 29th May (J. M. Feeney, R. A. Frost, N. R. Stocks).

Norfolk: Colney gravel pits, 12th July into early August (M. J. Seago, C. M. Ward *et al.*).

Northumberland: Budle Bay, 3rd May (R. Furness). Holy Island, Beal and Fenham Flats, probably the same bird, 5th to 14th May (J. Brigham, J. Moss, J. Renny *et al.*).

Pembrokeshire: Gann Flats and Sandy Haven, one of the two first recorded in October 1969 (*Brit. Birds*, 63: 270) stayed throughout 1970 (J. W. Donovan *et al.*).

Shetland: Sandness, found long dead, 2nd May (T. Georgeson, *per* D. Coutts).

Suffolk: Minsmere, 14th to 18th and 31st May, 13th June (H. E. Axell, P. J. Makepeace, D. Mower *et al.*). Havergate, two, 1st June, one to at least 18th July (P. A. Banks, W. Miller, R. J. Partridge *et al.*).

Sussex: Pagham Harbour, 1st May (Mrs N. E. Petrie-Hay, Miss J. V. Stacey); 20th and 21st (R. J. Sandison, M. Shrubbs).

Wigtownshire: Whithorn and Garlieston, 19th April to 6th May (R. H. Miller, G. A. Willmet).

(Southern Eurasia, Africa and Australia) Also Irish records as follows: in Co. Cork, Ballycotton 19th April-2nd May and another 8th June, Timoleague 2nd May, Clonakilty 16th May-April 1971; in Co. Dublin, Swords estuary 14th May and almost certainly the same bird near Donabate 24th June-31st July; in Co. Waterford, near Dungarvan 26th April, three Waterford Harbour 10th-12th May; in Co. Wexford, Rosslare 10th May and 3rd June, three Lady's Island Lake in week 10th-16th May, North Slob 18th May, Castlebridge inlet 26th May (possibly some duplication); and in Co. Wicklow, Broad Lough 18th May.

Opinions must differ as to how many were involved in this quite unprecedented spring influx, but the total may have been at least 40, excluding the Pembrokeshire bird and the one in Argyll in February which probably overwintered too (*Brit. Birds*, 63: 270-271). The first twelve (approximately) were found during 17th-19th April, including one which reached Wigtownshire. All but three of the May-June records were from south and east Ireland and south and east England, a very atypical distribution, but some of the English ones were surely April birds wandering gradually east. The complete lack of new records in autumn is surprising, though the monopoly of autumn ones in 1969 was exceptional.

Squacco Heron *Ardeola ralloides*

Cambridgeshire: Ouse Washes, adult, 12th June (Dr C. J. Cadbury *et al.*).

Scilly: St Mary's, 1st May to 3rd June, visiting Tresco on 8th May and St Agnes on 9th (D. B. Hunt, Miss H. M. Quick *et al.*).

(South Europe, south-west Asia and Africa) These were the first since one was found dying in Dublin on 2nd October 1967. The reversal of the Squacco Heron's status in Britain and Ireland with that of the Little Egret during this century is increasingly evident.

Night Heron *Nycticorax nycticorax*

Bedfordshire: Felmersham, adult, 16th June (Dr K. Hutton, M. Rogers).

Caernarvonshire: Bardsey, 22nd to 26th April (J. E. Davis, G. H. Evans *et al.*).

Devon: Slapton Ley, adult, 8th August (R. Burrige, M. Madden).

Dorset: Radipole Lake, Weymouth, adult, 2nd June (D. N. Arnold).

Hertfordshire: Stocker's Lake, Rickmansworth, adult, 6th September (D. K. Chesterman).

Kent: Yalding, immature, 2nd May (Dr J. G. Harrison *et al.*).

Scilly: St Mary's, 26th April, subsequently up to three, two staying until the end of May and one until at least 6th June (D. B. Hunt, L. P. Williams *et al.*) (plate 59a).

Sussex: Sidlesham, 27th May (M. Shrubbs).

Westmorland: Appleby, immature, late October until July 1971 (R. W. Robson, G. G. Wood *et al.*).

(Southern Eurasia, Africa and the Americas) Also an adult at Ballycotton, Co. Cork, from 6th July to 3rd August. The usual caveat about the possibility of escapes from the full-winged colony at Edinburgh Zoo Park and from other zoos hardly applies to the spring records: as with the other rare herons, the first appeared in late April. The three in Scilly were especially notable, and unconfirmed reports of '18 small herons' emerging from some trees by a pool on St Mary's early one morning about 19th April may also have referred to Night Herons. One found exhausted on Guernsey on 27th April fits in with the British records.

Little Bittern *Ixobrychus minutus*

Cornwall: Swanpool, Falmouth, ♀, 26th April to 13th May (Rev. J. E. Beckerlegge, B. Cave *et al.*) (plate 53).

Devon: North Huish, ♂, 19th to 28th April (Mrs G. S. Storrs, N. Storrs). Slapton Ley, ♀, 25th April to 8th June (L. I. Hamilton, I. D. Mercer *et al.*).

Dorset: Lodmoor, Weymouth, ♂, 13th to 15th May (F. R. Clifton, K. W. Parker, G. A. Smith *et al.*).

Essex: Fingringhoe Wick, ♂ and ♀, 27th April (S. E. Linsell, R. V. A. Marshall).

Fife: Arncroach, ♂, 10th June (Mrs J. A. R. Grant, Miss T. Wareham, Miss J. Watkins).

Flintshire: Cwm, Rhyl, ♀, found dead, 14th May (R. Humphrey, *per* Dr J. G. Harrison).

Glamorgan: Eglwys Nunydd Reservoir, ♂, 17th April to 3rd May (G. H. and K. Jones, P. G. Lansdown *et al.*). Eastbrook, Dinas Powis, ♂, found with shot wound

25th April, cared for until it died on 27th, specimen in the British Museum (Natural History) (A. Taylor, *per* Dr P. J. K. Burton). Kenfig Pool, ♀, 2nd and 3rd May (J. Gardiner, M. J. S. Goddard, R. A. Hume *et al.*).

Hampshire: Farlington Marshes, ♂, 2nd to 6th May (J. C. Barker, K. R. Grant).

Lincolnshire: Burton gravel pit, Lincoln, ♂, 13th May (K. Atkin, P. Prince, F. Stewart *et al.*).

Northamptonshire: Bozenham Mill, ♀, 2nd August (C. and J. Fisher, N. C. Moore).

Pembrokeshire: Sandy Haven, ♂, 18th April (J. Lloyd, W. Perry, J. Wilmot *et al.*).

Scilly: Tresco, ♀, 8th June (D. B. Hunt)

Somerset: ♂, 6th June to 13th July; another ♂ elsewhere, 8th June (localities withheld) (D. E. Paull, K. Pellow *et al.*).

Suffolk: Minsmere, ♀, 7th May (H. E. Axell, I. Hornsby, B. Little).

(Western Eurasia, Africa and Australia) These 19 make the highest annual total ever. The first eight, discovered during 17th-27th April, were all in the south-west except for the pair on the Essex coast, but the May and June records were more scattered. A male on Guernsey from 19th April to 3rd May was clearly associated with the British immigrants, whose origin, like that of the other southern herons in late April, was probably the Iberia-Biscay region.

American Bittern *Botaurus lentiginosus*

(North America) None in Britain, but an immature found dying at Malahide, Co. Dublin, on 4th October, the first Irish record for six years and the twentieth in all. Most of these and the 33 or so in Britain have been in autumn, mainly before 1914.

Black Stork *Ciconia nigra*

Hampshire: Godshill, Fordingbridge, 12th May (M. Angliss). Rhinefield, perhaps the same bird, 17th to 19th May (K. R. Grant, P. A. Gregory, J. Oakshatt *et al.*).

Suffolk: Cretingham, 27th April and 19th July (J. Austin, J. E. L. Pemberton, J. R. Western).

(Spain, eastern Europe to eastern Asia and southern Africa) In 1969 one (possibly two) in East Anglia was the first for ten years, but now we have two or three more in 1970. The possibility of escapes remains, however.

Green-winged Teal *Anas crecca carolinensis*

Drakes showing the characters of this North American race of the Teal were recorded as follows:

Devon: Otter Estuary, 16th December (Surgeon Rear Admiral J. M. Reese).

Shetland: Northmavine, 5th April (D. Coutts, F. Hunter, R. J. Tulloch).

(North America) Also males at Ballycotton Lake, Co. Cork, from 15th February to 3rd April and on the North Slob, Co. Wexford, on 11th October. Four in a year equals the average since 1958.

Blue-winged Teal *Anas discors*

Kent: Sandwich Bay, ♂, 14th April (D. M. Batchelor, D. Richardson).

Northumberland: Low Newton Pool and Cresswell Pond, ♂, 30th May to 4th June (M. T. Rigby).

Sussex: Pagham Harbour and Chichester gravel pits, ♂, 12th to 14th May (A. Parker, Miss J. V. Stacey).

(North America) Also a female or immature at Lady's Island Lake, Co. Wexford, on 2nd October. These four make a grand total for Britain and Ireland of 35, but we have heard from M. D. England that this species is now being bred extensively in collections; many are unopinioned and the chance of escapes is rapidly increasing.

Ring-necked Duck *Aythya collaris*

Devon: Beesands Ley, Slapton Ley and River Dart, ♂, 8th March to 2nd May (M. R. Edmonds, T. F. Edwards, D. G. Jenks *et al.*) (plate 59d).

Norfolk: near Reedham, 15th March to 5th June (M. J. Seago *et al.*) (see also page 368).

(North America) Also a drake at Lurgan Park Lake, Co. Armagh, from mid-October 1969 to mid-May 1970 which was thought to have been one of the 1960-68 birds (*Brit. Birds*, 62: 465). All records since the first in 1955 have been during October-April, often at the same locality in successive years. This is the first time one has appeared at Slapton. As stated in the last report (*Brit. Birds*, 63: 273), the possibility of escapes from collections is now considerable.

Steller's Eider *Polysticta stelleri*

Aberdeenshire: Rattray Head, ♂, 8th November (M. R. Williams).

(Arctic Russia to extreme north-west Canada) This was the first since 1959 and the seventh in all.

King Eider *Somateria spectabilis*

Shetland: Ronas Voe, ♂, 23rd March to 9th April (D. Coutts, R. J. Tulloch, A. Williamson *et al.*).

Wigtownshire: Kirkcolm, immature ♂, 30th March (Miss R. M. Bairnson, A. F. Jacobs *et al.*).

(Circumpolar Arctic) Shetland has produced at least one King Eider in most recent years, and it seems likely that the same individuals are reappearing. As with some other rare ducks, most records are in late winter and spring.

Lesser White-fronted Goose *Anser erythropus*

Gloucestershire: Slimbridge, immature, 1st March (J. A. and Mrs A. J. Bailey); adult, 13th December to 20th February 1971 (M. A. Ogilvie, P. Scott *et al.*).

(North-east Europe and Siberia) During 1968-70 Slimbridge provided the only records of this almost annual vagrant.

Black Kite *Milvus migrans*

Orkney: North Ronaldsay, adult, 28th September (Professor M. F. M. Meiklejohn).

Sussex: Beachy Head, 12th April (A. R. Kitson, B. A. E. Marr).

(Most of Eurasia, Africa and Australia) The eleventh and twelfth British records; there has been none in Ireland.

Gyr Falcon *Falco rusticolus*

Shetland: Whalsay, showing the characters of the white 'candicans' type which predominates in Greenland, 8th April (J. H. Simpson).

(Circumpolar Arctic) Also one near Midleton, Co. Cork, on 6th March. Two in a year, in March-April, is not unusual.

Red-footed Falcon *Falco vespertinus*

Cornwall: near Tintagel, ♀, 14th October (Dr A. W. and Mrs M. Ferguson).

Devon: Soussons, Dartmoor, ♀, 20th June (R. F. and Mrs V. M. Moore).

Hampshire: Bishop's Dyke, Beaulieu, ♂, 9th May (E. J. Salholm, A. J. L. Smith).

Kent: Sandwich Bay, ♂, 26th May (D. M. Batchelor, D. L. and M. Davenport).
Reculver, ♂, 13th to 16th June (C. H. Dean, C. Hindle).

Scilly: Tresco, ♀, 15th May (D. B. Hunt).

Shetland: Tingwall, ♀, 10th to 25th May (F. Hunter, J. Irvine, Miss R. Mouat *et al.*).
Burravoe, Yell, ♀, 7th to 24th June (D. Coutts, A. R. Mainwood, R. J. Tulloch *et al.*).

(Eastern Europe and south from Siberia) The October one was unusually late, but the seven in spring were typical. The two in Shetland may have been the same individual, though this has been doubted.

Crane *Grus grus*

Northamptonshire: Middleton Cheney, 19th June (C. A. J. and J. Christie).

Shetland: Fetlar, 7th May, two 12th to 16th, one 17th (A. G. G. Hughson, R. K. Macgregor, A. R. Mainwood *et al.*).

(Northern and central Eurasia, south to Black Sea area) The origin of isolated records of this species must always be in some doubt, though the two in Shetland are almost certain to have been wild individuals

Baillon's Crake *Porzana pusilla*

Leicestershire: Fleckney, taken from a cat and released, 19th May (J. C. Badcock, C. W. Holt).

Yorkshire: Fairburn Ings, 6th to 13th June (P. J. Carlton, B. Eaton, C. Winn *et al.*).

(West and south Europe, across Asia, various parts of Africa, and Australasia) Considering that this migratory species breeds just across the Channel, its rarity in recent years is surprising. These are only the third and fourth since 1948.

Little Crake *Porzana parva*

Hampshire: Wick Hams, Christchurch, ♀, 21st to 27th March (R. J. Booth, G. E. Fordham, C. I. Husband *et al.*).

Nottinghamshire: West Burton, ♂, trapped, 28th September (F. G. Rippingale).

Shetland: Fair Isle, ♂, trapped, 11th May (R. H. Dennis, Dr B. Marshall *et al.*).

(Central and eastern Europe and western Asia) Formerly this species was rarer than Baillon's Crake but now it is found in most years. There have been 17 records since 1958—the figures of twelve in the 1968 report and 13 in that for 1969 excluded the 1967 Lancashire record (*Brit. Birds*, 62: 490) and should have read 13 and 14 respectively.

Great Bustard *Otis tarda*

Kent: Rockhill Farm, St Margaret's Bay, two, 11th January (Dr and Mrs P. S. Welch).

Shetland: Fair Isle, adult ♀, 11th January to 6th April when it was removed from the island (see below) (G. J. Barnes, R. H. Dennis, E. Stout *et al.*).

(Central and south Eurasia, discontinuously from Portugal to the Pacific) These three, all on the same date and two together, make seven 20th century records involving eight birds. The others were all singles, in 1924, 1925, 1926, 1936 and 1963 (the last of which was found dead). The two in Kent were not seen again, but the one on Fair Isle was very weak on arrival and was cared for until April when, being apparently unable to survive in the wild, it was taken to a wildlife park in Buckinghamshire under Nature Conservancy licence.

Lesser Golden Plover *Pluvialis dominica*

(Arctic North America and north-east Asia) None in Britain, but one at Barley Cove, Co. Cork, from 19th to 21st August, making 18 British and Irish records. Although this is one of the rarer American waders, 1970 was the fifth year in succession with at least one occurrence.

Long-billed Dowitcher *Limnodromus scolopaceus*

Cheshire: Frodsham, 19th September to 18th October (S. C. Joyner, M. S. and P. F. Twist *et al.*).

Cornwall: Hayle, 11th May (J. H. Johns).

(North America) See below for comments on these records.

Dowitcher *Limnodromus scolopaceus* or *L. grisus*

Hampshire: Pennington Marshes, 13th and 14th September (B. S. Duffin, R. Dunn *et al.*).

Kent: Harty Ferry, 27th September (R. Collins, R. Fearn, D. C. H. Worsfold *et al.*).

Orkney: North Ronaldsay, 4th April (R. J. W. Shaw).

Somerset: Steart Island, 25th October (P. J. Chadwick, T. R. Cleeves *et al.*).

(North America) Also singles at Akeragh Lough, Co. Kerry, on 14th October and at Ballycotton, Co. Cork, from 13th December to

April 1971. Much as in 1969, of the eight dowitcher records accepted, two British were definitely identified as Long-billed and the other four British and the two Irish were indeterminate. Of the 98 or so in all, only 23 have been ascribable to the Long-billed and even fewer to the Short-billed species. Spring records are relatively rare, but there was also one in 1969. The one which overwintered in Ireland recalls the famous 1966-67 Hayle Long-billed Dowitcher, which prompted a paper on dowitcher identification (*Brit. Birds*, 60: 317; 61: 339-340, 366-372, plates 43-46).

Stilt Sandpiper *Micropalama himantopus*

Sutherland: Dornoch, 18th April (D. Macdonald, Miss V. M. Thom).

(North America) This was the ninth record for Britain and Ireland, but the other eight have all appeared during July-October. It was thus the first in spring, and also the first in Scotland.

Great Snipe *Gallinago media*

Silly: St Mary's, 6th October (G. H. Price).

(North-east Europe and north-west Asia) The last year in which only a single record was accepted was as long ago as 1964.

Upland Sandpiper *Bartramia longicauda*

Shetland: Fair Isle, 5th October (R. H. Dennis, Dr B. Marshall, S. Thomson *et al.*).

(North America) The British and Irish total is now 24, nine since 1958. The only previous Scottish record was in Dumfriesshire in October 1933.

Spotted Sandpiper *Tringa macularia*

Cornwall: Bussow Reservoir, St Ives, 17th to 29th August (J. B. and S. Bottomley *et al.*).

(North America) Each year since 1965 has produced at least one record, but the grand total is still only 16. Following a paper on the separation of immature Spotted and Common Sandpipers *T. hypoleucos* in autumn (*Brit. Birds*, 63: 168-173), notes on the above individual were published with photographs (*Brit. Birds*, 64: 124-125, 318-319, plates 18-19a).

Lesser Yellowlegs *Tringa flavipes*

Gloucestershire: Frampton-on-Severn, 2nd to 26th April (T. D. Evans, S. P. Harris, J. D. Sanders *et al.*).

Kent: Chetney, 4th to 9th September (Drs J. G. and J. M. Harrison). Walland Marsh, 11th to 18th October (R. J. Dann, A. J. Greenland, R. E. Scott *et al.*).

Lincolnshire: North Killingholme, 3rd to 30th October (G. K. Brown, S. Lorand, J. D. Wright *et al.*).

Oxfordshire: Stanton Harcourt gravel pits, 1st to 17th October (Dr B. Campbell, Dr J. A. Morton, M. H. Rowntree *et al.*).

Sussex: Cuckmere Haven, 3rd and 4th August (J. F. Cooper, M. J. Rogers, P. J. Wilson *et al.*).

(North America) Also one in the Douglas estuary, Cork Harbour, from 27th March to 1st April, possibly the Tivoli bird of December 1969 (*Brit. Birds*, 63: 277); one at Akeragh Lough, Co. Kerry, on 12th September; and two at Ballycotton, Co. Cork, from 23rd September and 4th October respectively, one to at least 11th October and the other to 22nd November. The spring records tie up in an interesting way: apart from the possibility of the Douglas estuary bird having overwintered, it was last seen the day before the one appeared on the River Severn, and it is quite conceivable that the same individual was involved. Considering them separately, however, 1970 produced a peak of ten individuals, making a grand total in excess of 88, 53 of them since 1958.

Least Sandpiper *Calidris minutilla*

Cornwall: Marazion, 7th and 8th June (Rev. J. E. Beckerlegge, J. H. Johns, P. D. Round *et al.*).

(North America) Also one near Kilcoole, Co. Wicklow, on 17th October. These were the first since one in Co. Cork in September 1967; eleven have now been recorded since 1958 and 16 altogether. The Cornish bird was the first in spring.

Baird's Sandpiper *Calidris bairdii*

Norfolk: Cley and Salthouse, 18th to 20th September (D. J. Hall, M. Jones, D. C. Shenton *et al.*). Brancaster, perhaps the same bird, 23rd and 24th September (E. Dickinson, Miss E. Forster, C. A. E. Kirtland *et al.*).

(North America) Also one at Ballycotton, Co. Cork, from 15th to at least 26th September, two at Lady's Island Lake, Co. Wexford, on 26th-27th September, and one at Akeragh Lough, Co. Kerry, from 14th to at least 17th October. This is another American wader with a recent upsurge in records: these five (possibly six) typically autumn occurrences bring the total since 1958 to 30 and the grand total to 35.

White-rumped Sandpiper *Calidris fuscicollis*

Cheshire: Frodsham, 18th October to 3rd November (B. S. Barnacal, D. L. Clugston, D. Metcalfe *et al.*).

Glamorgan: Swansea, 19th March (D. G. P. Chatfield).

Lancashire: Freckleton, 15th November (B. Barnacal, Professor J. C. Craggs, Dr R. J. Raines *et al.*).

Lincolnshire/Norfolk: Wisbech sewage farm, 10th to 19th August (C. A. E. Kirtland, J. A. W. Moyes *et al.*).

Orkney: Tankerness, 11th and 12th October (E. Balfour, E. J. Williams).

Scilly: St Mary's, 6th October (P. Lansdowne, J. Phillips, D. Willis *et al.*) (plate 54b). Bryher, a different bird, 7th to 9th October (D. B. Hunt, J. H. Johns, G. H. Price *et al.*) (plate 54a).

(North America) Also one at Akeragh Lough, Co. Kerry, on 10th September and up to two there during 11th-17th October. This is far the commonest American 'peep' here, having occurred every year since 1955; some 90 have been recorded in Britain and Ireland, the vast majority in autumn.

Semipalmated Sandpiper *Calidris pusillus*

(North America) None accepted in Britain (though two or three are still under consideration), but single immatures at Akeragh Lough, Co. Kerry, on 5th September and 14th-15th October bring the grand total to 18, 16 of them since 1964.

Buff-breasted Sandpiper *Tryngites subruficollis*

Cheshire: Frodsham, 26th September, 10th and 17th October and (probably a different bird) 12th November (D. L. Clugston, Dr R. J. Raines, P. F. Twist *et al.*).

Cornwall: Stithians Reservoir, 20th September (A. H. Glanville). Predannack Airfield, Lizard, four, 27th September (A. H. Glanville).

Gloucestershire: Aylburton Warth, Lydney, 20th to 22nd September (B. Bailey, T. D. Evans, J. D. Sanders *et al.*).

Norfolk: Salthouse, 3rd to 6th October (J. N. Dymond, R. A. Richardson *et al.*).

Northumberland: Holy Island, 9th October (T. Hallam).

Scilly: St Mary's, first two 6th September, increasing to seven from 18th to 25th, then six from 27th to 29th when one found dead, last one 5th October (K. D. Edwards, P. Z. Mackenzie, K. Osborne) (plates Ia, 56-57). Tresco, 12th September (D. B. Hunt, H. P. K. Robinson); 5th to 8th October (P. J. Grant, D. J. Holman, G. J. Jobson *et al.*) (plate 55c). St Agnes, 15th September (D. B. Hunt *et al.*); a different bird, 28th (K. Osborne *et al.*). At least eight in all.

Somerset: Steart, 7th to 10th October (B. Rabbitts). Cheddar Reservoir, 17th and 18th October (B. Rabbitts *et al.*).

Sussex: Sidlesham, 5th September (J. Burfield, L. G. Holloway).

(North America) Also singles in September at Ballycotton, Co. Cork, on 2nd and 13th (different birds) and at Lady's Island Lake, Co. Wexford, on 5th-6th; and up to two on the North Bull, Co. Dublin, during 27th September-3rd October. A minimum of 25 exceeds the 1968 peak of 17 and is about five times the average annual figure for 1958-69. Seven together is also unprecedented, though parties of two to four have occurred. About 116 individuals of this distinctive prairie species have now been recorded, virtually all in autumn.

Broad-billed Sandpiper *Limicola falcinellus*

Kent: Harty, trapped, 30th August (D. L. Davenport, R. Smith, C. E. Wheeler) (plates 55a, b).

Suffolk: Minsmere, 13th September (B. J. Brown, F. K. Cobb, G. J. Jobson *et al.*).

(Northern Eurasia) These bring the total since 1958 to a mere 14, but a high proportion of records are rejected or never submitted owing to difficulties of identification.

Black-winged Stilt *Himantopus himantopus*

Essex: Fingringhoe Wick, 3rd August (S. E. Linsell).

(Southern Europe, Africa, Australasia and the Americas) This species is very erratic in its appearances: for example, there was a large spring influx in 1965, but none at all in 1964, 1966 or 1969.

Wilson's Phalarope *Phalaropus tricolor*

Angus: Forfar Loch, 19th to 21st September (D. Barratt, G. M. Crighton, I. Simpson *et al.*).

Cornwall: Looe, 6th to 8th October (S. J. Hemmings, N. G. Hudson *et al.*).

Kent: Walland Marsh, 21st to 25th September (B. F. Coates, P. J. Dann, R. E. Scott *et al.*).

(North America) Also singles in September at Ballycotton Lake, Co. Cork, from 13th to at least 25th and at Lady's Island Lake, Co. Wexford, on 27th. These five bring the British and Irish total to 37; there was also one on Guernsey from 9th to 17th September. Plate Ib shows a Wilson's Phalarope recorded in Cornwall in September 1967 (*Brit. Birds*, 61: 343).

Pratincole *Glareola pratincola*

Cornwall: Crowan Reservoirs, 22nd July (J. Hawkey).

(South Europe, south-west Asia and Africa) Also an immature in the Bann estuary, Co. Derry, on 13th and 14th October. It is strange that since 1958 the Black-winged Pratincole *G. nordmanni*, which has a far more restricted and distant range in the Black Sea and Caspian regions, has been identified as often as this species (both about seven times).

Ivory Gull *Pagophila eburnea*

Durham/Northumberland: South Shields and North Shields, immature, 18th December to 23rd February 1971 (F. G. Grey, J. Strowger *et al.*).

(Arctic regions) This was only the eighth since 1958, but about 80 have been recorded altogether. An account of this occurrence and that of a Ross's Gull (see below) which also frequented the mouth of the River Tyne during the same period was published in *Birds*, 3: 224-225.

Franklin's Gull *Larus pipixcan*

Hampshire: Langstone Harbour and Farlington Marshes area, adult, 21st February to 16th May (D. F. Billett, J. T. Smith *et al.*).

Sussex: Arlington Reservoir, adult, 4th July (M. J. Rogers).

(North America) A full account of the one in Hampshire, the first

British and European record, has already been published (*Brit. Birds*, 64: 310-313, plates 50-51). It is possible, but not proven, that the one in Sussex was the same individual.

Bonaparte's Gull *Larus philadelphia*

Cornwall: St Ives, adult, 1st February to 26th April (N. J. Phillips *et al.*).

Norfolk: Cley, immature, 26th September (A. Parker).

(North America) Two records in one year are not unexpected; an adult, probably the same individual, stayed at St Ives in March-April 1968 and 1969, and the Norfolk occurrence in September paralleled a similar one in 1967. There have been just over 20 in all.

Ross's Gull *Rhodostethia rosea*

Durham/Northumberland: South Shields and North Shields, adult, 24th to 31st December (P. Andrew, S. D. Housden, A. J. L. Smith *et al.*).

(North-east Siberia) The eighth British and Irish record (see also Ivory Gull above).

White-winged Black Tern *Chlidonias leucopterus*

Cambridgeshire: Ely, adult, 12th to 23rd August (C. A. E. Kirtland).

Dorset: Radipole Lake and Lodmoor, Weymouth, 4th to 6th May (F. R. Clifton *et al.*).

East Lothian: Aberlady Bay, adult, 5th July (R. M. Blindell, A. Mathieson).

Essex: Abberton Reservoir, immature, 14th to 31st August (Dr S. Cox, R. V. A. Marshall *et al.*); adult, 22nd (R. V. A. Marshall). River Crouch, immature, 15th August (J. Fitzpatrick).

Hampshire: Fleet Pond, immature, 8th September (N. Elms, R. G. and S. J. Millington).

Hertfordshire: Hilfield Park Reservoir, two, 19th to 22nd September B. and R. D. Goater).

Inverness-shire/Nairnshire: Whiteness Head, adult, 14th July (B. Etheridge, K. T. Rushton).

Kent: Dungeness, one to three immatures, 28th August to 5th September (J. R. H. Clements, A. J. Greenland, R. E. Scott *et al.*); immature, 4th to 9th October (A. J. Greenland, M. Rogers, R. E. Scott *et al.*).

Lincolnshire: Anderby, 15th to 17th May (K. Atkin, A. E. Smith, R. B. Wilkinson *et al.*) (plates 59b, c). Bardney Ponds, immature, 6th to 8th August (K. Atkin, P. Haywood, A. D. Townsend).

Middlesex: Queen Mary Reservoir, two, 3rd May (F. R. Cannings, K. J. and Mrs Herber *et al.*); immature, 25th August (G. Walker).

Norfolk: Brancaster/Titchwell, two, 4th May, three 5th, two 7th and 8th, one 9th to 11th (R. Kimber *et al.*). Holme, two, 6th May (H. Ramsay).

Somerset: Durleigh Reservoir, 29th to 31st May (A. W. Evans, Miss E. M. Palmer *et al.*). Chew Valley Lake, immature, 13th to 17th August (P. J. Chadwick, P. L. Garvey, K. E. Vinicombe *et al.*); immature, 12th, 13th and 16th September (P. J. Chadwick, P. L. Garvey, M. A. Wright).

Staffordshire: Belvide Reservoir, immature, 8th September (A. R. M. Blake). Blichfield Reservoir, immature, 27th September (E. S. Clare, P. D. Hyde, M. J. Inskip *et al.*).

Warwickshire: Draycote Reservoir, Coventry, immature, 24th and 25th August (R. Brownsword, C. H. Potter, A. J. Richards *et al.*).

(South-east Europe and west and east Asia) Also one off Roche's Point, Co. Cork, on 1st September. The upward trend continues with another all-time peak of 29 individuals (assuming only three in Norfolk). The Inverness/Nairn record was unusually far north, and the East Lothian one, coincidentally, was only five miles from where another was seen on 27th June 1969. The eight (at least) in May were notable, and the early ones accompanied a very large passage of Black Terns *C. niger* (see 'Recent reports', *Brit. Birds*, 63: 224, which also mentioned a number of other White-winged Black Terns still under consideration). All the rest were between 5th July and 9th October.

Whiskered Tern *Chlidonias hybrida*

Berkshire: Sutton Courtenay, 2nd to 6th May (W. D. Campbell, D. U. Richards, G. I. Wond *et al.*).

Cheshire: Frodsham, 28th June (T. H. and Mrs F. M. Ellis).

Devon: River Exe at Topsham, 19th to 24th April (R. G. Adams, F. R. Smith *et al.*).

Hampshire: The Solent near Hurst Castle, 12th May (G. H. and Mrs Fisher *et al.*).

Staffordshire: Blithfield Reservoir, 10th May (E. S. Clare, A. R. and B. R. Dean).

Sussex: Chichester gravel pits, 14th to 21st May (M. Shrubbs, Miss J. V. Stacey *et al.*).

(South Eurasia, north-west, east and south Africa, and Australia) Also single adults on the North Slob, Co. Wexford, from 13th to 20th May and in Galway Harbour from 29th May to the end of July. Eight in a single year is relatively even more remarkable than the total of White-winged Black Terns, the previous maximum having been only three. May and June are normal months, but the Devon bird was certainly the earliest since before 1958 and probably the earliest ever (*cf.* dates of Alpine Swift, Red-rumped Swallow, and so on). There have been 27 (four Irish) since 1958.

Caspian Tern *Hydroprogne tschegrava*

Nottinghamshire: Attenborough, 8th June (E. T., I. and Mrs M. C. Lamb).

(Baltic, south-east Europe, south-west and south-east Asia, Africa, Australia and North America) After a total of about 18 during 1958-65, there was a sudden increase to about ten in 1966, and then seven, six, four and now just one in the succeeding years.

Great Spotted Cuckoo *Clamator glandarius*

Kent: Near Dungeness, immature, 22nd August (J. T. Simpson, E. C. Still).

(South Europe, south-west Asia and Africa) This makes 13 records of this rare southern vagrant, eight of them since 1956.

Yellow-billed Cuckoo *Coccyzus americanus*

Caithness: Thurso, ♀, picked up dying, 9th November, specimen in the Royal Scottish Museum, Edinburgh (Dr P. McMorran, *per* I. H. J. Lyster).

(North America) Five have been recorded here since 1958 (Sussex 1960, Co. Mayo 1964, Scilly 1965, Co. Cork 1969 and the one above), but about 21 before then, a proportion quite unlike that of the various American passerines (see *Brit. Birds*, 64: 108-113). Another report of a Yellow-billed Cuckoo in an exhausted state on St Mary's, Isles of Scilly, on 4th October has not yet been submitted.

Scops Owl *Otus scops*

Orkney: Holm, found dead, 27th November, specimen in the Royal Scottish Museum, Edinburgh (W. Groundwater, *per* I. H. J. Lyster).

(South Europe, Russia, west Asia and north-west Africa) Although nearly 70 are known to have occurred, there have been only five since 1956 and this common southern European owl is now a decidedly rare vagrant here. November is extremely late and perhaps the bird arrived well before then.

Snowy Owl *Nyctea scandiaca*

Shetland: Fetlar, one pair again bred, raising two young, and at least four other individuals occurred during the year; singles visited Uyea Isle, Unst, on 17th April, Yell on 19th, Burra Isle for a week or two from 26th September and Unst on 15th and 16th November (A. R. Mainwood, R. J. Tulloch *et al.*). Fair Isle, ♂, 26th April, ♀, 21st May (R. H. Dennis *et al.*).

(Circumpolar Arctic) Breeding has taken place on Fetlar each year since 1967.

Alpine Swift *Apus melba*

Aberdeenshire: Rattray Head, 19th April (N. and Mrs J. Elkins, M. R. Williams).

Cornwall: Lizard, 17th April (B. C. Cave, D. M. Norman, D. K. J. Withrington),

Dorset: Swanage, 18th April (C. R. Harding); 23rd and 24th (S. P. W. Corbett, C. S. L. Incedon).

Essex: Great Maplestead, found dead, 25th May (D. Baird).

Gloucestershire: Cainscross, Stroud, 16th April (K. J. Grearson).

Lancashire: Thwaite Flats, Barrow-in-Furness, 25th July (K. and Mrs A. R. Brown).

Scilly: Tresco, 21st September (J. Cantelo, P. A. Gregory, D. B. Hunt *et al.*).

Sussex: Pagham, 12th May (A. Parker). Litlington, 16th May (P. J. and Mrs. V. A. Wilson).

Yorkshire: Kettlewell Point, 18th April (B. Foster, N. Jackson, H. Mitchell).

(South Eurasia, north-west and east Africa) Also singles at Bray, Co. Wicklow, on 26th April and at Drumbeg, near Belfast, on 8th September. Twelve is the highest annual total since at least 1958, which period has now produced 74 in all. The six during 16th-26th April (five during 16th-19th) were early and coincided with the main arrivals of many summer-visitors (*Brit. Birds*, 63: 142-143) as well as

the rare herons (see pages 342-346): the phenomenon of overshooting is well illustrated by these records of this powerful flier, especially the one as far north as Aberdeenshire on 19th.

Bee-eater *Merops apiaster*

Lancashire: Millwood, Barrow-in-Furness, 2nd August (K. and Mrs A. Brown).

Nottinghamshire: Huthwaite, 27th and 28th August (J. Hall, M. Morrison, R. Stevens).

Shetland: Baltasound, Unst, two, 8th July to 5th August (M. Sinclair, R. J. Tulloch *et al.*). Fair Isle, 6th to 17th August (G. J. Barnes, R. H. Dennis *et al.*).

Worcestershire: Redditch, 22nd to 27th September (D. Griffiths, R. and Miss S. Vann).

(South Europe, south-west Asia and north-west Africa) Only seven of the total of 46 during 1958-68 were in Scotland, yet in both 1969 and 1970 there were two or more in the Northern Isles during the summer.

Roller *Coracias garrulus*

Cardiganshire: Talybont, 7th and 8th June (C. Fuller, I. D. Moorhouse *et al.*).

Norfolk: West Caister, 19th May and for the previous week (J. G. Goldsmith, P. G. Trett).

Somerset: Milverton, late May to 3rd July (D. and Mrs A. Case, Miss E. M. Palmer *et al.*).

Suffolk: Oulton Broad, Lowestoft, 1st June (Miss J. Bailey).

Surrey: Chobham Common, 17th to 20th June (J. A. Lucas, T. Ottley, C. C. White *et al.*).

Sussex: Weir Wood Reservoir, 28th June to 4th July (A. P. D. Cramb, S. Greenwood, D. Lang *et al.*).

(South and east Europe, west Asia and north-west Africa) The five in 1968 and 1969 and the six in 1970 were all well above the 1958-67 average of just two a year.

Short-toed Lark *Calandrella cinerea*

Pembrokeshire: Skokholm, 1st June (Dr Z. Bogucki, B. Chambers, J. W. F. Davis).

Scilly: St Agnes, 24th September (K. D. Edwards, N. R. Rogers). St Mary's, 5th to 11th October (P. J. Grant, J. H. Johns, G. H. Price *et al.*).

Shetland: Fair Isle, 10th to 14th May, another 12th to 14th (G. J. Barnes, R. H. Dennis *et al.*). Out Skerries, two, 29th September (A. R. Mainwood, R. J. Tulloch).

Yorkshire: Spurn, trapped, 13th to 16th June (J. Cudworth, B. R. Spence, A. W. Wallis *et al.*).

(South Eurasia and north and east Africa) The records for 1970 were very similar to those for 1967-69. The one in Yorkshire was of the greyish eastern type.

Red-rumped Swallow *Hirundo daurica*

Somerset: St George's Wharf, River Avon, 7th June (W. G. Bigger).

Sussex: Beachy Head, 18th April (B. E. Cooper).

(South and east Eurasia and Africa) The one in Sussex coincided with many other vagrants and summer-visitors. There have now been 25 in all, 18 since 1959.

Nutcracker *Nucifraga caryocatactes*

Sussex: Beachy Head, 22nd August (J. F. Cooper, A. Lelliot, T. Gravett).

(Eurasia from Scandinavia and the Alps to Kamchatka and China) Just one record in 1970 seems strange after the massive irruption of 1968, with stragglers into 1969 (*Brit. Birds*, 63: 353-373).

Wallcreeper *Tichodroma muraria*

Dorset: Worth Matravers, the male first recorded on 19th November 1969 (*Brit. Birds*, 63: 283) was last reported on 18th April (S. P. W. Corbett *et al.*).

(Central and southern Eurasia, discontinuously from the Pyrenees to China) For notes on this individual, see *Brit. Birds*, 63: 163, 283; 64: 80-81.

Rock Thrush *Monticola saxatilis*

Shetland: Fair Isle, ♂, trapped, 30th June (R. H. Dennis, Dr B. Marshall *et al.*).

(Central and southern Eurasia) This is only the tenth record of this rare vagrant: all but two have been in May or June.

Desert Wheatear *Oenanthe deserti*

Lincolnshire: Donna Nook, immature ♂, 23rd September (B. Childs, S. Lorand).

Shetland: Fair Isle, ♂, 20th November (G. J. Barnes, R. H. Dennis, I. S. Robertson).

(North Africa, Middle East, and Asia from the Caspian to Mongolia) This is another accidental southern visitor, which has now occurred 18 times, mainly during October-December. These two were the first since 1966.

Black-eared Wheatear *Oenanthe hispanica*

Caernarvonshire: Bardsey, ♂, 18th April (J. E. Davis, G. H. Evans, A. J. E. Lloyd *et al.*).

(South Europe, south-west Asia and north-west Africa) This brings the British total to 20; there has also been one in Ireland. In view of the date, (*cf.* pages 342-346) the bird was probably of Iberian origin.

Thrush Nightingale *Luscinia luscinia*

Fife: Isle of May, trapped, 9th to 16th May (M. I. Harvey, D. W. Oliver, H. D. Smith); trapped, 17th (Dr J. C. Coulson, A. Macdonald *et al.*).

Shetland: Fair Isle, trapped, 8th May (G. J. Barnes, R. H. Dennis *et al.*); trapped, 9th (R. H. Dennis, W. E. Oddie, Dr C. J. R. Thorne *et al.*); trapped, 11th and 12th (R. H. Dennis, Dr B. Marshall, I. S. Robertson *et al.*); a fourth, found dead, 14th (G. J. Barnes, R. H. Dennis *et al.*). Hillswick, 31st July to 7th August (G. M. Chapman, R. H. D. Young).

(Scandinavia, east Europe and west Asia) Seven in one year approaches the previous grand total of nine, and clearly a quite exceptional spring displacement occurred to account for the six on Fair Isle and the Isle of May—one wonders how many others of this inconspicuous eastern relative of the Nightingale *L. megarhynchos* arrived here undetected. The July record, incidentally, is the first for that month.

Savi's Warbler *Locustella luscinioides*

Kent: east Kent, present from 19th April, three singing, ♂♂, May to July (P. J. Mountford, R. G. Pitt *et al.*).

Somerset: heard, 29th May to 5th June, trapped on 3rd (locality and name of observer withheld).

Suffolk: Walberswick, present from 17th April, reeling at four sites and evidently breeding as single juveniles trapped 19th July and 19th August (G. J. Jobson, D. J. Pearson).

(Europe, west and central Asia and north-west Africa) Now that this species is probably breeding regularly in two counties, it is obviously worth watching any large reed-bed in south or east England for singing males in spring (for notes on identification, see *Brit. Birds*, 60: 349-355, plate 41).

Great Reed Warbler *Acrocephalus arundinaceus*

Berkshire: Thatcham Marsh, Newbury, trapped, 30th May (I. Hawthorn, R. G. Smith, I. L. G. Weston *et al.*).

Fife: Kilconquhar Loch, 17th June (D. W. Oliver, D. Thomson).

Hampshire: Fleet Pond, 24th May (R. and S. Millington, T. Price *et al.*).

Pembrokeshire: Skokholm, trapped, 11th May (Dr Z. Bogucki, B. Chambers, J. W. F. Davis).

Shetland: Fair Isle, trapped, 12th to 14th June (R. H. Dennis, Dr B. Marshall *et al.*).

Sussex: Belle Tout Wood, Beachy Head, trapped, 11th May (R. H. and Mrs M. E. Charlwood, M. J. Rogers *et al.*).

(Europe and west central Asia) The geographical spread of these six is remarkable: there are only four previous Scottish records and one Welsh, but over 60 English.

Aquatic Warbler *Acrocephalus paludicola*

Cornwall: Marazion Marsh, 17th and 18th September (P. D. Round, A. Vittery). Hayle Estuary, 26th September (L. P. Williams).

Devon: Thurlestone, immature, trapped, 23rd August (R. Burridge, M. Madden); immature, trapped, 28th September (R. Burridge).

Hampshire: Stanpit Marsh, Christchurch, immature, trapped, 9th August (M. I. Webber *et al.*). Wick Hams, Christchurch, 9th August (C. I. Husband); immature, trapped, 20th (J. Allsop, C. I. Husband). Keyhaven, immature, trapped, 22nd August (Miss D. Lockton, E. J. Wiseman *et al.*). Farlington Marshes, immature, trapped, 28th August (J. R. Grant, R. Tuck *et al.*).

Pembrokeshire: Skokholm, immature, trapped, 24th August (B. Chambers, W. B. Davies, D. J. Onley).

Wiltshire: Swindon sewage farm, 1st September (G. L. Webber).

(East Europe and west Asia) There is nothing unusual in the above crop of eleven records which bring the total since 1958 to about 132.

Subalpine Warbler *Sylvia cantillans*

Angus: Arbroath, ♂, 14th May (N. K. Atkinson, M. Nicoll).

Lincolnshire: Ingoldmells Point, ♂, 11th May (P. Shooter).

Pembrokeshire: Skokholm, ♂, trapped, 3rd May (B. Chambers, J. W. F. Davis).

(South-west Europe, Middle East and north-west Africa) May is one of the most frequent months for this warbler, and three is about the annual average for recent years, but the one in Pembrokeshire was only the second ever in Wales.

Greenish Warbler *Phylloscopus trochiloides*

Durham: Hartlepool, 16th May (K. Redshaw, C. S. Waller, A. Wheeldon *et al.*).

Northumberland: Bamburgh, trapped, 22nd August (J. M. Bayldon, M. Bell).

Shetland: Fair Isle, 21st to 24th August (R. H. Dennis, Dr B. Marshall, E. R. Meek *et al.*).

(Eurasia from south Finland and north Germany to Manchuria and central China) Also two on Cape Clear Island, Co. Cork, one 24th-26th August and the other 15th-20th October. The grand total is now 77, all but one since 1945, but there has never been a record in May before and perhaps there was a connection with the Thrush Nightingale movement (see above) as their European ranges largely overlap.

Bonelli's Warbler *Phylloscopus bonelli*

Kent: Dungeness, 20th September (J. R. H. Clements, P. J. Grant, A. J. Greenland *et al.*).

Norfolk: Holme, 7th to 13th August (P. R. Clarke, O. Laugharne, R. A. Richardson *et al.*).

Suffolk: Minsmere, 6th May (H. E. Axell, R. G. H. Cant, P. J. Makepeace).

Sussex: Hodcombe, Beachy Head, 25th August (R. H. and Mrs M. E. Charlwood, J. F. Cooper).

Yorkshire: Spurn, immature, trapped, 15th October (J. Cudworth, J. N. Dymond, B. R. Spence *et al.*).

(Central and south Europe, Levant and north-west Africa) Also two, one trapped, on Cape Clear Island, Co. Cork, one on 19th August and the other from 13th September to 11th October. These seven set a new peak for this species which, despite its northward spread in Europe, now nearly to the north coast of France, and a grand total since 1958 of 26, is still not recorded every year. The one in Yorkshire, which was very late, was the first to be referred to the eastern race *P. b. orientalis* (no others have been subspecifically identified, but the nominate race which breeds in western Europe is the more likely).



PLATE 53. Female Little Bittern *Ixobrychus minutus*, Cornwall, May 1970. Note the shape, both when alert and when searching for food in shallows, the small size in comparison with the vegetation, and the long neck, dark crown and upperparts, buff on the wings, and streaky underparts (page 345) (photos: J. B. and S. Bottomley)





PLATE 54. Two White-rumped Sandpipers *Calidris fuscicollis*, Scilly, October 1970 (page 352): above, one seen on Bryher from 7th to 9th (photo: K. Atkin); below, a different individual on St Mary's on 6th (photo: J. H. Johns). Note the short bill and slender shape; the white on the uppertail-coverts can just be glimpsed above





PLATE 55. Above, Broad-billed Sandpiper *Limicola falcinellus*, trapped and ringed, Kent, August 1970, showing the double supercilium and the bill with its heavy base and kinked tip (page 352) (photos: C. E. Wheeler). Below, Buff-breasted Sandpiper *Tryngites subruficollis*, Tresco, Scilly, October 1970 (page 352) (photo: K. Atkin)







PLATES 56 and 57. Four shots of Buff-breasted Sandpipers *Tryngites subruficollis* from a group of seven on St Mary's, Scilly, September 1970. These and plates 55c and 1a show the short bill, small head, pale eye-ring, long neck, well patterned upperparts and clear buff underparts (page 352) (photos: J. B. and S. Bottomley)





PLATE 58. Dusky Warbler *Phylloscopus fuscatus*, Calf of Man, May 1970. Note the rather dark brown plumage, rusty supercilium, fine bill and long first primary. This same bird was found dying near Limerick, Ireland, nearly seven months later after presumably summering in western Europe (page 361) (photos: Malcolm Wright)



PLATE 59A (right). Night heron *Nycticorax nycticorax*, Wexley, May 1970 (page 345): note black crown and back, grey wings and white underparts and forehead; the eyes are crimson. The full adult has three long white nape plumes (photo: F. Woodcock)



PLATES 59B and 59C (left). Adult White-winged Black Tern *Chlidonias leucopterus*, Lincolnshire, May 1970 (page 354), showing the white on wings and tail and the black underwing-coverts (photos: K. Atkin)



PLATE 59D (above). Male Ring-necked Duck *Aythya collaris*, Devon, March 1970 (page 347): note the white bands on the bill, the high crown and the grey sides peaked with white (photo: J. B. and S. Bottomley)

PLATE 59E (right). Pallas's Warbler *Phylloscopus proreus*, Lincolnshire, November 1970 (page 361): note the yellow rump patch, wing bars and central stripe on the crown separated from the yellow supercilium by a dark area (photo: K. Atkin)





PLATE 60. Two former rarities now averaging over 20 records annually. Above and below right, young Sabine's Gull *Larus sabini*: note grey-brown upperparts edged in pale grey (photos: G. H. Fisher). Below left, Pectoral Sandpiper *Calidris melanotos*, Scilly, October 1970, showing sharply demarcated breast (photo: K. Atkin)



Arctic Warbler *Phylloscopus borealis*

Fife: Isle of May, trapped, 7th September (T. J. R. Britton, J. H. B. Munro, J. R. P. Osborne *et al.*).

Shetland: Fair Isle, immatures trapped 7th August, 13th to 14th September, 15th to 19th and 16th September (G. J. Barnes, R. H. Dennis *et al.*); a fifth, unringed, 20th September (R. W. Byrne, A. P. Goddard); immature, trapped, 12th October (R. H. Dennis, I. S. Robertson *et al.*). Whalsay, 14th October (J. H. Simpson).

(North-east Europe, north Asia and Alaska) Eight is again a new maximum for this warbler, which breeds as near as northern Norway but normally migrates south-east in autumn. All 64 or so (45 since 1958) have been between 30th July and 24th October.

Pallas's Warbler *Phylloscopus proregulus*

Lincolnshire: Anderby, trapped, 8th November (K. Atkin, A. C. Blackburn, R. B. Wilkinson) (plate 59c).

Staffordshire: Weston-under-Lizard, trapped, 8th November (P. G. Deans).

Sussex: Hodcombe, Beachy Head, trapped, 11th to 13th October (R. H. and Mrs M. E. Charlwood *et al.*).

Yorkshire: Spurn, 7th November (J. Cudworth, W. M. Mulligan, B. Walker *et al.*).

(Central, east and south-east Asia) The nearest part of the breeding range of Pallas's is farther east than that of any other *Phylloscopus* on the British and Irish list; its occurrences here are the latest in the year and, not surprisingly, the most irregular. The grand total is now 43, all but two since 1957 and all in October-November; the Sussex bird was very early and the Staffordshire one the first inland.

Dusky Warbler *Phylloscopus fuscatus*

Man: Calf of Man, trapped, 14th May (T. H. Jorgensen, R. M. Wright) (plate 58, and see below).

Yorkshire: Spurn, 7th November (R. G. Hawley, P. H. G. Wolstenholme).

(Central and north-east to south-east Asia) The one trapped and ringed on the Calf of Man on 14th May was found dying near Limerick about 5th December. This unique recovery of a rare vagrant to these shores from central Asia is of no little significance. All the previous twelve recorded Dusky Warblers have occurred between 1st October and 15th November (spring records of Asiatic vagrant passerines in general are almost unknown), and this individual evidently survived somewhere in western Europe for nearly seven months: these facts suggest that it might have drifted west the previous autumn and overwintered before finding itself on the Isle of Man in the course of a spring movement. Its eventual demise in south-west Ireland, incidentally, provided the first record for that country. The one in Yorkshire in November coincided in both date and place with a Pallas's Warbler (see above).

Richard's Pipit *Anthus novaeseelandiae*

Caernarvonshire: Bardsey, two, 7th September (G. H. Evans); one, 23rd (M. Grigson, D. A. Hensilwood); 15th October (P. E. Davis).

Cardiganshire: Ynys-hir, Eglwysfach, 14th October (W. M. Condry, D. Lea).

Cheshire: Frodsham, 26th September, three 28th (C. G. Bennett, S. C. Joyner, P. F. Twist *et al.*), two 15th October (Dr R. J. Raines), one 17th (D. Talbot).

Cornwall: St Just Airfield, two, 21st September (Rev J. E. Beckerlegge). Kynance Valley, two, 27th September (W. B. Exelby). Porthcurno, 7th October; Skewjack, Sennen, 7th and 9th; Stithians, 8th; Porthgwarra, four, 9th; St Levan, 10th (all G. E. Dunmore, H. P. Medhurst); Porthgwarra, 1st November (P. D. Round).

Devon: Lundy, two, 26th September, three 27th, two 28th, one 29th (A. J. Vickery *et al.*).

Dorset: Portland Bill, 8th October (F. R. Clifton); 19th to 24th December (G. Hinchon *et al.*).

Hampshire: St Catherine's Point, Isle of Wight, two 29th September, one 10th October (D. B. Wooldridge *et al.*). Keyhaven, 14th October to 21st November (B. S. Duffin, R. E. Jones, E. J. Wiseman *et al.*).

Kent: Windmill Creek, 4th November (D. L. Davenport). Dungeness, 15th November (D. J. Britton).

Lincolnshire: Donna Nook, 22nd September, 28th to 13th October, another 12th, one 17th (D. Balderson, S. Lorand, K. Robinson). Huttoft, 14th November (K. Atkin).

Norfolk: Salthouse, 20th September (G. E. Dunmore, J. N. Dymond *et al.*); 5th October, two 6th to 10th, one 11th (G. Hinchon *et al.*); one, 17th (D. J. Britton). Holkham, seven, 26th September (G. E. Dunmore, J. N. Dymond *et al.*); one 17th October (S. C. Joyner, P. F. Twist). Weybourne, two or three, 27th September (G. E. Dunmore); two 30th (G. Hinchon). Cley, 27th September (G. E. Dunmore); two 24th October (D. J. Britton).

Orkney: North Ronaldsay, 28th September (Professor M. F. M. Meiklejohn).

Pembrokeshire: Skokholm, two, 27th September, four 29th, singles 7th, 9th, 10th, 14th and 17th October (B. Chambers).

Scilly: St Agnes, 13th and 24th September (K. D. Edwards, N. R. Rogers *et al.*); up to three, 30th September to 26th October (J. A. Bailey, P. J. Grant, A. J. L. Smith *et al.*). St Mary's, up to four, 2nd to 27th October (J. A. Bailey, P. G. Lansdown, N. J. Phillips *et al.*). Bryher, 9th October (E. Phillips-Jones *et al.*). St Martin's, 9th October (A. G. Parsons). Tresco, 17th December (D. B. Hunt).

Shetland: Fair Isle, three, 23rd September, four 24th and 25th, two 26th, six 27th, four 28th, two 29th, one 30th to 4th October, two 5th, one 6th and 7th, two 8th and 9th, four 12th, one 13th, two 14th, one 5th November; about twelve in all (R. H. Dennis *et al.*). Out Skerries, two, 27th to 29th September (D. Coutts, A. R. Mainwood, R. J. Tulloch *et al.*). Whalsay, 27th September and 14th October (J. H. Simpson).

Somerset: Kenn Estuary, Clevedon, 22nd and 30th November (B. Rabbits).

Suffolk: Minsmere, two, 1st to 5th October, three 12th to 18th, one 19th to 25th (H. E. Axell, D. Mower *et al.*).

Surrey: Beddington sewage-farm, two, 23rd and 24th October, one 25th and 26th (J. Dalgleish, N. Hewitt, K. Osborne *et al.*).

Sussex: Rye Harbour, two, 22nd September (D. S. Flumm). Beachy Head, 15th October (R. H. Charlwood).

Yorkshire: Spurn, 27th September (J. Cudworth, B. R. Spence); 14th and 16th October (J. Cudworth); 18th (S. Kenyon, C. Massingham); 19th (J. and R. Birch,

J. I. Martin *et al.*); 17th to 22nd November (J. Cudworth, M. Densley *et al.*). Kilnsea, two, 1st October (Dr J. D. Pickup, E. V. Robinson, B. R. Spence). Hornsea, 2nd November (W. F. Curtis).

(Central and east Asia, south-east Asia, Africa and Australasia) This was the fifth successive autumn with a large influx of Richard's Pipits, which were regarded not very long ago as rather rare vagrants even in Britain. In Ireland they are still very rare: there have been only eight or nine in all, and none since a single record in 1968. The British total in 1970 was at least 95 individuals, probably just over 100, and with 15 or 20 further observations (mainly in Norfolk, Cornwall and Scilly) which were not submitted, often because the observers did not see the birds on the ground, an estimate of 120 seems reasonable. All were in autumn: the first were two on Bardsey on 7th September and one on St Agnes on 13th, then after a few during 20th-22nd the main influx (at least 40 recorded) occurred from 23rd to 27th. In October there were much smaller arrivals, and after 18th numbers began to fall off rapidly; stragglers remained until 24th December (Portland).

Tawny Pipit *Anthus campestris*

Dorset: Portland, immature, 29th August (T. A. Guyatt, J. A. Lucas, C. C. White); immature, 11th October (F. R. Clifton, K. D. Smith, P. Walbridge *et al.*).

Durham: Teesmouth, 11th to 18th October (E. C. Gatenby, P. J. Stead *et al.*).

Essex: Colne Point, 13th to 16th September (C. A. Ball, Dr S. Cox, P. Smith).

Kent: Near Dungeness, 12th September (J. R. H. Clements, A. J. Greenland); 20th (A. J. Greenland, R. E. Scott, W. Spencer *et al.*). Dungeness, 20th September (P. J. Grant).

Lincolnshire: Donna Nook, 24th May (S. Lorand).

Pembrokeshire: Skokholm, 13th September (B. Chambers).

Scilly: St Agnes, 2nd and 3rd September (J. A. Wolstencroft *et al.*); 12th October (J. A. and Mrs A. J. Bailey); 26th (Miss H. M. Quick). St Mary's, 23rd and 24th September (D. B. Hunt).

Shetland: Fair Isle, 25th and 26th May (D. Anderson, R. H. Dennis, A. J. Livett *et al.*); trapped, 8th to 10th June (R. H. Dennis, Dr B. Marshall, I. S. Robertson *et al.*). Whalsay, 10th and 11th June (J. H. Simpson).

Sussex: Hodcombe, Beachy Head, 23rd August; two, perhaps three, 21st September (R. H. and Mrs M. E. Charlwood). Worthing, two, 27th August (C. M. Veysey). Birling Gap, 28th August and 22nd September (M. J. Rogers). Rye Harbour, 5th to 7th September (D. S. Flumm). Beachy Head, 11th October (M. J. Rogers). Langney Point, 11th October (M. J. Rogers).

Yorkshire: Spurn, 6th June (J. Cudworth, M. G. Hodgson, A. W. Wallis *et al.*).

(Europe, south Asia and north-west Africa) Also an adult near Kilcoole, Co. Wicklow, on 27th September. For the third successive year, about 27 Tawny Pipits were accepted (some additional 1968 and 1969 ones are given on pages 368-369). Five were during late May-early June, including the northernmost ever recorded in Britain, on Whalsay, and the rest were between late August and late October. The

pattern of dates and counties (except Shetland and Co. Wicklow) recalls those of the previous two years.

Olive-backed Pipit *Anthus hodgsoni*

Dorset: Portland, trapped, 2nd to 10th May (F. R. Clifton *et al.*).

(North-east Russia, central and east Asia) Only the third ever; the first two both occurred on Fair Isle, in the autumns of 1964 and 1965 (*Brit. Birds*, 60: 161-166, plate 20).

Red-throated Pipit *Anthus cervinus*

Pembrokeshire: Skokholm, 13th October (B. Chambers).

Sussex: Arlington Reservoir, 13th to 15th October (R. H. Charlwood, M. J. Rogers, P. J. Wilson).

Yorkshire: Flamborough Head, 10th May (H. O. Bunce, Miss J. Fairhurst).

(Arctic Eurasia) May and October are typical months for this pipit, which now seems to produce two to five records every year. None was noted in Shetland for the first year since 1964.

Citrine Wagtail *Motacilla citreola*

Shetland: Fair Isle, 16th September (R. W. Byrne, R. H. Dennis, A. P. Goddard *et al.*).

(East Russia and west-central Asia from Siberia to Tibet) This was the anniversary of the last date on which one was seen on Fair Isle in 1969: this island has now provided eight of the grand total of 15 individuals, including the first in September 1954.

Black-headed Wagtail *Motacilla flava feldegg*

Shetland: Fair Isle, ♂ showing the characters of this subspecies, 7th to 9th May (R. H. Dennis, J. J. Harris *et al.*).

(Balkans and Asia Minor) This matches the one on the Out Skerries (also in Shetland) from 8th to 11th May 1969. Shetland has accounted for half of the eight records of this distinctive south-eastern race.

Lesser Grey Shrike *Lanius minor*

Lincolnshire: Donna Nook, 25th and 26th May (B. Childs, S. Lorand).

Shetland: Whalsay, 16th to 19th May (Misses E. and G. Simpson). Sumburgh, 26th September (Sir R. Erskine-Hill, Mr and Mrs J. N. Lewis). Catfirth, 7th October (D. Coutts, F. Hunter, T. Isbister).

Suffolk: Hollesley, trapped, 22nd and 23rd May (P. A. Banks, B. M. Cavanagh).

Yorkshire: Spurn, trapped, 11th to 13th June (B. R. Spence, N. Tiersley *et al.*).

(South and east Europe and south-west Asia) These six conform to the usual pattern and bring the grand total to about 70.

Woodchat Shrike *Lanius senator*

Caernarvonshire: Bardsey, trapped, 8th to 15th May (J. E. Davis, G. H. Evans, R. C. Webster *et al.*); 4th June (J. E. Davis, Miss H. M. Gore, M. J. Grigson *et al.*).

Devon: Lundy, immature, 18th August (R. Collins); immature, trapped, 17th to 19th September (B. H. Bailey, R. K. Bircher, T. D. Evans *et al.*).

Hampshire: Hengistbury Head, immature, trapped, 14th October (G. Fordham, C. I. Husband, J. Morgan).

Norfolk: Wells, 10th May (H. Edwards). Holme, 25th to 27th May (T. A. Hobday, O. and Mrs P. V. Laugharne).

Northumberland: Inner Farne, 4th and 5th June (J. Cranham, I. R. Deans, R. Woolner *et al.*). Holy Island, immature, 26th and 27th September (L. G. Macfarlane, M. Natrass, R. Norman *et al.*).

Pembrokeshire: Whitesands Bay, St David's, 6th June (R. A. and Mrs Bispham).

Scilly: St Mary's, adult, 30th July (P. F. Goodfellow, I. Turpitt *et al.*). Bryher, immature, 24th September to 9th October (K. Edwards, K. Osborne *et al.*).

Shetland: Bressay, 22nd May to 26th June (D. Goodwin, E. Knowles, R. J. Tulloch *et al.*).

Surrey: Oxshott, 8th June (R. C. and Mrs C. R. Hallows).

(West Europe, south-west Asia and north-west Africa) Also an immature on Copeland Island, Co. Down, trapped on 24th July and seen up to 1st August. Fifteen is intermediate between the eight of 1969 and the 24 of 1968 and about equal to the 1958-69 average. As usual they were evenly divided between spring and autumn.

Rose-coloured Starling *Sturnus roseus*

Sussex: Eastbourne, adult, 1st December (A. E. Nealon).

(South-east Europe and south-west Asia) December is an unusual month—most have occurred in summer—and the origin of this bird is doubtful. Another was seen with a flock of Starlings *S. vulgaris* on Guernsey on 11th September.

Blackpoll Warbler *Dendroica striata*

Scilly: St Agnes, trapped, 20th to 26th October (J. C. Gregory, G. Hinchon, M. J. Palmer *et al.*).

(North America) Three have now been recorded: the first two were both in October 1968 (see *Brit. Birds*, 63: 153-157).

Baltimore Oriole *Icterus galbula*

Pembrokeshire: Hook, Haverfordwest, ♂, 6th and 7th May (Mr and Mrs D. M. Petrie, S. Williams, *et al.*).

(North America) This brings the total to eleven, all since 1958. The coincidence with the White-throated Sparrow and Song Sparrow (see below) is noteworthy.

Arctic Redpoll *Acanthis hornemanni*

Orkney: North Ronaldsay, trapped, 11th October (J. M. B. King).

(Circumpolar Arctic) The first accepted record since 1966.

Serín *Serinus serinus*

Devon: Prawle Point, 18th October (R. Burridge).

Dorset: Portland Bill, ♀, 16th May (P. A. Dukes).

Hampshire: St Catherine's Point, Isle of Wight, ♂, 24th May, ♀, 14th June (D. B. Wooldridge). Stanpit Marsh, Christchurch, ♂, 13th December (C. I. Husband).

Kent: Dungeness, 29th July (R. E. Scott); 11th October (P. J. Grant).

Lincolnshire: Donna Nook, 30th July (M. Hopper, S. Lorand).

Suffolk: Walberswick, 19th September (A. J. Harmar, J. R. Parrott, R. L. Swann).

Sussex: Belle Tout, Beachy Head, 16th October (R. H. Charlwood).

(Continental Europe, Mediterranean islands, Asia Minor and north-west Africa) All the British and Irish Serin records, including these ten, were discussed in *Brit. Birds*, 64: 213-223. (The eleven given there for 1970, and included in fig. 3 on page 222, included one reported in Yorkshire in May which was recently withdrawn at local level.)

Scarlet Rosefinch *Carpodacus erythrinus*

Northumberland: Bamburgh, ♂, trapped, 9th May (J. M. Bayldon, M. Bell, S. Booth).

Orkney: North Ronaldsay, immature, trapped, 26th August (R. H. Dennis, Dr B. Marshall, E. R. Meek).

Pembrokeshire: Skokholm, ♀, trapped, 3rd May (B. Chambers, M. A. Cocker, J. W. F. Davis).

Shetland: Fair Isle, adult ♂, trapped, 27th July (R. H. Dennis, I. S. Robertson *et al.*); two 21st August, singles 22nd, 25th and 31st, 4th, 5th and 9th September, two 10th and 11th, one 12th and 13th, four 20th, singles 27th (trapped) and 28th, 10th to 12th, 15th (trapped) and 16th October—a total of about 14 individuals between 21st August and 16th October (R. H. Dennis *et al.*). Whalsay, 12th August (J. Bruce, J. H. Simpson). Fetlar, 9th September (A. R. and Mrs H. T. Mainwood); 24th (D. Hindle, A. R. Mainwood, J. D. Powis). Out Skerries, two, 20th and 27th September (A. R. Mainwood, R. J. Tulloch).

(East Europe and trans-Asia) A total of 23 individuals constitutes a new peak for this increasing species. The one in Pembrokeshire was unusual, as very few have been recorded in Wales.

White-throated Sparrow *Zonotrichia albicollis*

Caithness: Sordale, Thurso, for about four months from early May (Dr P. McMorran, P. J. Rodger, D. M. Stark).

(North America) The ninth record of this large migratory American sparrow. Six have been in spring and three in autumn.

Song Sparrow *Melospiza melodia*

Caernarvonshire: Bardsey, trapped, 5th to 8th May (J. E. Davis, G. H. and Mrs F. Evans *et al.*).

(North America) This makes three in all, the others on Fair Isle in April-May 1959 and at Spurn, Yorkshire, in May 1964. It coincided almost to the day with a Baltimore Oriole in Pembrokeshire (see above), as well as with the White-throated Sparrow. The records of American land-birds during 1958-68 were discussed recently in *Brit. Birds*, 64: 108-113.

Black-headed Bunting *Emberiza melanocephala*

Outer Hebrides: Boreray, Sound of Harris, ♂, trapped, 6th to 8th July (A. D. K. Ramsay *et al.*).

(South-east Europe and south-west Asia) Because of the number in captivity, all records, even in such out-of-the-way places as the Outer Hebrides, are suspect.

Rustic Bunting *Emberiza rustica*

Shetland: Sumburgh, 7th October (D. Coutts, Sir R. Erskine-Hill, J. N. Lewis *et al.*).

(North-east Europe and north Asia) This species is recorded almost annually, and the total since 1958 is 36 or 37.

Little Bunting *Emberiza pusilla*

Shetland: Fair Isle, 13th September (R. H. Dennis, R. V. A. Marshall *et al.*); 3rd to 10th October (G. J. Barnes, R. H. Dennis *et al.*). Fetlar, 27th September (A. R. and Mrs H. T. Mainwood). Near Lerwick, 21st to 25th October (D. Coutts, L. Dalziel).

(North-east Europe and north Asia) Although this species does not breed as near to Britain as the Rustic Bunting, it has produced almost twice as many records since 1958. September and October are the normal months for both, and a large proportion occur in Shetland.

Amendment to the 1968 report

Black-browed Albatross *Diomedea melanophris*

It was stated that the one seen off Filey Brigg, Yorkshire, on 13th October 1968 may have been the Bass Rock bird moving south (*Brit. Birds*, 62: 460-461). This is incorrect as the Yorkshire bird was in immature plumage and the Bass Rock one was an adult.

Supplementary 1960 record accepted

Slate-coloured Junco *Junco hyemalis*

Kent: Dungeness, ♂, trapped, 26th May (C. J. Booth, R. E. Scott *et al.*).

(North America) When originally submitted, this observation was circulated and then passed to the B.O.U. Records Committee as it would have been the first for Britain and Ireland; the identification was clearly established, but the record was not accepted because of the escape possibility. Since then, however, there have been three others, all in Shetland in May (1966, 1967 and 1969), and an old specimen of one shot in Co. Clare in May 1905 has in any case been accepted as the first for these islands. A clear pattern of spring records emerges, which accords with the conclusions of Dr I. C. T. Nisbet in his paper on 'American passerines in western Europe, 1951-62' (*Brit. Birds*, 56:

204-217), and the B.O.U. has now included this 1960 one in its new publication entitled *The Status of Birds in Great Britain and Ireland*. Accordingly, we are publishing it to make our lists complete. The one in 1969 was thus the fifth for Britain and Ireland.

Supplementary 1966 record accepted

Woodchat Shrike *Lanius senator*

Man: Calf of Man, trapped, 24th April to 9th May (P. Bennett, G. D. Craine, E. D. Kerruish).

Supplementary 1968 records accepted

Purple Heron *Ardea purpurea*

Kent: Reculver, immature, 11th August (C. H. Hindle).

Tawny Pipit *Anthus campestris*

Dorset: Durlston Head, two, 28th August (A. Williams).

Woodchat Shrike *Lanius senator*

Kent: Sandwich Bay, immature, trapped, 6th October (K. A. Chapman, P. J. Roberts).

Supplementary 1969 records accepted

Little Bittern *Ixobrychus minutus*

Cheshire: Upton, Wirral, ♂, 15th to 18th May (D. Bates, D. Cross, Dr R. J. Raines *et al.*).

Black Duck *Anas rubripes*

Scilly: Tresco, 4th September (T. Ennis).

(North America) Only the fifth record for Britain and Ireland.

Ring-necked Duck *Aythya collaris*

Norfolk: near Reedham, 23rd April to 2nd June (M. J. Seago *et al.*).

Red-footed Falcon *Falco vespertinus*

Norfolk: Cley, ♂, 24th April (R. A. Richardson).

White-winged Black Tern *Chlidonias leucopterus*

Glamorgan: Eglwys Nunydd Reservoir, adult, 10th September (Dr W. A. Coe).

Warwickshire: Alvecote, 12th July (G. A. Arnold).

Worcestershire: Droitwich, 14th May (G. H. Green).

Sooty Tern *Sterna fuscata*

Hampshire: Fawley, adult, found dead, 18th August, specimen in the British Museum (Natural History) (S. E. Stoppel).

(Tropical and sub-tropical seas) Although this is about the twentieth record of this abundant oceanic tern, there have been only a handful in recent years and it is among the rarest of seabirds to reach European shores.

Roller *Coracias garrulus*

Cheshire: Ellesmere Port, 23rd September to 17th October (B. S. Barnacal, Dr R. J. Raines *et al.*).

Great Reed Warbler *Acrocephalus arundinaceus*

Norfolk: Cantley, 18th to 30th June (P. R. Allard, M. J. Seago, M. P. Taylor *et al.*).

Dusky Warbler *Phylloscopus fuscatus*

Silly: Seven Stones Light Vessel, found dead, 20th October, specimen in the British Museum (Natural History) (C. R. Lawrence, *per* Dr P. J. K. Burton).

Richard's Pipit *Anthus novaeseelandiae*

Hampshire: Pennington Marshes, 1st November (G. P. Green).

Yorkshire: Filey Brigg, 31st October (R. H. Appleby).

Tawny Pipit *Anthus campestris*

Dorset: Portland Bill, three, 8th September, one 9th, three 10th, one 12th, two 13th to 15th, one 16th to 20th (F. R. Clifton, Professor M. F. M. Meiklejohn *et al.*).

Red-throated Pipit *Anthus cervinus*

Northumberland: Low Hauxley, 6th September (B. Little, Dr B. Marshall, E. Meek).

Appendix 1. List of 1970 records not accepted

This list contains all the 1970 records which were not accepted after circulation to the committee. It does not include (a) records withdrawn by the observer(s), without circulation, after discussion with the honorary secretary; (b) records which, even if circulated, were not attributed by the observer(s) to any definite species; or (c) a few records which were mentioned in 'Recent reports' but of which 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.

Cory's Shearwater	Tynninghame, East Lothian, 3rd May
Booby sp.	St Mary's Island, Northumberland, 21st October
Purple Heron	Sparham, Norfolk, 10th August
Squacco Heron	Near Corfe Castle, Dorset, 28th May
	Selsey Bill, Sussex, 13th June
Black Stork	Orlestone Forest, Kent, 18th July
American Wigeon	North Ronaldsay, Orkney, 3rd to 9th April
Harlequin	near Sandwich Bay, Kent, 2nd January
	Rosneath, Dunbartonshire, a pair, 15th February
Steller's Eider	Thurso Bay, Caithness, 8th March
Black Kite	Weymouth, Dorset, 14th April
Gyr Falcon	Weybourne, Norfolk, 8th February
	Tintagel, Cornwall, 20th August
	Unst, Shetland, 8th to 18th December
Red-footed Falcon	Frensham, Surrey, 9th May
	Caterham, Surrey, 5th June
Little Crake	Girdle Ness, Kincardineshire, 6th May
	Walberswick, Suffolk, 9th and 10th June
Dowitcher sp.	Walberswick, Suffolk, two, 26th July
	Hilbre, Cheshire, four, 31st August
	Oxey Marsh, Hampshire, 6th November
	Stanpit Marsh, Hampshire, 13th November
Stilt Sandpiper	Ythan Estuary, Aberdeenshire, 19th September
Great Snipe	Fairburn Ings, Yorkshire, 8th June
Solitary Sandpiper	Radipole Lake, Weymouth, Dorset, 19th August
Lesser Yellowlegs	Keyhaven, Hampshire, 25th September
	Waldringfield, Suffolk, 12th October
	Cley, Norfolk, 15th October
Baird's Sandpiper	Weaver Estuary, Cheshire, 18th July
	Perry Oaks sewage farm, Middlesex, 10th September
	Pitsford Reservoir, Northamptonshire, 29th September
White-rumped Sandpiper	Cargreen, Cornwall, 1st September
	Pennington Marshes, Hampshire, 4th to 6th September
Sharp-tailed Sandpiper	Minsmere, Suffolk, 14th July
	Sutton, Herefordshire, 24th August
Black-winged Stilt	Sidlesham, Sussex, 27th September
	Hoo Flats, Kent, 10th October
Great Black-headed Gull	Chichester Harbour, Sussex, 22nd April
	Askam-in-Furness, Lancashire, 12th August
White-winged Black Tern	Theale, Berkshire, 23rd August
	Hope's Nose, Torquay, Devon, 17th September
Whiskered Tern	Holywell Ponds, Northumberland, 1st September
Gull-billed Tern	Selsey Bill, Sussex, 2nd May
	Milford-on-Sea, Hampshire, 5th May
	Sandwich Bay, Kent, 28th July
	Pennington Marshes, Hampshire, 16th September
	Sandwich Bay, Kent, 18th September
Caspian Tern	between Land's End, Cornwall, and Scilly, 4th August
	Sandwich Bay, Kent, 3rd September
Great Spotted Cuckoo	Murston, Kent, 11th June
Snowy Owl	Glenmarkie, Glenisla, Angus, 22nd August
Alpine Swift	Tring, Hertfordshire, 16th May
Calandra Lark	Holme Pierrepont, Nottinghamshire, 9th June
Crag Martin	Christchurch, Hampshire, 30th July
American Robin	Rousay, Orkney, July

White's Thrush	Morton Lochs, Fife, 12th September
Pied Wheatear	Durness, Sutherland, 22nd June
River Warbler	Horsmonden, Kent, 13th September
Great Reed Warbler	Stodmarsh, Kent, 9th May
Aquatic Warbler	Thurlestone, Devon, 6th September
	Turf, River Exe, Devon, 14th September
Arctic Warbler	Beachy Head, Sussex, 18th October
Richard's Pipit	Reading, Berkshire, 30th March
	Copperas Wood, Essex, 1st September
	Cley, Norfolk, 11th October
	Porthgwarra, Cornwall, 16th October
	Walland Marsh, Kent, 26th October
Tawny Pipit	Beachy Head, Sussex, 28th to 30th June
	Whittle Dene, Northumberland, 27th September
	St Mary's, Scilly, 12th October
Pechora Pipit	North Ronaldsay, Orkney, 28th September
Lesser Grey Shrike	St Mary's, Scilly, 28th September
	Walberswick, Suffolk, 8th November
	Dornie, Ross-shire, 11th and 22nd November
	Huntly, Aberdeenshire, 29th November, 26th and 28th December
Red-tailed Shrike	Wick Hams, Hampshire, 15th and 16th August
Citril Finch	Newtown, Isle of Wight, Hampshire, 24th November
Serin	Benacre, Suffolk, 22nd February
	Hersham sewage farm, Surrey, 21st April
Rock Bunting	Cliffe, Kent, 8th March
Little Bunting	Largs, Ayrshire, two, 28th December

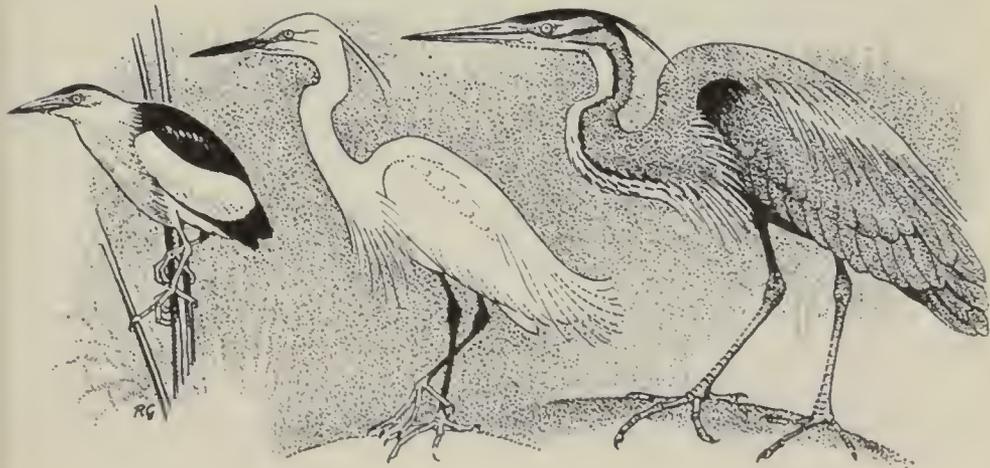
Appendix 2. Supplementary 1968 record not accepted

Red-footed Falcon	Farlington Marshes, Hampshire, 28th October
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Appendix 3. Supplementary list of 1969 records not accepted

Ring-necked Duck	Catcliffe, Sheffield, Yorkshire, 9th to 12th April
Tawny Pipit	Portland Bill, Dorset, 16th October
Scarlet Tanager	Mouth of Meon River, Hampshire, 16th August

F. R. Smith, 117 Hill Barton Road, Exeter, Devon EX1 3PP



Notes

Group feeding by Slavonian Grebes On 26th March 1967, at Dawlish Warren, Devon, I was watching twelve Slavonian Grebes *Podiceps auritus* swimming close together not far offshore on a rising tide. Each was actively food-searching by partly or wholly submerging its head and quickly moving it from side to side. When one or more dived they were invariably followed by the rest of the flock. On resurfacing, some would have fish in their bills and in several cases I noticed that, with a quick shake of the head, a grebe would manoeuvre its prey in such a way as to swallow it head-first. If the flock failed to find any food in a certain area after searching for about four minutes, or sometimes less, a 'leader' would then take wing; almost immediately the others would follow in straggling flight and all regroup in another spot.

Ralph S. Palmer (1962, *Handbook of North American Birds*, 1: 79) wrote of this species: 'Least wary of our smaller grebes. Not gregarious or social, usually in scattered singles. At times, however, at favored stopping or feeding places in sheltered waters (coastal and inland), in assemblies of at least 200 individuals. . . . Generally feeds in water about 5-25 ft. deep, and often travels with the tide'. He also quoted A. C. Bent (1919, *Life Histories of North American Diving Birds*): 'are said to hunt in flocks, at times . . . chasing schools of small fry which are more easily caught this way'. BERNARD KING

Gull Cry, 9 Park Road, Newlyn, Cornwall

Relationships between Tufted Ducks and Mallards By 15th April 1970 the duck flock which had wintered on the Tay around the Stannergate, Dundee, had largely dispersed, leaving a few Tufted Ducks *Aythya fuligula* and Goldeneyes *Bucephala clangula* and a pair of Mallards *Anas platyrhynchos*. On that day I saw a drake Tufted Duck in close attendance on the pair of Mallards. He appeared to be actively seeking the interest of the female, constantly inserting himself between the members of the pair and giving the impression of fending off the drake Mallard. The latter showed more anxiety than hostility and tried repeatedly to get close to the female, continually keeping up a rapid, nervous muttering. The outstanding features of the encounter were the determination of the Tufted Duck, the apparent nervousness of the drake Mallard and the impassive demeanour of the latter's mate. This situation continued over a period of several days, during which time another observer, B. Pounder, also watched the trio behaving in much the same way.

These observations called to mind a more extreme situation which occurred at Wheatley Hills, Doncaster, Yorkshire, in March 1965. The

participants were a male Tufted Duck, which had wintered on a park lake with a flock of Mallards, and a female Mallard. On 25th March the two visited a small pond near the park. The only other wildfowl present were a pair of Mallards which took no part in the proceedings. At first the newcomers stayed quietly near the margins of the pond, but after a time the Tufted drake swam out to the middle, only to return to take up station beside the Mallard duck. This manoeuvre was repeated several times until, after a brief bout of mutual head-bobbing display, precisely as in normal Mallard displays, they both swam into the centre of the pond and the Tufted drake mated with the female Mallard. Apart from the head-bobbing, during which the participants faced each other, the only other possible display posture occurred when the drake held his head stiffly erect and raised his crown feathers. Following coition, the Mallard began to dip water with her bill forward and then to preen, whereas the Tufted drake dived. At once the Mallard swam to the point at which he had submerged and started to quack anxiously. When he resurfaced a short distance away, he adopted a grebe-like posture with his head and neck extended flat along the surface of the water. This appeared to be a threat posture, possibly in response to the female's rushing over the water towards him. In all, this post-coital sequence of actions was repeated four times. A few minutes later the female Mallard took off in the direction of the park, followed at once by the Tufted drake. MICHAEL CLEGG
City Museums and Art Gallery, Albert Square, Dundee DD1 1DA

Derek Goodwin comments: 'In the first instance we appear to have a male Tufted imprinted on Mallard. This could, presumably, come about if it had been reared by a female Mallard or with Mallards in captivity. The second case seems much more unusual as the two appear to have been actually paired. Dr F. Schutz's findings (1965, *Z. Tierpsychol.*, 22: 50-103) on imprinting in the Mallard were that only male Mallards imprint and that females (unlike the females of the sexually monochromatic species) always choose male Mallards no matter what they have been reared by or with'. Dr K. E. L. Simmons adds: 'I understand from my colleague Dr U. Weidmann that some unpublished work subsequent to Dr Schutz's indicates that female Mallards will sometimes imprint. In any event, we have traced a documented case of a female Mallard pairing with a male Red-crested Pochard *Netta rufina* in captivity (J. de Lannoy, 1967, *Z. Tierpsychol.*, 24: 162-200). In planned experiments, the two were reared together from the age of just over a week with a male Mallard some nine or ten days older. The female paired later with the pochard (in preference to the Mallard who also courted her) and the two behaved "like a normal pair".' Dr Simmons also points out that neither the behaviour of the male Tufted Duck before or after copulation, nor

that of the female Mallard after copulation, were typical of their respective species, and refers interested readers to the *Handbook of Waterfowl Behaviour* by Dr P. A. Johnsgard (1965) for further details.

We should also like to thank Dr Janet Kear of the Wildfowl Trust for her additional comments to the effect that at Slimbridge Tufted Duck eggs have been recorded in Mallard nests and vice versa: only a small proportion of these parasites would be 'successful', as the incubation periods of the two species differ (about 26 days for Tufted and 28 for Mallard). EDS

Mallards killing Robin On 31st December 1970 my husband and I were watching about 80 Mallards *Anas platyrhynchos* packed together on a small pond at Thorpeness, Suffolk. I noticed a Robin *Erithacus rubecula* dip down to touch the surface; it seemed to have some difficulty in rising, however, and while its wings were fluttering rapidly a Mallard suddenly snatched it and beat it on the water so fiercely that we could hear each impact. Several other Mallards moved in and one of them caught hold of the Robin and repeated the thrashing process. The duck's head and neck movements were so powerful that the Robin was hurled a good way out in front; it struggled helplessly on the water and more Mallards attacked it until they suddenly left its corpse floating there. The whole action was over very quickly, but it seemed so brutal that we felt speechless. O. J. COCKSHOT
39 Linden Close, Aldeburgh, Suffolk

There are many records of Mallards killing and sometimes eating House Sparrows *Passer domesticus*, mainly in the London parks (see, for example, *Brit. Birds*, 54: 357-359; 56: 339; 57: 133-134; *The Birds of the London Area since 1900*, 1957, p. 133; and the *Royal Parks Report* for 1929). EDS

Possible song-flight of Lesser Grey Shrike On 7th May 1970 I watched a Lesser Grey Shrike *Lanius minor* vigorously defending a roadside territory on the border of Greece and Yugoslavia. In a quarter of an hour I saw two high-intensity aerial pursuits, the bird uttering low, harsh notes: first one, then two other individuals were chased away. The second chase continued for about half a mile over adjacent farmland before the territory owner returned to a small tree near the road where it began singing, a low-pitched delivery reminiscent of a Woodchat Shrike *L. senator*, but quite sustained and vigorous. During the next few minutes it made two long sallies into the air on rapidly beating wings, rising to about 40 feet and uttering the usual jumbled song. At first I thought it was simply after a passing insect, but watching the second ascent through binoculars I could not see any would-be prey, nor did the shrike appear to make any attempt to

catch anything. I formed the impression that this was a song or advertisement flight, a phenomenon I had not seen in any of the shrikes and to which I can find no published reference. GRAHAM BUNDY
c/o 111 Porchester Road, Woolston, Southampton

We are grateful to Dr Eberhard Hantge, the author of a paper on the breeding biology of the Lesser Grey Shrike near Heidelberg, Germany (*Die Vogelwelt*, 78: 137-147), for his comments as follows: 'I studied this species in 1953-54 (and less intensively in several other years). Altogether there were 26 pairs and five unpaired young males. The pairs arrived already mated and settled in a particular area in a loose colony. The minimum distance between adjacent nests was 30 metres, the average 50 to 100 metres. The territorial boundaries resulted from extensive advertisement flights in which as many as three pairs took part without any disputes arising. At the same time two different series of calls were uttered. Whether these sorties could be considered as song-flights is a matter of definition. The males can sing very well (recalling Woodchat Shrikes), but the song bears no relation to the defence of the territory and is performed mainly by unpaired young males or softly during a perched display, as in the Red-backed Shrike *L. collurio*. Finally, I have only once seen a male attack another. As with most near-colonial breeders, territorial intruders are driven out before egg-laying begins, at the time of these aerial sorties, but ignored later. I myself have never seen an actual song-flight in this species.' Eds

House Sparrow killing nestling Spotted Flycatcher The occasional aggressiveness of House Sparrows *Passer domesticus* is well-known to most observers. A reference to their ejecting the eggs and young from the nests of House Martins *Delichon urbica* was made by L. Rendell (*Brit. Birds*, 38: 238), but I can trace no other records of nestlings being killed when the nest was not required for the House Sparrows' own use.

The following instance was recorded at Frocester, Gloucestershire, during July 1970. On the 6th a Spotted Flycatcher *Muscicapa striata* was building on a ledge above a window of my house; the nest was partly concealed by Virginia creeper. Four eggs were laid, and the chicks hatched about the 21st or 22nd. On the 29th they were to be ringed by K. J. Grearson, but when he arrived there were only two young in the nest: one of these had a little blood about the head and appeared somewhat weak, so it was left unringed. For several days previously there had been considerable interference by House Sparrows—the flycatchers sometimes attacked them half-heartedly and frequently uttered alarm calls—so I suspected that these were responsible for the injury. On the 31st there was more disturbance, and when I saw a male

sparrow fly directly to the nest I examined the young. Only the ringed nestling was still alive and its whole head, from the base of the bill over the cranium (an area 16 mm by 11 mm), was bare of feathers and skin and covered in blood; its eyes were grossly swollen and closed and some of its wing-coverts were missing. Another nestling only about four days old, which must have been overlooked before, lay dead on the ledge just outside the nest with a hole through its skull. I could not find the one that was weak on the 29th, but it might have fallen among plants in the border below. Incidentally, all the sparrows' own young had fledged by the end of July.

In 1957 Spotted Flycatchers had built on the same ledge—a traditional site—and had had their nest and eggs destroyed by House Sparrows. The clutch of five was complete on 9th June. On the 17th sparrows were taking material from the nest; repeatedly I drove them off and the flycatcher would return at once. Later that day, however, I saw a sparrow on the nest, which proved to be empty, and found the eggs smashed on the ground below.

SYBIL M. BUTLIN

Frocester Cottage, Frocester, Stonehouse, Gloucestershire

Letters

The British and Irish List As one of the most vociferous critics of the progress of the British Ornithologists' Union's new list of the birds of Britain and Ireland, though responsible for the original preparation of the first 10% of it and subsequently an unhappy independent member of the B.O.U. Council when it was deciding on its final form, I should be grateful if you would allow me a few comments on various recent letters relating to this subject (*Brit. Birds*, 64: 85-86, 130-132), particularly that from Robert Hudson, P. E. Davis and J. L. F. Parslow.

On the form and especially the sequence of the list, I have been increasingly appalled by the way in which a majority of the B.O.U. Council have been determined to ignore the views both of the committee who prepared it and of the people who will use it—the latter represented by unanimous opinion at two successive conferences of county and regional bird report editors in September 1967 and January 1971. Having sought election to the Union's Council in 1969 with the expressed intention of securing more attention to public opinion over such matters, I considered anxiously whether I should continue to serve in view of the inflexibility of those concerned on this issue, but concluded that it was not desirable that anyone who disapproved of the Council's methods of conducting business should withdraw. It hardly seemed possible, however, to continue to serve on the Records

Committee whose advice was being ignored in this manner and so I resigned from that when Council's final decision became clear in May 1970, predicting in my letter of resignation that the final outcome would probably be a call for the removal of responsibility for the list from the hands of the Union.

I hesitated to make this view public until it was clear how others would react, but now that it transpires that the person who did most work on the list, the present secretary of the report editors' committee, and another of our most respected younger ornithologists, all people of moderation, feel similarly, I should like to express support for them, with some reservations. It seems doubtful whether it will be easy to replace the Union as sponsors of the national check-list. The main existing alternative organisation, the *British Birds* Rarities Committee, is concerned only with a fraction of our avifauna and, while the British Trust for Ornithology and the Royal Society for the Protection of Birds both produce pocket field-lists for their members, neither of them has previously set out to make them authoritative. It seems a pity to interrupt a tradition, dating back to 1883, that the Union should arrange for the production of a standard list, merely owing to a transient vagary of the Council of a sort which has happened before and is likely to happen again with any substitute. But the time has now come for the Union to recognise that a number of other people are also concerned with the form the list takes, and to arrange for fair representation of all the parties concerned in the production of future lists.

Informal agreements for liaison alone between the B.O.U. and *British Birds* committees are not enough. This is a matter which in future should be settled by formal consultation between all interested parties possibly via the medium of the Joint Liaison Committee of our national ornithological societies. Certain functions of a formal representative committee might well be delegated elsewhere—for example, the collation of records of rarities and exceptional phenomena to *British Birds*, the collection of information on commoner species to the British Trust for Ornithology, the analysis of confidential data on rare breeding species to the Royal Society for the Protection of Birds, and surveys of wildfowl and seabirds to appropriate bodies. But it needs to be agreed that overriding control over the general form of the list should be kept in the hands of a much more representative body than has hitherto been the case, capable of ensuring that it remains acceptable to the public at large. If the B.O.U. would agree to pay fair attention to other views, I am sure that our other ornithological organisations would be only too pleased to assist the preparation of more acceptable future lists.

W. R. P. BOURNE

*Department of Zoology, University of Aberdeen, Tillydrone Avenue,
Aberdeen AB9 2TN*

Do some Wallcreepers migrate? I can support H. G. Alexander's comments (*Brit. Birds*, 64: 236-237) on the movements of Wallcreepers *Tichodroma muraria* in the Indo-Pakistan subcontinent. These birds, which are numerous at 3,000 to 4,000 metres in the Gilgit Agency at the western end of the Himalayas, certainly move into the lowlands in winter. They are regularly seen then not only in the hills to the east of Lahore, but also on the slopes of the Salt Range near Kalabagh, which have a maximum height of 1,500 metres. These journeys involve distances of some 500 kilometres and the crossing of considerable lowland areas no more than 200 to 500 metres above sea level. Until ringing can be undertaken in the Himalayas we shall not know the full extent of such movements, which for the time being are perhaps best described merely as altitudinal migration, an activity which of course is common among species which have to face the severe Himalayan winter.

GUY MOUNTFORT

Plovers Meadow, Possingworth Park, Blackboys, Sussex

Announcement by the Rarities Committee

D. I. M. Wallace, a valued former member of the Rarities Committee, has recently returned to live in this country after some years in Nigeria. His close interest in the committee's work has in particular been shown by his paper in 1970 on 'The first ten years of the Rarities Committee' (*Brit. Birds*, 63: 113-129), while his plate of non-breeding plumages of marsh terns, his illustrated paper on Hippolais warblers, and his analysis of the differences between Common and Spotted Sandpipers out of breeding plumage, which have also been published in *British Birds*, give evidence of his unusual ability to contribute to problems of identification; furthermore, his own activities and successes in the field are well known.

There is at present a vacancy on the Rarities Committee, and the committee recommends that Mr Wallace be appointed to fill it. The purpose of this notification is to invite any ornithological body, bird observatory or individual who would prefer the appointment of someone else to send to me before 31st October 1971 the name and address of their candidate, with some particulars of his qualifications. Thereafter the county and regional organisations and bird observatories, who have in the past been consulted before an appointment has been made, will be asked to vote on the names received. If, however, no other nomination has reached me by 31st October, it will be assumed that Mr Wallace's appointment has general approval and he will be asked to join the committee without further ado.

Crastock Cottage, Crastock, Woking, Surrey

P. A. D. HOLLAM
Chairman, Rarities Committee

News and comment *Robert Hudson*

Rehabilitating oiled birds Currently there is a clear division of opinion on what to do with badly oiled seabirds: on the one hand, the anthropomorphic belief that cleansing and rehabilitation should always be attempted; and on the other, the view that since the success rate is so extremely low it is more humane (and more economical) to destroy them at once. The latter view is held by the Royal Society for the Protection of Birds and the Royal Society for the Prevention of Cruelty to Animals. While most knowledgeable people would accept this approach as the more reasonable one, nevertheless it is no bad thing that dedicated individuals and research bodies should continue searching for cleansing and rehabilitation techniques that might improve the survival rate of released birds. Two useful publications on this subject have appeared recently. The Research Unit on the Rehabilitation of Oiled Seabirds, Department of Zoology, University of Newcastle upon Tyne, has issued a 48-page booklet (*How oiled seabirds are cleaned*, by R. B. Clark and R. J. Kennedy) containing summaries of the information from 60 questionnaires completed by people who had attempted to rescue oiled seabirds. As might be expected, contradictory views were expressed on many topics, and it is now the task of the Research Unit (which was founded in January 1970) to investigate some of the more promising lines: for instance, it is still uncertain whether the waterproof properties of plumage are due to its physical structure, to the chemicals on it, or to both. The second recent publication is a paper by J. J. D. Greenwood and B. M. Marsault entitled 'Rehabilitating oiled seabirds' (1971, *International Zoo Yearbook* 11: 245-251). In this the authors offer advice based on their own experiences, including such cogent points as the inadvisability of cleaning oil from a bird while it is still in a state of shock or of using bedding of vegetable matter, such as hay and straw; the need to judge waterproofing only after the bird has spent hours, not just minutes, in water; and the desirability of ringing birds before release to provide vital information on their subsequent survival.

Garden Bird Feeding Survey Recognising the importance of gardens as bird habitats, the British Trust for Ornithology launched the pilot study last winter of a Garden Bird Feeding Survey, organised by N. D. Pullen. The purpose was to test recording methods and assess the degree of interest in such an enquiry. Preliminary results on both counts having shown promise, the B.T.O. has decided to extend the survey on a national scale during the period October 1971-March 1972; all birdwatchers are invited to participate, and observers are especially sought in eastern and northern England, Wales, Scotland and Ireland, regions inadequately represented in the pilot survey. It is hoped that the full survey will show quantitatively which species are coming to food artificially presented in modern gardens, the time of year when each species comes, the food items being offered and also those being consumed most readily. The pilot study, though on a small scale, has revealed some interesting information on species and activity patterns, as shown in a preliminary report being circulated to the participants; a limited number of copies of this report are available from the B.T.O., Beech Grove, Tring, Hertfordshire.

James Fisher Memorial Appeal James Fisher, who died so tragically in a car accident in September 1970, was outstandingly successful in popularising ornithology and conservation, in which he did much to stimulate the post-war growth of interest. It is fitting, therefore, that there should be some kind of permanent memorial to him, as has been proposed by a committee representing 17 wildlife organisations (including the R.S.P.B., B.T.O., B.O.U., E.G.I., Seabird Group and I.C.B.P.).

Since James Fisher had a great passion for seabirds and their breeding islands (stemming from his early census work on Fulmars and Gannets), it has been decided that a suitable memorial would be in the form of an important British seabird island to be purchased or otherwise safeguarded. Contributions to this worthy cause should be addressed to the James Fisher Memorial Appeal, c/o World Wildlife Fund, Plumtree Court, London EC4.

Institut ECHO discs 'News and comment' (*Brit. Birds*, 60: 140; 61: 376; 63: 183) has previously extolled the sound-recording work of Institut ECHO, which has now issued four sets of 7-inch records in its *Sound Guide* series: Western Europe (27 discs, £1.25 each), Southern Europe (13 discs, £14.50 per set), Northern Europe (eleven discs, £12.50 per set), and the Maghreb or northern Africa (five discs, £7.00 per set). All are now available from two British stockists—Discourses Ltd, 34 High Street, Tunbridge Wells, Kent, and Discurio, 9 Shepherd Street, London W1—either of whom will be happy to send descriptive information on these and other wildlife sound recordings.

Sound recording competition For the fourth consecutive year, 3M (manufacturers of Scotch magnetic tape) are sponsoring a wildlife sound recording contest in conjunction with the Wildlife Sound Recording Society. There will be three classes of entry: (1) individual species of birds; (2) individual species of mammals and insects; (3) outdoor 'atmosphere' recordings featuring wildlife sounds in various habitats. All recordings submitted are to be of wild subjects on $\frac{1}{4}$ -inch magnetic tape, between ten seconds and two minutes in duration, and taped in Britain or Ireland; recordings entered for previous 3M wildlife sound recording contests are not eligible. A natural history holiday to the value of £150 is offered as top prize; the three class winners will receive specially commissioned framed watercolours of their winning subject as well as six reels of Scotch recording tape. Entry forms may be obtained from Andrew McDonald, Magnetic Marketing, 3M House, Wigmore Street, London W1A 1ET; tapes should be sent to Richard Margoschis, Wildlife Sound Recording Society, 80 Mancetter Road, Mancetter, Atherstone, Warwickshire. The closing date for entries is 30th November.

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

Recent reports *P. F. Bonham*

These are largely unchecked reports, not authenticated records

This covers May 1971, to which all dates refer unless otherwise stated.

HERONS, STORKS AND SPOONBILLS

After the exceptional influxes of southern herons in spring 1970 (see pages 342-346), the numbers reported in the first half of 1971 were nearer the average. About eight **Purple Herons** *Ardea purpurea* included one or two in east Kent on various days between 7th and 18th, an undated report from Filsham (Sussex), and singles at Cley (Norfolk) from 9th to 11th, Leighton Moss (Lancashire) from 13th to 15th

(immature) and 19th to 25th (adult), Oxwich Marsh (Glamorgan) on 16th and 17th, and Wroxton (Oxfordshire) on 24th. A **Little Egret** *Egretta garzetta* was seen at Stodmarsh and later at Pegwell Bay (both Kent) on 9th, and during the last week others appeared near Youghal (Co. Cork), at Slimbridge (Gloucestershire) and at the Brooks, Lydd (Kent). The **Night Heron** *Nycticorax nycticorax* which arrived in the Isles of Scilly in late April (*Brit. Birds*, 64: 332) stayed on St Mary's until at least 8th; and **Little Bitterns** *Ixobrychus minutus* were found in east Kent and at Shipley (Sussex) on 2nd, at Pagham (also Sussex) on 9th and on North Ronaldsay (Orkney) on 31st.

It was a particularly good spring for **White Storks** *Ciconia ciconia*: singles remained on St Mary's and at Stickney (Lincolnshire) from April (see *Brit. Birds*, 64: 332), and others were reported in the vicinity of Hallen and Compton Greenfield (Gloucestershire) and the Wingham-Canterbury and Great Chart areas (Kent), at West Drayton (Middlesex), Thorpe Langton (Leicestershire), Formby Moss (Lancashire), Bridge of Alvah and Tomintoul (both Banffshire), in Caithness and on Westray (Orkney). It is hard to say exactly how many were involved, however, and the same applies to a series of reports of **Spoonbills** *Platalea leucorodia* in Suffolk: singles at Blythburgh and Covehithe on 16th, at Minsmere on 18th and 19th and again from 28th to 31st, and at Breydon Water on 21st. Another Spoonbill flew west over Salthouse and Cley on 15th and was seen in Blakeney Harbour next day; in Dorset, the immature that overwintered in Poole Harbour (*Brit. Birds*, 64: 290) was joined by an adult on 5th, and both left on 7th.

WILDFOWL AND BIRDS OF PREY

Four rare ducks were reported and three of them were still present at the end of the month: a drake **Ring-necked Duck** *Aythya collaris* at Chew Valley Lake (Somerset) until at least 23rd, which had spent most of April near-by at Blagdon Reservoir; a female **Steller's Eider** *Polysticta stelleri* on Fair Isle (Shetland) from 9th May to 13th June, a **Blue-winged Teal** *Anas discors* at Fairburn (Yorkshire) from 15th May through to July and a drake **King Eider** *Somateria spectabilis* at Bixter (Shetland) from 24th May to 5th June. Late winter wildfowl included up to four **Long-tailed Ducks** *Clangula hyemalis* at six localities in north-east and south England; twelve **Greenland White-fronted Geese** *Anser albifrons flavirostris* on the South Slob (Co. Wexford) on 4th and three on the North Slob from 5th to 7th; 220 **Pink-footed Geese** *A. brachyrhynchus* at Vane Farm (Kinross) on 11th, 60 on 12th and none subsequently; the remarkable number of 110 **Brent Geese** *Branta bernicla* near Nenemouth (Norfolk) as late as 23rd and three in the west at Malltraeth (Anglesey) on 16th; a **Barnacle Goose** *B. leucopsis* at Sweethope Lough (Northumberland) on 29th; and five **Whooper Swans** *Cygnus cygnus* at Cresswell (also Northumberland) until 16th.

As in May 1970, **Ospreys** *Pandion haliaetus* were widely reported, at least 24 being seen in ten English and three Scottish counties, as well as single birds or pairs at seven certain or probable nesting sites in Scotland. Rare raptors included a **Goshawk** *Accipiter gentilis* st Skewjaek, Sennen (Cornwall) on 26th; **Black Kites** *Milvus migrans* in the Cley area from 6th to 9th and at Westleton Heath (Suffolk) on the latter date; and **Red-footed Falcons** *Falco vespertinus* at Cley on 29th and at Wicken Fen (Cambridgeshire) in late May. Single **Honey Buzzards** *Pernis apivorus* were seen coming in over the sea at Beachy Head (Sussex) on 9th, flying north over Ellingham and Bamburgh (Northumberland) on 30th, and near Canterbury on 30th and 31st. There were also up to a dozen reports each of **Marsh Harriers** *Circus aeruginosus*, **Montagu's Harriers** *C. pygargus*, **Buzzards** *Buteo buteo* and **Hobbies** *Falco subbuteo* away from known breeding areas (which in the case of the harriers, especially Marsh, are now extremely few); one Buzzard and two Hobbies flying in from the east at Sandwich Bay (Kent) on 9th occurred on the same day as the Honey Buzzard at Beachy Head.

GAMEBIRDS TO WADERS

Reports of **Quail** *Coturnix coturnix*, which began with one at Beachy Head on 2nd, were very few in comparison with the large influx of spring and summer 1970 (*Brit. Birds*, 63: 223, 311). It was also a poor month for the rarer crakes, with reports of only three **Spotted Crakes** *Porzana porzana* (Kent and Suffolk) and about a dozen migrant **Corncrakes** *Crex crex* (Scilly, Herefordshire, Norfolk, Co. Durham and Northumberland); Corncrakes were also picked up dead under overhead wires at Shotton Pools (Flintshire) and by a roadside at Much Wenlock (Shropshire). **Cranes** *Grus grus* were reported at the beginning of May at Weybourne and Cromer (Norfolk), at Wilton, Middlesbrough (Yorkshire) and on Papa Westray (Orkney).

The influx of **Kentish Plovers** *Charadrius alexandrinus* in April (*Brit. Birds*, 64: 333) extended into May, with further reports in Cornwall, Devon, Dorset, Sussex, Kent (five), Suffolk and Norfolk (two each). Migrant **Dotterel** *Eudromias morinellus*, first reported on 4th, included up to eleven near Ilford, Lewes (Sussex), four at Swyncombe (Oxfordshire), one at Pegsdon (Bedfordshire), six at Lissett and two at Great Ayton (both Yorkshire).

Rare waders were **Spotted Sandpiper** *Tringa macularia* and **Pratincole** *Glareola pratincola* at Dungeness (Kent) on 28th, **Pectoral Sandpiper** *Calidris melanotos* at Ballycotton (Co. Cork) on 20th, **Broad-billed Sandpiper** *Limicola falcinellus* at Teesmouth (Co. Durham) on 10th and **Wilson's Phalarope** *Phalaropus tricolor* in Egypt Bay (Kent) on 11th. Totals reported largely on the east coast of the commoner waders breeding in north-east Europe and Asia included six **Jack Snipe** *Lymnocyptes minimus* during 1st-7th and one on the Ouse Washes (Cambridgeshire/Norfolk) as late as 21st, about ten **Wood Sandpipers** *Tringa glareola* and 40 **Curlew Sandpipers** *Calidris ferruginea* (the reverse of the position in May 1970), 30 **Little Stints** *C. minuta* and eight **Temminck's Stints** *C. temminckii*. The last, all in the second half of the month, were in the Medway estuary (Kent) and at Didcot (Berkshire), Minsmere, Ely (Cambridgeshire), Bardney Ponds (Lincolnshire), Drakelow (Derbyshire), Scaling Dam Reservoir (Yorkshire) and Reclamation Pond, Teesmouth. Lastly, migrant **Stone Curlews** *Burbinus oedicnemus* were reported at Rye Meads (Hertfordshire) on 1st and 2nd, at Dungeness on 9th and 19th, in east Anglesey on 12th, at Patchway (Gloucestershire) on 13th, near Pirton (Hertfordshire) on 14th and at Big Moor (Derbyshire) on 22nd; and 40-50 **Avocets** *Recurvirostra avosetta* were seen at eight places in Sussex, Kent and East Anglia, apart from the breeding populations in Suffolk.

SHEARWATERS, SKUAS, GULLS AND TERNS

Single **Cory's Shearwaters** *Calonectris diomedea* passed Portland (Dorset) and Cape Clear Island (Co. Cork) on 8th; and a Cory's and two **Sooty Shearwaters** *Puffinus griseus* were noted at the latter locality next day. At Balranald, North Uist (Outer Hebrides), 9¼ hours of sea-watching during 17th-23rd produced 136 **Arctic Skuas** *Stercorarius parasiticus*, six **Great S. skua**, 92 **Pomarine S. pomarinus** and May's only **Long-tailed Skua** *S. longicaudus*; spring records of the last are always very scarce and there were only 15 in the ten years 1958-67 (*Brit. Birds*, 63: 17). Some other reports of **Pomarine Skuas** are worth giving in full: 68 flew east at Beachy Head on 5th, including a flock of 21 which had been seen three hours earlier at Selsey Bill and nine which later passed Rye Harbour; 18 more flew up-Channel past Beachy Head on 12th; 41 in all were counted heading east at Dungeness during 5th-15th; and much farther west at Cape Clear Island there were eight on 7th, 15 on 8th, 26 on 9th and 18 on 10th. (The Beachy Head peak occurred on almost the same date as in 1970, when there were 26 on 4th May.)

An adult **Kittiwake** *Rissa tridactyla* was seen as far inland as Grafham Water (Huntingdonshire) on 5th (and, incidentally, one of two **Great Northern Divers** *Gavia immer* which had wintered there remained until at least that date, having assumed full breeding plumage). **Glaucous Gulls** *Larus hyperboreus* and **Iceland**

Gulls *L. glaucooides* were both down to single figures, all on the coast; and nine or ten Mediterranean Gulls *L. melanocephalus* were well scattered, mainly in the south-east; but well over 100 Little Gulls *L. minutus* were reported from 30 counties, with minor peaks about 5th-8th and 23rd-24th. Black Terns *Chlidonias niger* were slightly more concentrated in the east than the Little Gulls; most occurred on only two days, 5th and 6th (midweek), a remarkable coincidence with the May 1970 situation (*Brit. Birds*, 63: 224), though the volume of passage this year was much smaller. The highest count of which we have heard was 42 heading up the Bristol Channel at Brean (Somerset) on 6th. White-winged Black Terns *C. leucopterus* were reported at Farmoor Reservoir (Berkshire) on 2nd, at Lade (Kent) on 9th-10th and at Frodsham (Cheshire) on 27th. Gull-billed Terns *Gelochelidon nilotica* appeared at Theale gravel pits (Berkshire) about 2nd, on Fair Isle during 24th-29th and in Langstone Harbour (Hampshire) on 31st; and a Caspian Tern *Hydroprogne tschegrava* at Selsey Bill also on 31st.

NEAR-PASSERINES AND PASSERINES

Following the 46 in April (*Brit. Birds*, 64: 334), 34 more Hoopoes *Upupa epops* were newly reported in May, more than half during 1st-8th and only five after 18th; 18 counties were involved, the most northerly being Sutherland (one at Loch Choire, Altnaharra, on 4th) and Shetland (one on Fair Isle from 25th to 29th). Golden Orioles *Oriolus oriolus*, which totalled at least 21, including eight in Kent, were not quite so widely distributed geographically as the Hoopoes; there was practically no correlation in the arrival periods of the two species and the dates of the orioles were evenly spread. The few reports of rarer southern vagrants included Great Spotted Cuckoos *Clamator glandarius* at Anderby (Lincolnshire) on 9th and on Tresco (Isles of Scilly) at the end of May; an Alpine Swift *Apus melba* at South Darenth (Kent) on 2nd; a Red-rumped Swallow *Hirundo daurica* at Litlington (Sussex) on 4th; Great Reed Warblers *Acrocephalus arundinaceus* trapped at both Sandwich Bay and Vale Pond (Guernsey) on 16th and present at Wicken Fen from 21st May until 6th June; and on Fair Isle a Black-headed Bunting *Emberiza melanocephala* on 13th and 14th and a Subalpine Warbler *Sylvia cantillans* trapped on 22nd. Lastly, single Woodchat Shrikes *Lanius senator* were reported in the Isles of Scilly, Devon, Hampshire, Kent and Norfolk, and a Lesser Grey Shrike *L. minor* on Fetlar (Shetland) on 27th.

A small fall of Scandinavian migrants occurred during 22nd-24th, but it was nowhere near the scale of that in May 1970 (*Brit. Birds*, 63: 262-264). Twenty or so Bluethroats *Luscinia svecica* and rather fewer Wrynecks *Jynx torquilla*, Red-backed Shrikes *Lanius collurio* and Ortolan Buntings *Emberiza hortulana* were recorded on the east coast, mainly between Lincolnshire and Shetland and with a distinct peak on 23rd-24th. A pair of Ortolan Buntings at Hoveringham (Nottinghamshire) on 2nd might seem unlikely, but full descriptions were taken over half an hour's watching at close range; the birds could not be found subsequently. Icterine Warblers *Hippolais icterina* occurred on North Ronaldsay on 23rd, on Fetlar and Isle of May on 24th, at Spurn (Yorkshire) on 24th and 26th, and at Dungeness on 28th and Red-breasted Flycatchers *Ficedula parva* on Holy Island (Northumberland) on 23rd and Fetlar on 24th; Grey-headed Wagtails *Motacilla flava thunbergi* were identified in north Kent on 5th and 22nd and on Holy Island on the latter date; and Scarlet Rosefinches *Carpodacus erythrinus* were trapped at Broadstairs (Kent) on 19th and seen on Whalsay (Shetland) on 8th and on North Ronaldsay on 29th (both adult males), as well as on Fair Isle on 24th and 30th. In view of the general paucity of Scandinavian species, it is surprising that three Thrush Nightingales *Luscinia luscinia* were found hundreds of miles apart during the fall of 22nd-24th; these were near Minsmere and on Holy Island on 23rd and one dead on Fair Isle on 24th (Fair Isle also recorded two Nightingales *L. megarhynchos* in early May); and still in Shetland, but on an even rarer note, a male Red-flanked Bluetail

Tarsiger cyanurus was trapped on Fetlar on 31st and was present until 2nd June—the fifth British record, the first since 1960 and the first in spring.

The remaining passerines are rather a mixed bag and some are difficult to classify in terms of origin. This applies, for example, to a **Short-toed Lark** *Calandrella cinerea* on Fair Isle from 17th to 21st; a **Lesser Whitethroat** *Sylvia curruca* (rare in Ireland) on Cape Clear Island on 14th; **Tawny Pipits** *Anthus campestris* at Reculver (Kent) on 2nd, Portland on 2nd and 8th, Dungeness from 5th to 8th, Sandwich Bay on 9th, Birchington (also Kent) on 18th and both Rye Harbour and Cley on 31st; and **Hawfinches** *Coccothraustes coccothraustes* at Spurn on 9th, on St Agnes on 26th and on Tresco—perhaps the same bird—on 31st. Also at Spurn on 9th was a **Serin** *Serinus serinus*, and three days earlier another had appeared at Broadstairs. A **Richard's Pipit** *Anthus novaeseelandiae* was seen at Sandwich Bay on 8th (this species, which reaches us from central Asia, is practically unknown in spring, despite the recent upsurge in autumn records), and from the opposite side of the world, probably on board a ship, came a **Song Sparrow** *Melospiza melodia* to the Calf of Man, where it was trapped on 13th, and remained until at least 3rd June. Another American species was a **Lazuli Bunting** *Passerina amoena* on the Isle of May from 23rd to 28th, but this seems more likely to have been an escape from captivity.

Departing winter visitors south of the Scottish border included about a dozen **Fieldfares** *Turdus pilaris* during 16th-31st (one at Donna Nook staying until 4th June); several **Redwings** *T. iliacus* up to 23rd; a **Waxwing** *Bombycilla garrulus* at Budle Bay (Northumberland) on 8th; and **Great Grey Shrikes** *Lanius excubitor* at Roydon Common (Essex) on 24th and at Spilsby (Lincolnshire) from 15th May right through to mid July. There were two **Snow Buntings** *Plectrophenax nivalis* at Ballycotton on 1st and an extremely late female at Sandwich on 28th and 29th, as well as a late **Brambling** *Fringilla montifringilla* near Rednal (Worcestershire) on 20th, but more remarkable was a male **Lapland Bunting** *Calcarius lapponicus* in full breeding plumage trapped at Vale Pond (Guernsey) on 16th.

ADDITIONAL APRIL REPORTS

A few reports arrived too late for the April summary (*Brit. Birds*, 64: 332-336). These were a drake **American Wigeon** *Anas americana* at Oundle (Northamptonshire) on 15th, two late **Smew** *Mergus albellus* at Wraysbury (Buckinghamshire) on 9th, an immature **Crane** in west Pembrokeshire from 9th to 26th and a **Hoopoe** at Winkfield (Berkshire) on 17th.



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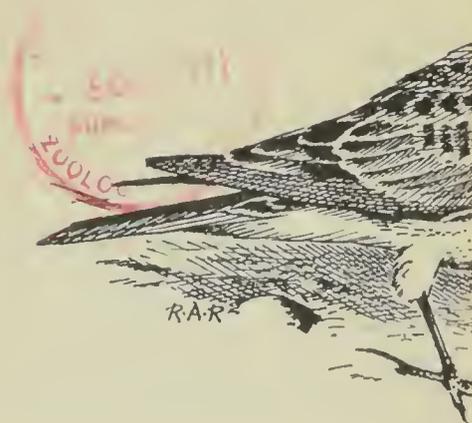
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Breeding biology of Buzzards at Sedbergh during 1937-67
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PLATE II. Above, male Golden Oriole *Oriolus oriolus*, Portugal, June 1964, shows the familiar yellow and black plumage and reddish bill. Below, brightly coloured female at another nest, Spain, June 1961: this female could well be mistaken for a male and the only clear differences were a slightly duller bill (not apparent here) and grey instead of black on the lores (see text) (photos: M. D. England)



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British Birds

North American waterfowl in Europe

Bertel Bruun

INTRODUCTION

The natural occurrence of North American birds in Europe is a well-established fact substantiated by recoveries of ringed birds. The transatlantic crossings of waders and passerines have been excellently treated by Nisbet (1959, 1963) and, more recently, by Sharrock (1971). The waterfowl (Anatidae) have received less attention, however, and no attempt has previously been made to summarise their occurrences in Europe in relation to their migrations and distributions in North America. Analysis of the data on waterfowl is greatly complicated by the many escaped birds encountered so much more often in this family than in any other, which might explain the scanty treatment of transatlantic vagrancy among this otherwise intensively studied group. Counterweights to the complication of escapes are the fairly large size and easy identification of ducks and geese, the many specimens obtained, and the relatively high rate of ringing returns.

In this paper the records of Nearctic waterfowl in Europe are briefly discussed in the light of the distributions, migrations and habits of the species and subspecies concerned in North America. All dated records up to and including 1968 have been considered; undated records and any of birds seriously regarded as escapes have generally been excluded. So far as possible, all the records are listed with references, but in some cases, particularly where there are more than ten in any country, they are summarised or tabulated by the months when they were first reported. Because of the establishment of feral populations in Britain and Sweden, the Canada Goose *Branta canadensis* has been omitted, although since about 1954 there have been a number of records of individuals of one or other of the small subspecies in Ireland (chiefly on the Wexford Slobs) and in Scotland (chiefly in the Hebrides) which seem almost certain to include genuine transatlantic

vagrants. Indeed, Merne (1970) has recently listed 38 Irish records involving 75 birds, at least 50 of them different individuals (ignoring the possibility of the same one reappearing in successive years), in every winter since 1954/55 except 1959/60 and 1964/65. Because they were associated with newly arrived Greenland White-fronted Geese *Anser albifrons flavirostris*, because the small arctic races were regularly involved, and because there was evidence of hybridisation with a Barnacle Goose *B. leucopsis* and with Snow Geese *A. caerulescens*, he concluded that 'most, if not all, of the Canada Geese wintering in Ireland are migrants from the north-west rather than vagrants from the east [i.e. Britain].'

Britain and Ireland are treated together as a single geographical unit; the sources for these are Witherby *et al.* (1938-41), Kennedy *et al.* (1954), Bannerman (1957, 1958), Ruttledge (1966) and *British Birds* (abbreviated as *BB*) and the annual *Irish Bird Reports* (*IBR*). The Belgian records are taken from *Avifaune de Belgique* by the Commission pour l'Avifaune Belge (1967) and the Dutch ones from *Avifauna van Nederland* by the Commissie voor de Nederlandse Avifauna (1970), as well as from the Belgian and Dutch journals *Le Gerfaut*, *Aves*, *Ardea* and *Limosa*. Most of the other Continental records are taken from the journals *Alanda*, *L'Oiseau*, *Nos Oiseaux*, *Dansk Ornithologisk Forenings Tidsskrift* (*DOFT*), *Vår Fågelvärld*, *Sterna* and *Rivista Italiana di Ornitologia*, but those for Finland come from Merikallio (1958). The data for Greenland are from Salomonsen (1967). Information on status in North America has been taken primarily from Snyder (1957), Stewart and Robbins (1958), Kortwright (1960), Bull (1962) and Godfrey (1966).

REGULAR TRANSATLANTIC MIGRATION

Seven species of waterfowl regularly migrate, or are believed to do so, from breeding grounds in Greenland to wintering grounds in north-west Europe (table 1). Two of the species involved (Pink-footed Goose *Anser brachyrhynchus* and Barnacle Goose *Branta leucopsis*) are primarily Palearctic, one (Eider *Somateria mollissima*) is Holarctic but with an extensive gap in northern Asia, and the other four are circumpolar or almost circumpolar in their distribution (see Johansen 1956, 1958, Vaurie 1965). It is also worth noting that they all cross the Atlantic between 60°N and 70°N.

The distance between east Greenland and Scotland, passing over Iceland, is about 1,000 miles, the longest stretch of water being the 500 miles from south-east Iceland to the Outer Hebrides. The distance between the southern tip of Greenland and suitable wintering grounds for geese in the mid-Atlantic states of North America is at least 2,000 miles, further even than the distance between west Greenland and Scotland, and again the longest ocean crossing, from Greenland

Table 1. Breeding and wintering areas of three ducks and four geese which regularly migrate across the Atlantic (or are believed to do so) and evidence for this to the end of 1968

All scientific names are given in the summary on page 407

Species	Breeding	Wintering	Evidence: remarks
Eider (northernmost race)	North-east Greenland	Iceland	1 ringing recovery: probably only small part of population
King Eider	East Greenland	Iceland	1 ringing recovery: probably only small part of population
Red-breasted Merganser	East Greenland	Iceland, Britain and Ireland	None: assumed by Salomonsen (1967)
Greenland White-front	West Greenland	Britain and Ireland	203 ringing recov- eries
Pink-footed Goose	East Greenland	Britain and Ireland	3 ringing recoveries: wintering unknown in New World
Pale-bellied Brent Goose	North Greenland	Britain and Ireland	None: assumed by Salomonsen (1967)
Barnacle Goose	East Greenland	Britain and Ireland	111 ringing recov- eries

to Labrador, is about 500 miles. Transatlantic migration in these species is therefore only to be expected as it follows the shortest possible route to suitable wintering grounds. For the two primarily Palearctic geese this migratory pattern is further strengthened by the original route of westward spread (Johansen 1956, 1958). Other Greenland waterfowl winter much farther north and long-distance migration is not necessary to their survival; thus for these species it is beneficial to remain on the western side of the Atlantic.

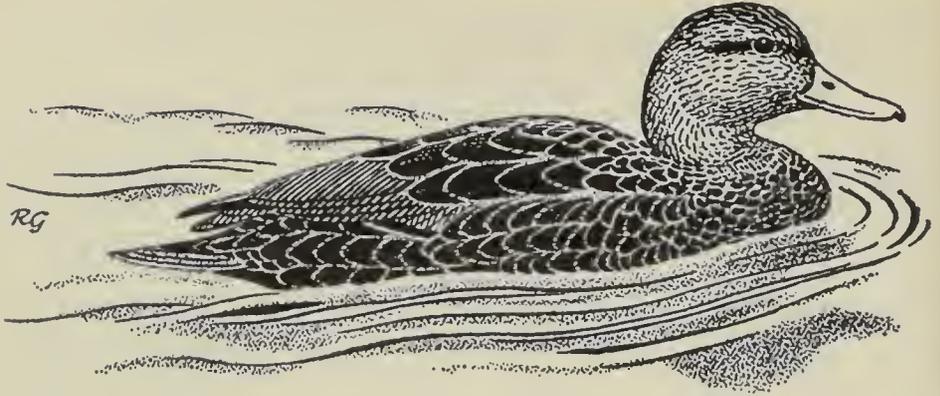
VAGRANT NORTH AMERICAN WATERFOWL

Black Duck *Anas rubripes*

Of the four records of Black Ducks in Europe to the end of 1968, three were in Ireland and one in England:

About 5th February 1954	♀, Mullinavat, Co. Kilkenny (<i>IBR</i> , 1954; <i>BB</i> , 48: 341)
18th-21st February 1961	1, North Slob, Co. Wexford (<i>IBR</i> , 1961; <i>BB</i> , 54: 324-325)
27th November 1966	♀, Mayglass, Bridgetown, Co. Wexford (<i>IBR</i> , 1966)
18th-20th March 1967	♂, Yantlet Creek, Stoke, Kent (<i>BB</i> , 60: 482-483)

As the Black Duck is one of the most abundant dabbling ducks in eastern North America (Kortwright 1960, Bull 1962), it is surprising that it has not been reported more often. It is migratory, but only to a limited degree, breeding from the west side of Hudson Bay and



Labrador south to North Carolina and wintering from as far north as Newfoundland south to the Gulf coast. Those in February and March occurred at about the time when spring migration is just beginning and westerly gales are commonplace. The species has never been recorded in Greenland.

Green-winged Teal *Anas crecca carolinensis*

There seem to be 52 dated records (involving 55 individuals) of Green-winged Teal in Britain and Ireland to the end of 1968. Their monthly distribution is shown in table 2. Geographically they are spread rather evenly, with minor concentrations in south-west Ireland and south-west England. On the other hand, there have apparently been only seven records on the Continent:

28th April 1937	♂, Z.H.-Biesbosch, Netherlands (<i>Limosa</i> , 35: 206)
29th April 1954	♂, Närke, Örebro, Sweden (Salomonsen 1963)
29th March 1961	♂, Merkem, Oostvlaanderen, Belgium (<i>Gerfaut</i> , 53: 68; <i>Aves</i> , 5: 76)
20th March 1962	♂, St Jan Steen Z., Netherlands (<i>Limosa</i> , 35: 206)
28th March and 26th April 1965	♂, Harchies, Hainaut, Belgium (<i>Gerfaut</i> , 55: 458; <i>Aves</i> , 5: 75)
11th-14th April 1965	♂, Wassenaar, Netherlands (<i>Limosa</i> , 40: 17)
27th November 1965	♂, Monster, Netherlands (<i>Limosa</i> , 40: 17)

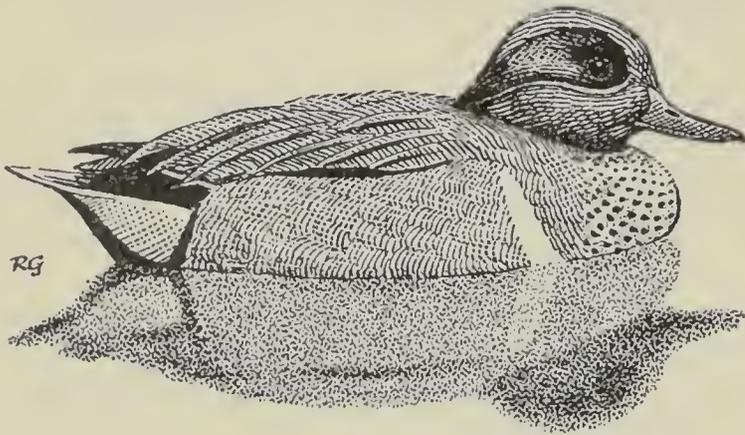
In addition, one was recorded in Morocco, 100 km south of Casablanca, on 13th April 1959 (Frété 1959). It is surprising that so few have been reported outside Britain and Ireland, but this will undoubtedly change as observation becomes more intensified on the Continent. The Green-winged Teal is a common duck in North America where it undertakes rather extensive migrations: it breeds in the north from Hudson Bay to Alaska and winters in the southern United States, Mexico, northern Central America and the West Indies, including the length of the Atlantic coast north to Massachusetts. It has occurred several times in Greenland: twice in May (probably due to prolonged spring migration) and once in each of the months September to December (Hørring and Salomonsen 1941, Salomonsen 1967 and *in litt.*).

Table 2. Monthly distributions of dated records of ten American ducks in Britain and Ireland to the end of 1968

The number of individuals, where different, is shown in brackets. Some birds have remained over two or more months and in such cases only the first month is taken. Similarly, the Ring-necked Ducks which have reappeared in two or more successive years are entered for the first year only. All scientific names are given in the summary on page 407

Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Black Duck	-	2	1	-	-	-	-	-	-	-	1	-
Green-winged Teal	7	6	9	10	2	-	-	-	-	6(7)	8(9)	4(5)
Blue-winged Teal	3	1	1	3	-	-	-	-	6(7)	4(5)	3	2
American Wigeon	5(6)	4(6)	3	1	1(2)	1	-	-	1	4(16)	6	5
American Pintail	-	-	-	-	-	-	-	-	2	-	-	-
Ring-necked Duck	3	1	3	2	-	-	-	-	-	-	-	-
Bufflehead	1	2	-	-	-	1	-	-	-	-	-	-
Surf Scoter	4	5(8)	3(4)	1	-	1	-	1	5(6)	9(15)	5(7)	10(11)
Black Scoter	-	-	-	-	-	-	-	-	-	-	1	1
Hooded Merganser	1	-	-	-	-	-	1	-	-	-	-	2

Analysis of the European records is complicated by the fact that only drakes in full plumage are distinguishable from European Teal *A. c. crecca*, and the eclipse often lasts until October (Kortwright 1960). Nevertheless, it seems clear that most arrive in Europe at the times of migration, both in spring and autumn, with possibly a few more in spring. The close coincidence with the times of migration along the Atlantic coast of North America is striking and, although it is not possible to be certain, the latitude from which Green-winged



Teal set out on their crossing seems likely to be between 45° and 55° N. The Moroccan record, although outside Europe, is included here as it seems to indicate a crossing much further south than is the case with most North American stragglers, but the bird may have arrived far to the north and wandered south on the wrong side of the Atlantic. The Swedish record may well have been due to aberrant migration, probably with European Teal from the Baltic which had been wintering farther west. (Aberrant migration may be defined as the migration of a winter visitor to a breeding or summering area other than that from which it had come in the autumn, a concept closely related to abmigration which, however, is normally applied to a spring migration after wintering in the native area.)

Blue-winged Teal *Anas discors*

There appear to be 23 dated records (25 individuals) of Blue-winged Teal in Britain and Ireland to the end of 1968 (table 2), concentrated in the north and west. Ten have been recorded on the Continent:

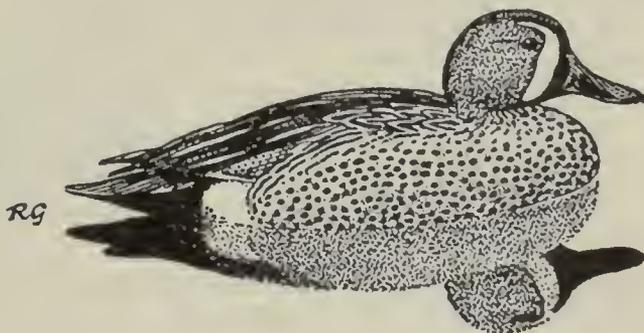
April 1886
24th October 1899
5th-14th June 1943
12th November 1948

Sacby, Vendsyssel, Jylland, Denmark (Salomonsen 1963)
Dokkum, Friesland, Netherlands (Eykman *et al.* 1937)
Amstelmecet, Netherlands (*Ardea*, 33: 205)
Valli Fiorentina, Bologna, Italy (*Riv. Ital. Orn.*, 19:
69-72)

3rd February 1952	Valle Santona, Rovigo, Italy (<i>Riv. Ital. Orn.</i> , 22: 69-71)
Mid January 1956	Vlijmen, Netherlands (<i>Limosa</i> , 30: 105)
3rd December 1962	Baie de Somme, France (<i>Oiseau</i> , 33: 77-78)
End November 1964	Gran Mar, Camargue, France (<i>Alauda</i> , 33: 68-69)
24th December 1965	Penmarch, Finistère, France (<i>Penn ar Bed</i> , 44: 191)
22nd May 1966	Kalmthout, Anvers, Belgium (<i>Gerfaut</i> , 57: 159)

There are also two dated records in Greenland, both in October (Salomonsen 1967).

One in England (24th December 1956, Slimbridge, Gloucestershire) was identified as the subspecies *A. d. orphna* which breeds in the Atlantic coast area from Prince Edward Island, New Brunswick and Nova Scotia south to North Carolina, and winters south to the West Indies and even South America (Boyd 1957), and it is probable that most or all of the other European records relate to this form; the typical race breeds in the Prairie Provinces of Canada and the central plains of the United States and winters on the Gulf coast, in the West Indies and south to Peru. The British recoveries of American Wigeon and Pintail ringed in North America (see pages 392-393) indicate that they also originated from the Maritime Provinces.



It is interesting to compare this species with the more commonly occurring Green-winged Teal. The Blue-winged Teal is more of a long-distance migrant which winters mainly in the tropics, reaching north to the Carolinas only on the Atlantic seaboard. It is also more of an inland duck. It has been recorded in Europe mainly in the autumn and there is some indication that it arrives a little earlier and a little farther north than the Green-winged Teal, corresponding with the earlier start of autumn migration in North America. The April-June records in Britain, Belgium, the Netherlands and Denmark could be the result of aberrant migration or birds crossing the Atlantic in spring; against this latter hypothesis are the lack of spring records from Greenland (as opposed to Green-winged Teal) and the fact that this is a late, and decidedly inland, spring migrant in North America (Kortwright 1960).

American Wigeon *Anas americana*

There seem to be 31 dated records (47 individuals) of American Wigeon in Britain and Ireland to the end of 1968 (table 2), though there are others which are regarded as more or less likely to have been escapes from captivity. Most of the 31 have involved single birds, with a concentration in the north and west, but a small flock appeared at Akeragh Lough, Co. Kerry, in south-west Ireland, between 6th and 12th October 1968, the highest number being 13 on 10th (*IBR*, 1968: 18-19), and there cannot be the slightest doubt about their wild origin. Moreover, the records include two interesting ringing recoveries (Carins 1967, Hudson 1968, 1970), the second of which was just south of Akeragh Lough on the last day the flock was seen:

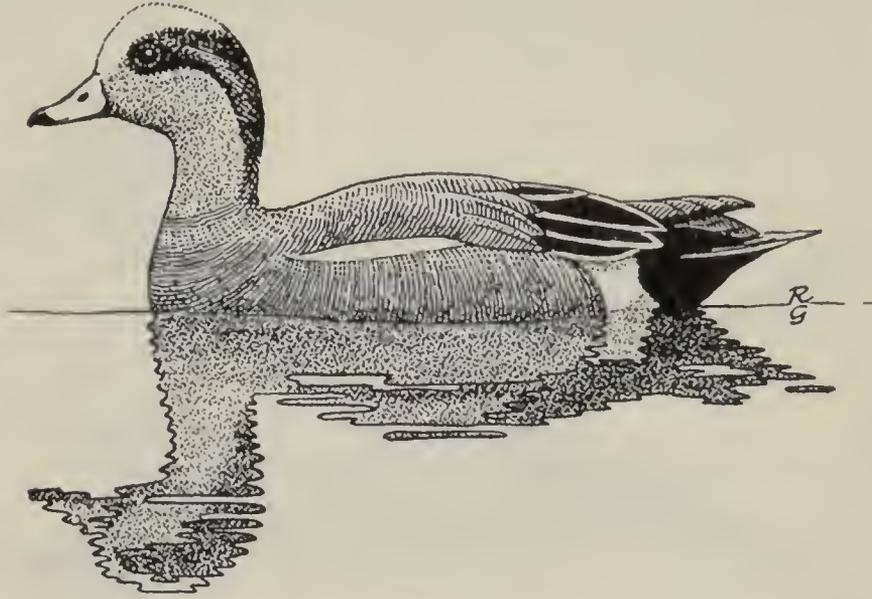
<i>USA</i> 66558773	pull.♀	6.8.66	near Sheffield: 45°53'N. 66°19'W. (New Brunswick) Canada
	shot	7.10.66	Loch of Mails: 59°55'N. 1°17'W. (Shetland) Scotland
<i>USA</i> 69643358	juv.♂	29.8.68	Jemseg: 45°51'N. 66°08'W. (New Brunswick) Canada
	shot	12.10.68	Banna: 52°21'N. 9°49'W. (Kerry) Ireland

There are also twelve dated records in Iceland, six in June, three in November and one each in May, July and December (Gardarsson 1968), but only two in continental Europe. The latter were at St Filipsland, Zealand, Netherlands, on 9th December 1922 (Eykman *et al.* 1937)—though this is not included by the Commissie Voor de Nederlandse Avifauna (1970)—and at Wernaur Baggerseen, West Germany, on 3rd March 1960 (Niethammer *et al.* 1964). In addition, three records from the Azores should be mentioned: two on São Miguel, the first undated and the second on 15th November 1956, and another undated one on Sete Cidades (Bannerman 1966).

The American Wigeon breeds in north-central and north-western America from the Prairie Provinces to Alaska and recently also in eastern Canada; some winter on the Pacific coast from British Columbia to California, but others migrate almost due east and then south to become common throughout the winter along the Atlantic seaboard from Massachusetts south to the Gulf coast, Costa Rica and the West Indies. The spring migration is mainly directed north-west, but the recently established eastern population migrates north-eastwards (Godfrey 1966). The one dated record from Greenland, in June, was probably the result of extended spring migration. Most of the Icelandic records are clearly cases of aberrant migration, as it is established by many ringing recoveries that a rather large proportion of the European Wigeon *A. penelope* from Iceland migrates to North America in winter (Dr F. Gudmundsson *in litt.*) where they mix with American Wigeon. The German record could also represent aberrant migration after the Atlantic had been crossed.

The steady pattern of occurrences in Britain and Ireland throughout

the winter could be explained on the basis that the American Wigeon moving along the coast of North America are more vulnerable to displacement by adverse weather conditions at that season than during the period of the north-westerly spring migration. On the other hand, the flock in Co. Kerry and the two ringing recoveries indicate that October is a significant month for crossings and the high proportion of winter records may well be due to the fact that American Wigeon



are hard to distinguish from their European counterparts except in full breeding plumage, which is not usually attained until as late as December (Kortwright 1960). Unlike the Green-winged Teal, the American Wigeon is decidedly rare in Europe in spring, and it is improbable that any crossings take place then. Following the recent extension of the breeding range to the east coast of North America, however, spring records might be expected in the future.

Pintail *Anas acuta*

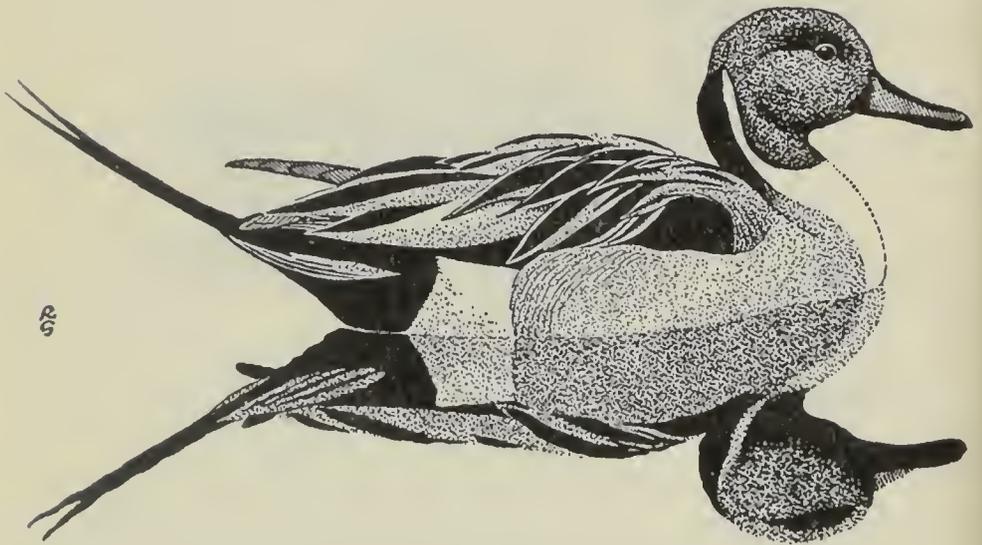
Two exceptional ringing recoveries (Leach 1950, 1952) show that Pintail of North American origin occasionally reach Europe:

USA	juv.	19.8.48	Tinker Harbour, Hamilton Inlet (Labrador) Canada
48620729	shot	15.9.48	near Stoke Gabriel (Devon) England
USA	juv.	7.9.51	Tinker Harbour, Hamilton Inlet (Labrador) Canada
50665268	shot	25.9.51	Christchurch (Hampshire) England

Both were juveniles recovered less than a month after ringing. The species is very common in North America; it breeds from Alaska and Newfoundland south to California, Colorado and north-west

Pennsylvania, and, though some winter as far north as south-east Alaska, many migrate farther and earlier than Black Ducks (pages 387-388), wintering south to Colombia, Surinam and the West Indies.

Icelandic Pintail winter mainly in Europe, but evidently some occasionally reach North America and Greenland: one ringed in north Iceland on 30th June 1930 was recovered in Bradore Bay, Quebec, on 1st May 1932 (F. H. Schultz *in litt.*), and another ringed at Reykjavik on 15th December 1962 was recovered at Frederiksdal, Nanortalik District, Greenland, on 17th April 1963 (Salomonsen 1967). Pintail have been recorded in Greenland on several other occasions, but



Salomonsen thought that most of them had come from North America, particularly those found breeding in Disko Bay during 1947-52; on the other hand, Maher and Nettleship (1968) speculated that a pair found nesting on Ellesmere Island were of European origin. At present it can only be concluded that a small interchange between the two continents does occur, involving the populations of easternmost North America and Iceland, and that the eastbound crossing of the Atlantic is rapid and probably takes place at a latitude of about 50°N. Further ringing recoveries are needed before more definite conclusions can be drawn.

Ring-necked Duck *Aythya collaris*

Although the first was only as recently as 1955 (apart from the one said to have been taken in Lincolnshire, England, in January 1801), there had been over 20 records of the Ring-necked Duck in eight countries of Europe by the end of 1968, including several series at the

same places in successive years. Nine of these 20 or more were in Britain and Ireland (see also table 2):

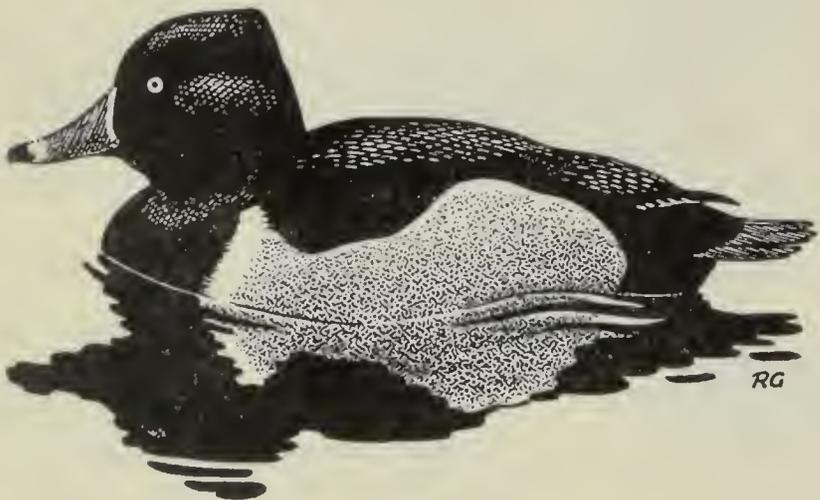
12th-14th March 1955	♂, Slimbridge, Gloucestershire (<i>BB</i> , 48: 377)
19th-27th April 1959	♂, near Reading, Berkshire (<i>BB</i> , 52: 427-430)
20th March-1st May 1960 and eight subsequent winters to 1968	♂, Lurgan Park, Co. Armagh, and Lough Neagh (<i>BB</i> , 54: 72-73; <i>IBR</i> , 1960-68)
1st-22nd April 1962	♂, Stanford, Norfolk (<i>BB</i> , 56: 397)
2nd-27th January 1963	Immature ♂, Loch Morar, Inverness-shire (<i>BB</i> , 57: 265)
About 13th March 1966 and two subsequent winters to 1968	Another ♂, Lurgan Park, Co. Armagh, and Lough Neagh (<i>IBR</i> , 1966-68)
15th January-5th March 1967 and 14th-19th February 1968	♂, Farmoor Reservoir, Dorchester gravel pits and Sutton Courtenay, Berkshire/Oxfordshire (<i>BB</i> , 61: 336-337; 62: 464-465)
12th February-8th March 1967	♂, Bosherton Pools, Pembrokeshire (<i>BB</i> , 61: 336-337)
7th-10th January 1968	♂, Mepal, Cambridgeshire (<i>BB</i> , 62: 464-465)

It is also worth noting that one of the Lurgan Park/Lough Neagh birds reappeared in 1969 and 1970 for what were either the fourth and fifth or tenth and eleventh successive winters and the one at Dorchester gravel pits for the third successive winter. There were eleven or more records on the Continent:

15th-23rd March 1959	♂, Wassenaar, Zuid Holland, Netherlands (<i>Limosa</i> , 33: 1-6)
25th November-24th December 1960, 17th November-26th December 1961 and 4th-18th February 1962	♂, Ekeren-Wilmarsdonk, Anvers, Belgium (<i>Gerfaut</i> , 52: 54-58; 55: 459)
15th-19th March 1961	♂, Groot Eiland, Hulst (<i>Wielewaal</i> , 27: 117; <i>Limosa</i> , 36: 13)
7th January 1962	♂, Den Haag, Netherlands (<i>Limosa</i> , 37: 24)
16th March 1963	♀, Skaelskør Havn, Denmark (<i>DOFT</i> , 61: 109-110)
12th February-5th March 1966 and subsequent winters to 1968	♂, Lac Léman, between Versoix and Corsier, Switzerland (<i>Nos Oiseaux</i> , 28: 275-284; 29: 167; 30: 27)
1st-3rd March 1966	Another ♂, Lac Léman, between Mies and Versoix, Switzerland (<i>Nos Oiseaux</i> , 28: 275-284)
1st-2nd April 1966	♀, Lac Léman, near Sciez, Haute-Savoie, France, (<i>Alauda</i> , 35: 125)
28th December 1966-25th April 1967	♂, Hareid, More og Romsdal, Norway (<i>Sterna</i> , 7: 345-352)
9th March 1967	♂, Lac Léman, at Chens, Haute-Savoie, France (<i>Alauda</i> , 36: 229)
1st January 1968	♀, Lac Léman, at Mies, Switzerland (<i>Nos Oiseaux</i> , 30: 27)

With the exception of the single females in Denmark in March 1963 and on the French and Swiss sides of Lac Léman in April 1966 and January 1968, all the records refer to males and, in view of the tendency

for birds of this species to reappear in the same vicinity in successive years, even the two females on Lac Léman may have been the same individual; indeed, it is conceivable that only two males and one female were involved there in the three winters from February 1966. Similarly, all the Belgian and Dutch records might refer to one or two birds. Thus the records summarised above could involve no more than twelve individuals. Where the Ring-necked Ducks that have reappeared in successive winters have spent the intervening summers is unknown, but it is not unreasonable to assume that they were in the company of Tufted Ducks *A. fuligula* somewhere in Europe as the two species have been found to associate freely (Bruun 1967, Folkestad 1967).



The Ring-necked Duck's breeding range spans the North American continent from Newfoundland and Maine to British Columbia and California and the species winters from Massachusetts south to Guatemala and the West Indies. It does not differ much in habits from the other North American bay ducks—Redhead *A. americana*, Canvasback *A. valisineria*, Greater Scaup *A. marila nearctica* and Lesser Scaup *A. affinis*—but none of these has been recorded in Europe. It does, however, extend its breeding range much farther east (to the Atlantic seaboard) than any of the other species. It is also of interest to note that the increase in records during the 1960's has coincided with an extension of its range in eastern Canada (Godfrey 1966). Ring-necked Ducks have been found in Europe only in winter and early spring. This indicates that they have crossed the Atlantic mainly during the early part of the spring migration which, unlike that of the other North American bay ducks, is directed north-eastwards. The

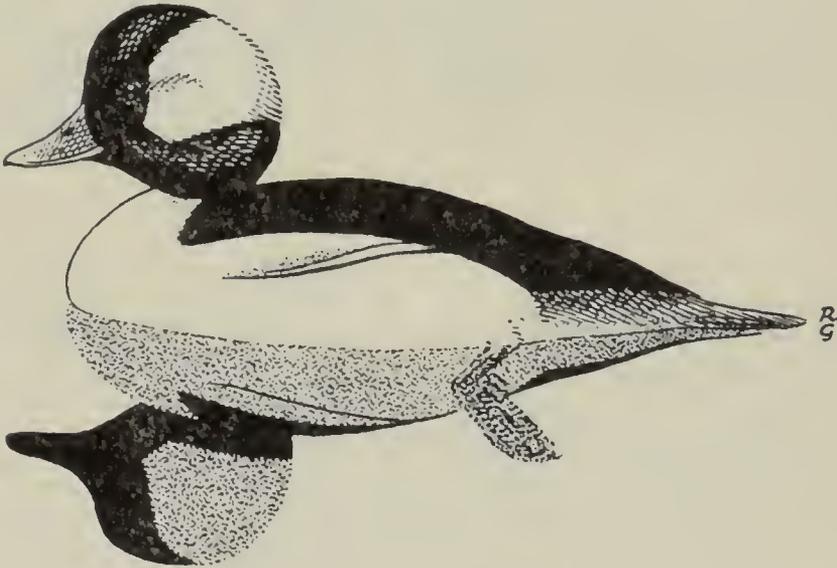
marked scattering which Duvall (1949) showed could occur in this species in early winter might also be significant.

Bufflehead *Bucephala albeola*

There were just six records of the Bufflehead in Europe to the end of 1968, all in Britain:

- | | |
|---------------------------------|--|
| About 1830 | ♂, near Yarmouth, Norfolk (Witherby <i>et al.</i> 1939) |
| Winter 1864/65 | 1, near Bridlington, Yorkshire (Witherby <i>et al.</i> 1939) |
| June 1870 | ♂, South Uist, Outer Hebrides (Pennie and Gunn 1951) |
| 17th January 1920 | ♀, Tresco, Isles of Scilly (Witherby <i>et al.</i> 1939) |
| February 1932 | ♂, Hunstanton, Norfolk (BB, 26: 326) |
| 28th February-8th
March 1961 | ♂, Foxcote Reservoir, Buckinghamshire (BB, 55: 569) |

An alleged record in Czechoslovakia has not been verified.



The breeding grounds extend from Hudson Bay west to southern Alaska and south to British Columbia and Manitoba, and the species winters in the United States and north Mexico westwards from the coast between Massachusetts and Florida where it is a common visitor from mid-October to early April. There is one record of a female in Greenland in October (Salomonsen 1967). The patterns of the European occurrences of the Bufflehead and the Hooded Merganser (page 401) are remarkably similar: the single summer records of both species were considerably farther north than the winter ones, indicating either a crossing farther north or, more likely, a northward migration on the wrong side of the Atlantic after a crossing somewhat earlier in the year.

Table 3. Monthly distribution of dated records of Surf Scoters *Melanitta perspicillata* in Europe (except France)

The number of individuals, where different, is shown in brackets. The date after each country shows the year up to which records have been included

Country	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Faeroe Islands (1962)	-	-	-	-	-	-	-	-	1	-	1	-
Ireland (1968)	-	-	-	-	-	-	-	-	1	2	3	1(2)
Britain (1968)	4	5(8)	3(4)	1	-	1	-	1	4(5)	7(13)	2(4)	9
Netherlands (1968)	-	-	-	1	-	-	-	-	-	-	2	-
Norway (1962)	-	-	-	-	-	-	-	-	1	-	-	-
Sweden (1962)	-	-	-	1	1	1	-	-	-	1	-	-
Finland (1957)	-	-	-	1	6	-	-	-	-	-	-	-

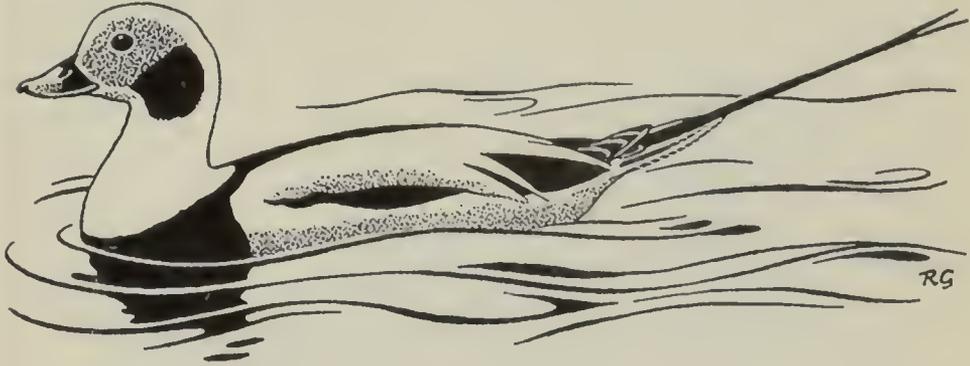
Table 4. Monthly distribution of dated records of Snow Geese *Anser caerulescens* in certain countries of Europe

The number of individuals, where different, is shown in brackets. The date after each country shows the year up to which records have been included, except for Britain where only a sample four years have been taken into account

Country	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Iceland (1962)	-	-	-	-	-	1	1	-	-	-	-	-
Ireland (1968)	3(5)	1	-	-	1(2)	-	-	-	-	6(14)	9(21)	10(41)
Britain (1958-61)	1	1	3	1	1	1	-	-	1	6(8)	3(6)	1
Belgium (1966)	-	-	1	-	-	-	-	-	-	-	-	-
Netherlands (1968)	3	2	3	1	-	-	-	1	3	2	1	2
Finland (1957)	-	-	-	-	4(5)	-	-	-	-	-	-	-

Long-tailed Duck *Clangula hyemalis*

A juvenile Long-tailed Duck ringed in Godhavn, Greenland, was recovered during the winter four years later at Gedser, Falster, Denmark; another ringed at Skansen, Greenland, was found in Iceland in August of the same year (Salomonsen 1967). These recoveries indicate that some interchange does take place between the populations of this circumpolar species on either side of the Atlantic, but its extent is unknown.

**Surf Scoter** *Melanitta perspicillata*

Although the number of Surf Scoters recorded in Britain and Ireland is now put at something approaching 100, many of the old observations in Shetland and Orkney were reported in vague terms and there seem to be only 44 dated records (58 individuals) to the end of 1968. These are summarised in table 3 together with those in the Faeroe Islands, Norway and Sweden (from Salomonsen 1963), Finland (Merikallio 1958) and the Netherlands (Commissie voor de Nederlandse Avifauna 1970). The only other European country in which the species has been noted is France where it is regarded as accidental in winter (Mayaud 1953).

The Surf Scoter breeds mainly in Alaska, north Canada and Labrador. Some winter on the Pacific coast between Alaska and California, but many make an autumn migration almost due east across Canada; on reaching the Atlantic they turn south to follow the coast (Lincoln 1950) and they are then common in winter from Newfoundland to Georgia. Indeed, they are probably the most numerous of the three scoters in that region, the others being the Black (Common) Scoter *M. nigra americana* and the White-winged (Velvet) Scoter *M. fusca deglandi* (Stewart and Robbins 1958, Bull 1962).

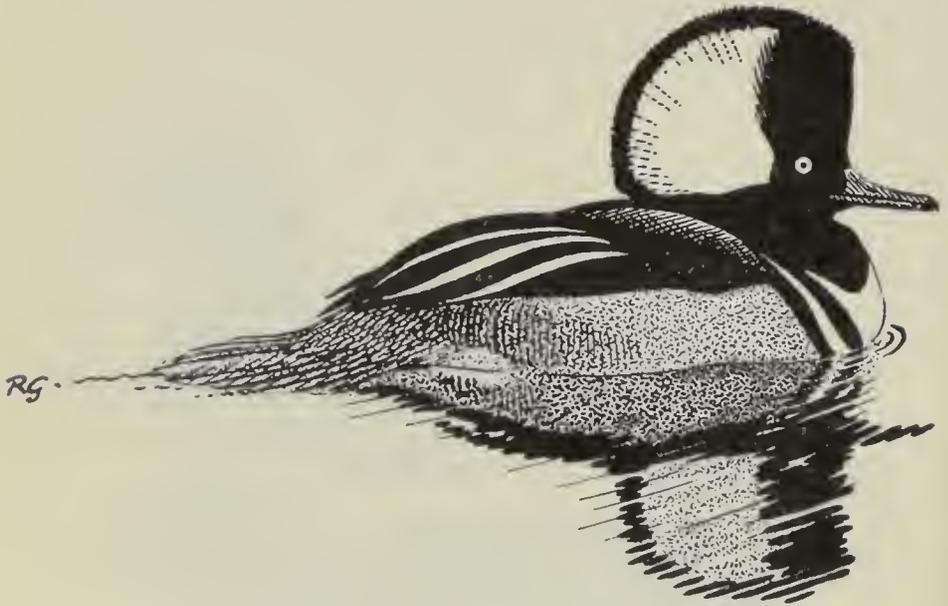
The occurrences of scoters in Greenland are interesting. There are but two dated records of Surf Scoters, in June and July, only one of

a White-winged, in July, and none at all of Black (Salomonsen 1967). Thus it seems that scoters rarely, if ever, overshoot the coastline on their eastward migration in autumn, at least in the northern part of the area, and that they very seldom extend their short northward coastal migration in spring. This is supported by the fact that none of these three American scoters has been recorded in Iceland. The origin of the many Surf Scoters must therefore be found further south. The British and Irish records show a clear concentration of autumn and winter occurrences in the north: it seems most likely that their source is the Maritime Provinces where they now breed regularly in Labrador, unlike the other two scoters (Godfrey 1966). It should be added, however, that as the Black and White-winged Scoters closely resemble their European counterparts, the Common Scoter *M. n. nigra* and the Velvet Scoter *M. f. fusca*, they are much more likely than the Surf Scoter to be overlooked in Europe and it is impossible to compare their occurrences. Indeed, there have apparently been only two European records of the Black Scoter, both in the Netherlands (for details see opposite).



The May and June records of Surf Scoters are interesting in that they are concentrated in Finland and Sweden, clearly an example of aberrant migration in which the individuals concerned have followed the Velvet Scoters (with which they often associate) to their breeding grounds; the extent of this pattern indicates that the Surf Scoters which have crossed the Atlantic are permanently lost to the breeding population in North America. It is interesting to note, however, that they do not apparently follow the Common Scoters returning to Iceland.

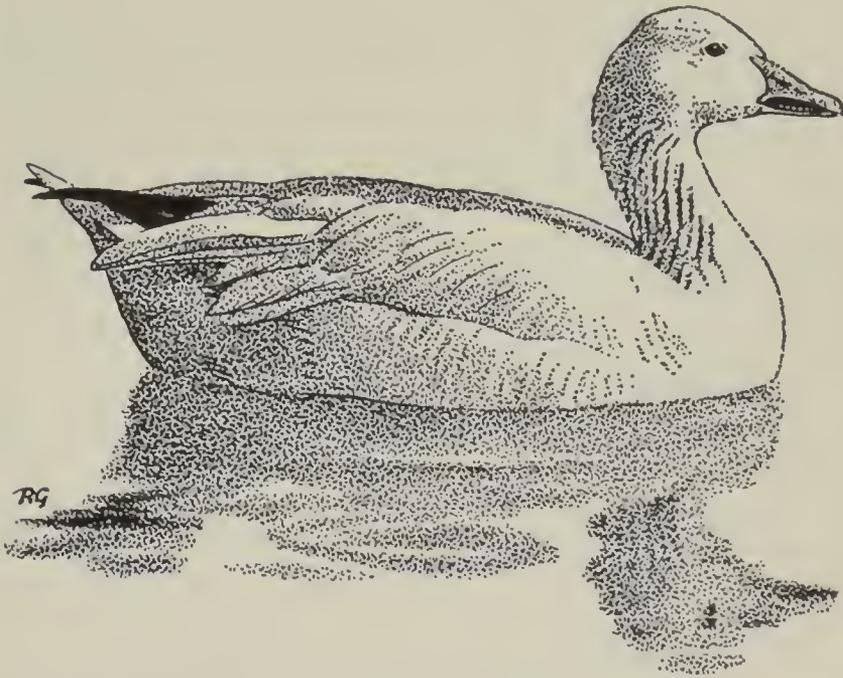
across to south-east Alaska and Oregon; it winters on both sides, and on the Atlantic is then found primarily from Massachusetts to the Gulf coast. The pattern of the European records resembles that of the Bufflehead to a remarkable degree and this has already been discussed under that species (page 397). Both have occurred mainly in winter and they can be regarded as rare stragglers requiring exceptional weather conditions in their winter quarters for an Atlantic crossing.



Snow Goose *Anser caerulescens*

Analysis of the European records of the Snow Goose is extremely difficult because of the many escapes from captivity. In contrast to the Canada Goose, however, this species has not become an integral part of the avifauna and so such an analysis can at least be attempted. Snow Geese have been reported in most countries of Europe from Iceland to Greece, but it would be virtually impossible to collect all the records: some countries do not publish them and this applies particularly in Britain where the majority are now regarded as escapes. Therefore, this discussion is largely confined to observations in Iceland, Ireland and Fenno-Scandia, which seem the most likely to involve a reasonable proportion of genuine vagrants, and in the Netherlands and Belgium, which are readily available. Even these doubtless include some of captive origin, though I have tried to omit any which the national authorities concerned consider to have been escapes. Only in this way can one achieve some sort of evaluation of the wild occurrences of this species in Europe.

The Snow Goose occurs in two subspecies. The Greater Snow Goose *A. c. atlanticus*, of which there is only a white phase, has a high arctic breeding distribution in north-west Greenland, Ellesmere and adjacent islands; it winters in the mid-Atlantic states from Maryland to North Carolina. The Lesser Snow Goose *A. c. caerulescens*, of which there are both a white phase and a blue phase, has a low arctic breeding distribution in northern North America from Baffin Island and Hudson Bay west to Alaska, as well as in north-east Siberia; western populations winter on the Pacific coasts south to California and Japan, while eastern ones, including a majority of the blue phase, migrate south from Hudson Bay through the interior to winter along the Gulf coast, particularly Louisiana, and a few may also winter on the Atlantic coast (Stewart and Robbins 1958, Kortwright 1960). Both races and both colour phases have been recorded in Europe, but most of the white phase Snow Geese are, of course, not subspecifically determined in the field.



The only two Icelandic records, both in the south-west of that country and both Lesser, concerned a white phase in June 1896 and a blue phase on 3rd July 1954 (Salomonsen 1963). The Finnish records are also summer ones: the four or five reported in Finland up to 1958 included one in May 1910 and then three or four individuals in the Oulu area during 26th-28th May 1954 (Merikallio 1958). On the other hand, there are Norwegian and Danish records in September

(Salomonsen 1963), while the 18 dated records in the Netherlands range from August to April, and the single Belgian one was in March, though some at least of these seem likely to have been escapes. Also worth mentioning is 'a large flock' recorded in Macedonia, Greece, in January 1846 (Bauer *et al.* 1969). The Icelandic, Finnish, Belgian and Dutch Snow Geese are all summarised in table 4, together with the Irish records to the end of 1968 and, for comparison, the British ones during 1958-61 which are all that are easily collected. British records are no longer considered by the Rarities Committee because it is considered that the great majority relate to escapes, but, bearing in mind the variety of American waterfowl recorded in Ireland and the much smaller numbers kept in captivity there, it seems likely that at least a good proportion of the Irish ones concern wild birds.

Snow Geese are encountered almost every year in Ireland now and it can be seen from table 4 that the monthly distribution of the 30 dated records (84 individuals) up to 1968 showed a great preponderance in late autumn and early winter; in fact, a number of these have then stayed through the winter. Ruttledge (1966) considered that several of the blue Snow Geese recorded in successive winters were the same individuals and that less than ten different ones had been known to visit Ireland up to that time; he also believed that these were all genuine vagrants. In October, when the Irish records begin, the Snow Geese in North America are making their way from Canada to their wintering grounds.

The only area where the two subspecies occur together in autumn is in south-east Canada, in the lower part of the valley of the St Lawrence River (Godfrey 1966). From there the Greater Snow Geese travel south towards the Atlantic coast, the Lesser Snow Geese south-west towards the Mississippi River. The times of occurrence and the fact that both subspecies have been encountered in Europe indicate that the birds concerned have originated from this area. It is worth pointing out, however, that in 1959 an adult blue Lesser arrived on the Wexford Slobs 'with the first small flocks of Greenland White-fronted Geese' (IBR 1959, Ruttledge 1966) and at least ten hybrid White-fronted \times Snow Geese, including a flock of seven in winter 1960/61, have been recorded at this locality, the main wintering ground in Ireland for Greenland White-fronts (IBR, 1953-57, 1960, Ruttledge 1966). It may be that at least some of the vagrant Snow Geese associate with wintering flocks of Greenland White-fronts and then make an aberrant migration with them to their breeding grounds, occasionally hybridising.

There have been eleven summer records, but none in autumn, of Lesser Snow Geese in Greenland and, as already stated, both the Icelandic summer records are of this race. They could represent extended migration or, again, aberrant migration. The Finnish records are most

likely to be examples of the latter, although with which species is unknown. Records of Snow Geese from European Russia were almost all from the eastern part of the country during the 19th century when this species was more widespread in Siberia. It is very unlikely that any of the western European records are of Siberian birds as these migrate east to winter quarters in North America (Dementiev and Gladkov 1967).

DISCUSSION

Analysis of the records of North American waterfowl in Europe reveals certain patterns. In table 5 the species are divided into three categories according to their principal seasons of occurrence in Europe. The fact that several listed as occurring in autumn also appear in winter, and even in spring, is easily explained by earlier crossings and subsequent stays on the European side of the Atlantic. This is most clearly demonstrated by the aberrant migration of Surf Scoters to the Baltic. It is also supported by the gradual decrease in the numbers of records through the winter, which corresponds with the known mortality rates of between 10% and 50% among different species of ducks and geese (Delacour 1964).

The largest number of species cross in autumn. The six concerned share certain characteristics: they are all migratory and their autumn migrations take them through the easternmost part of Canada, the only area which is common to the routes of them all. That this is where their transatlantic crossings start is further substantiated by three other facts: (1) the Pintail and American Wigeon recovered in Britain and Ireland were ringed here; (2) Surf Scoters are rarely recorded north of this area; and (3) Lesser and Greater Snow Geese mix in numbers only in this region. The easternmost part of Canada is also the area where migrants of more westerly origin turn south on autumn passage. The west to east migration of waterfowl is less pronounced than that of American waders (*cf.* Nisbet 1959) and this phenomenon does not appear to be of major significance in the transatlantic crossings

Table 5. Principal seasons of records of eleven North American waterfowl in Europe

All scientific names are given in the summary on page 407

Autumn	Winter	Spring
Green-winged Teal (1)	Black Duck	Green-winged Teal (2)
Bluc-winged Teal	Ring-necked Duck (1)	Ring-necked Duck (2)
American Wigeon	Bufflehead	
Pintail	Black Scoter	
Surf Scoter	Hooded Merganser	
Snow Goose		

of most of the species, except perhaps the Surf Scoter; it seems likely that the post-breeding scattering demonstrated by Vogt (1934), Mann *et al.* (1947), Duvall (1949) and Robbins (1949) is more significant. Westerly gales are quite frequent in this region in autumn and must be partly responsible, as pointed out by Nisbet.

The five species recorded mainly in winter cross in extremely small numbers and are among the rarest birds in Europe. In North America they do not occur commonly as far north as the Maritime Provinces, the recruiting grounds for the autumn visitors. To this list of winter visitors could probably be added occasional American Wigeon and Surf Scoters, both of which perform small movements along the Atlantic coast at this season, but these are likely to be few in number compared with those crossing in autumn. It must also be borne in mind that identification of American Wigeon in autumn can be difficult.

The rather many spring records of Green-winged Teal and Ring-necked Duck cannot be explained by birds wintering on the wrong side of the Atlantic. Although it can be difficult or impossible to distinguish Green-winged Teal from European Teal in late autumn, the relatively few winter records show that at least a good proportion must have crossed the Atlantic in spring. It is of interest to note that records of both species have increased considerably in recent years, to a greater degree than would be expected from more extensive fieldwork. These increases correspond with eastward extensions in range and rises in population in North America (Bull 1962, Godfrey 1966). Whereas most Nearctic waterfowl migrate westward in spring, the Green-winged Teal and Ring-necked Ducks breeding in the easternmost Canadian provinces head north-east, exposing themselves much more to easterly displacement. The American Wigeon is also extending its range eastwards and spring records from Europe (apart from Iceland) will undoubtedly reflect this in the future. Overshooting or displacement during spring migration is further strongly suggested by the occurrence of certain species in Greenland and Iceland (Green-winged Teal, American Wigeon, Pintail, White-winged Scoter, Surf Scoter and Snow Geese); it is probably only a matter of time before the Ring-necked Duck will be recorded in Greenland in spring. There is evidence that spring records of some species in continental Europe are mainly due to aberrant migration (for example, Blue-winged Teal, Surf Scoter and Snow Goose).

ACKNOWLEDGEMENTS

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PLATE 61. Male Golden Oriole *Oriolus oriolus* at nest in ash, Portugal, June 1968. Black lores, wings and tail contrast with yellow head, body, primary coverts and tail corners. The nest, slung from a forked branch, is built of grass and sedge, decorated with wool, down and even paper (pages 409-411) (photo: M. D. England)



PLATE 62. Two female Golden Orioles *Oriolus oriolus*. Above, typical yellow-green bird with darker wings and sparsely streaked greyish underparts (same nest as on plate 61). Below, much brighter one with yellow and blackish plumage like male, at nest in pine, Spain, June 1961 (same bird as on plate IIb) (photos: M. D. England)





PLATE 63. Two more shots of the pine nest, showing the way the pendant structure is wrapped round the fork and slung beneath: the incubating bird sits low and is quite hard to see. Note also the neat grass lining; the eggs are white or creamy with a scattering of strong purplish-black spots (pages 410-411) (*photos: M. D. England*)

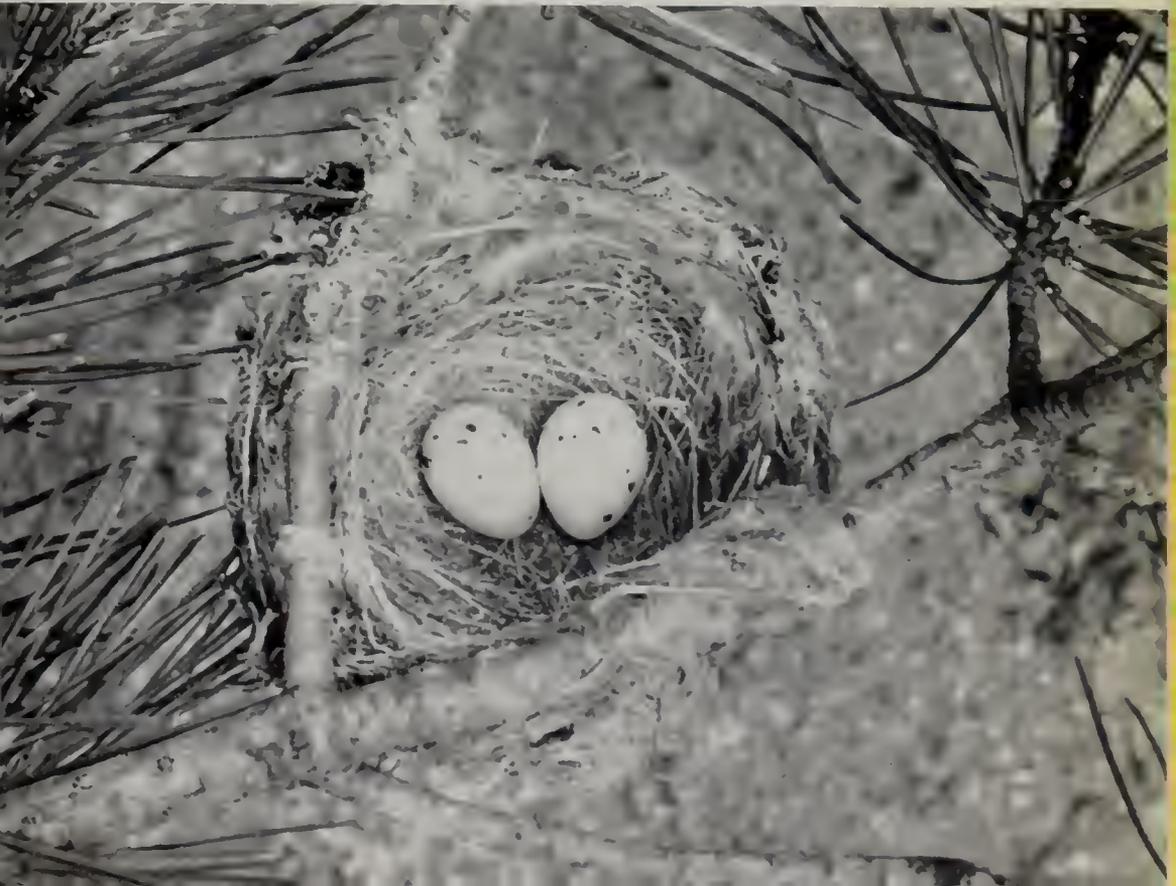
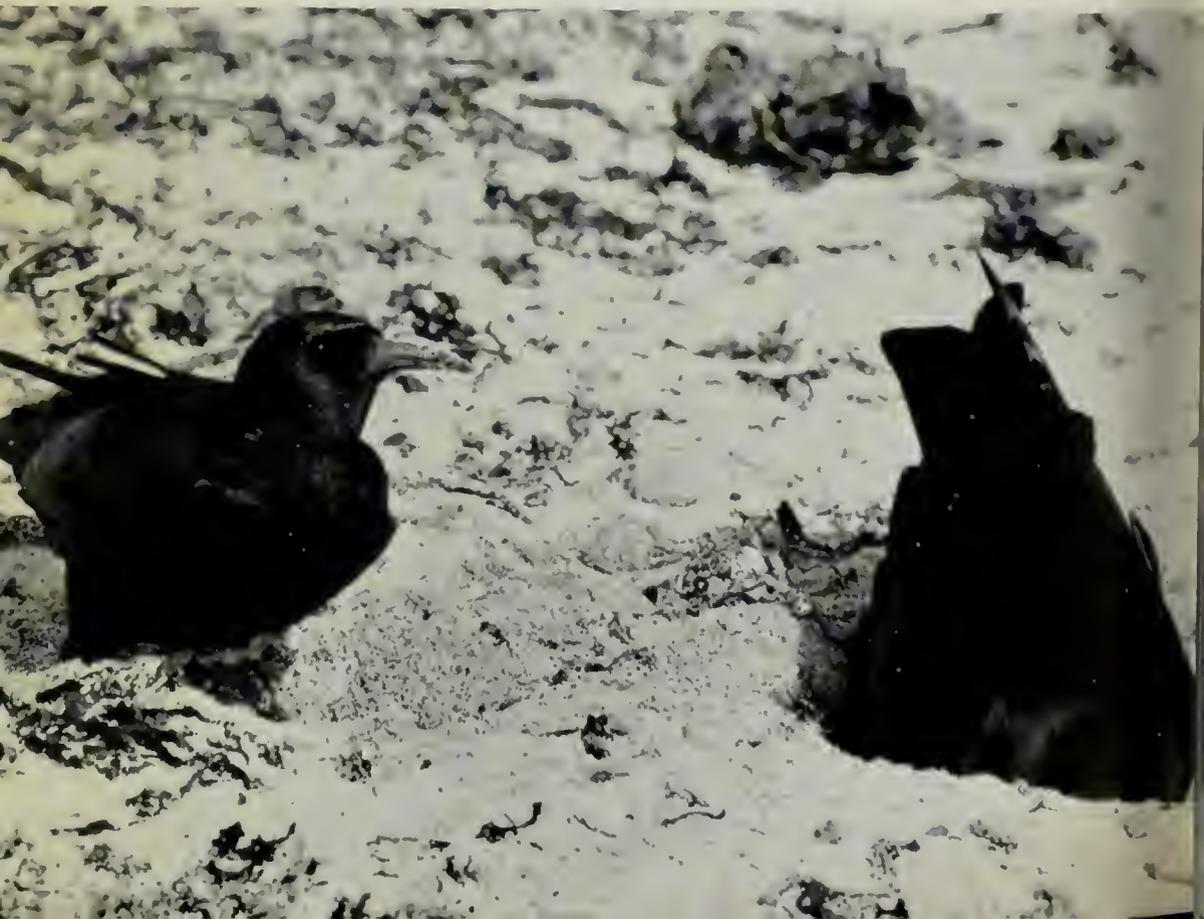




PLATE 64. Choughs *Pyrrhocorax pyrrhocorax* digging for food in sand, Bardsey, September 1970. They were returning to holes already started; two holes were baited with maggots to facilitate photography (pages 422-423). Sometimes the digging bird was almost invisible, but their plumage stayed remarkably clean (photos: A. Morgan)



SUMMARY

Transatlantic crossings of North American waterfowl are analysed (except that the Canada Goose *Branta canadensis* is omitted, on account of its feral populations in Europe, apart from brief mention of a number of Irish and Scottish records of presumed vagrants). Those regularly migrating from breeding grounds in the New World to wintering grounds in Europe are listed, the forms involved being the Eider (northernmost race) *Somateria mollissima borealis*, King Eider *S. spectabilis*, Red-breasted Merganser *Mergus serrator*, Greenland White-fronted Goose *Anser albifrons flavirostris*, Pink-footed Goose *A. brachyrhynchus*, Pale-bellied Brent Goose *Branta bernicla brota* and Barnacle Goose *B. leucopsis*. These all breed in Greenland and winter mainly in Iceland or in Britain and Ireland.

The records of other North American waterfowl in Europe are considered in the light of the numbers, distribution and migrations of each species in North America. Those concerned are the Black Duck *Anas rubripes* (four records), Green-winged Teal *A. crecca carolinensis* (about 60), Blue-winged Teal *A. discors* (about 35), American Wigeon *A. americana* (over 60), Pintail *A. acuta* (two), Ring-necked Duck *Aythya collaris* (20+), Bufflehead *Bucephala albeola* (six), Long-tailed Duck *Clangula hyemalis* (two), Surf Scoter *Melanitta perspicillata* (over 75), Black Scoter *M. nigra americana* (two), Hooded Merganser *Mergus cuculatus* (five) and Snow Goose *Anser caerulescens* (many). All are common along the east coast of North America. Long-distance migrants occur more frequently than short-distance ones. Recoveries of ringed birds, subspecific distribution, and time and place of arrival in Europe point to the eastern provinces of Canada as the main recruiting area for autumn vagrants. Occurrences are much rarer in spring than in autumn and winter, with the notable exceptions of the Green-winged Teal and Ring-necked Duck whose transatlantic vagrancy at that season is closely related to their north-eastward migrations within North America.

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Studies of less familiar birds

167 Golden Oriole

P. F. and M. R. Bonham

Photographs by M. D. England

Plates 61-63

The 28 species of Old World orioles (Oriolidae) form a remarkably homogenous group of arboreal passerines of wide distribution over Africa, Eurasia and Australasia. Systematically they are placed between the drongos (Dicuridae) and the crows (Corvidae) and are completely unrelated to the 'American orioles' (Icteridae), a much larger and more diverse family derived from emberizine stock. Black, yellows and greens typically occur in the plumages of the Old World orioles, but some species sport patches of rich crimson or chestnut; females are generally duller and somewhat streaked (Moreau 1964).

The striking black and yellow Golden Oriole *Oriolus oriolus* is the most widespread species in this basically tropical family, breeding right across the southern and central Palearctic and also in most of India. Adult males (plates 61 and 11a) are a brilliant golden yellow with velvety black wings and tail. The primary coverts have broad, pale yellow tips which form a distinct patch, and the tail has some yellow on the outer feathers and on the tip. The bill, long in comparison with the total length of about $9\frac{1}{2}$ inches, is dark pinkish-red; the crimson eyes contrast with black lores, and the legs and feet are slate-grey. The eastern race *O. o. kumdo* (see page 410) is smaller than the western *O. o. oriolus* with more yellow on the tail and wings and a black patch behind the eye (Vaurie 1959).

Most adult females, such as the typical one on plate 62a, are duller than adult males, being yellowish-green with brownish-olive wings and tail and lighter underparts faintly streaked greyish. Some females are much more brightly coloured, however (see plates 11b, 62b and 63a and page 421). Juveniles of both sexes resemble normal-plumaged adult females. The Golden Oriole flies in long undulations, suggesting a short-tailed Mistle Thrush *Turdus viscivorus*, and has a characteristic upward-sweeping curve to reach a perch in the canopy.

The Golden Oriole is essentially arboreal, and hops clumsily on the ground. It is a secretive species most easily located by its typical calls, an unmistakable melodious flute-like whistle given by the male, which carries a considerable distance, and a harsh, somewhat disyllabic, screech. The whistle has five or more variants, none lasting more than one or two seconds; the one usually quoted is 'weela-weeo' on a downward inflexion, but there are others of four to six syllables

on a level or rising pitch—‘aweela-wilee’ and so on. The alarm note near the nest is a harsh ‘chrrr’. Even in the heat of the midsummer afternoon the Golden Oriole’s whistling and screeching may often be heard from dense cover, when other woodland birds are silent.

The breeding range of the nominate race lies between 12°N and 63°N, in Asia extending from Turkey (probably) and Iran north to about 60°N and east as far as the Altai mountains. It breeds over most of Continental Europe and south to north-west Africa, Sicily and (locally) Cyprus. It is absent from nearly the whole of Fenno-Scandia except south Denmark, southernmost Sweden and south-east Finland, where increases in the first half of this century were attributed to a rise in mean spring temperatures in northern Europe (Salomonsen 1948, Dementiev and Gladkov 1951–54, Vaurie 1959, Voous 1960). It has become an established breeding bird in southern Sweden since 1944 (Poss and Ramel 1945) with an estimated minimum of ten pairs annually by 1964 (Ernholdt 1966). The eastern subspecies *O. o. kundo* breeds in Turkestan, Afghanistan and the Himalayas, reaching south to the tip of India (Dementiev and Gladkov 1951–54, Vaurie 1959).

In Britain Golden Orioles have bred sporadically as far north as Lancashire, slightly more often in the last 20 years (Parslow 1967). Sharrock (1969) analysed all 257 recorded in Britain and Ireland during 1958–67; all but ten occurred in spring, between mid-April and mid-July, with 62% during 7th May–3rd June. Most were in the English south coast counties, Essex, Suffolk, Lancashire and the Northern Isles, with smaller numbers in practically every English and Welsh county, in west Ireland, mid-Scotland and the Outer Hebrides. The pattern during 1968–71 was very similar, with an annual average of about 32.

Nesting habitats include deciduous and mixed woods, less often conifers and avoiding thickly forested areas; orchards, groves and parks; and willows and poplars along river banks. Although chiefly lowland birds, they occur up to 6,500 feet in Russia and 14,500 feet in the Himalayas (Dementiev and Gladkov 1951–54, Vaurie 1959). Nest trees include poplar, ilex, cork oak, eucalyptus, pine (plates IIb, 62b–63), ash (plates 61–62a), alder, fig (plate IIa), olive and almond. The characteristic nest, built almost entirely by the female (of material collected by the male) at heights from ten to 50 feet above the ground, is hung from a horizontally forked branch, being cleverly secured by winding the nest materials round the boughs. If a suitable fork is not available, they have been known to bind two slender branches together and place the nest between them (Dementiev and Gladkov 1951–54). It is a deep, closely woven bowl made of long strips of grass, sedges, bark and leaves and lined with feathers, wool and flowery heads of grasses, or even paper and rags. Lichens and mosses are often added. The whole structure is extremely solid and often

remains in position for many months, surviving bad storms.

A courtship flight has been described in which the male chases the female very closely in a series of flashing turns through the trees, his bill almost touching her tail (Buxton 1932). The eggs are laid in late May or early June: the clutch usually consists of three or four eggs, sometimes two (as on plate 63b where they proved infertile) and occasionally five or six. They have a white or creamy ground colour and a few distinct purplish-black spots, mostly near the broad end (plate 63b). Both sexes share in incubation, which lasts 14–15 days; at this stage they are normally very silent and secretive. Newly-hatched young have yellow skin with short buffish-white down and bright pink mouths; they are fed by both parents by regurgitation and leave the nest at 14 days.

The food of the Golden Oriole varies seasonally. It relies chiefly on insects, especially in spring, which it sometimes catches by hovering low over a field. Caterpillars, beetles, bees, bumble bees, spiders, flies, grasshoppers and small molluscs are all consumed. Flowering shoots of *ilex* may also be eaten in spring. In autumn fruit is the staple diet, including cherries, mulberries, currants, grapes, pears, strawberries, dates, figs and many wild berries.

In August and September, Golden Orioles of the western race move southwards to winter in tropical and southern Africa, including Madagascar. The chief known wintering areas are on the eastern side of the continent, from Kenya south to Damaraland and Cape Province, but Moreau (1961) concluded that many winter in the extreme west of Africa and probably throughout west Africa. The eastern race winters in central and southern India (Vaurie 1959).

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Breeding biology of Buzzards at Sedbergh during 1937-67

Michael Holdsworth

INTRODUCTION

Since 1937, observations on Buzzards *Buteo buteo* breeding within ten miles of Sedbergh, Yorkshire, have been recorded by the Sedgwick Society of Sedbergh School. The present paper shows the results of an analysis of these records, supplemented by my own observations during 1962-66. It examines aspects of the breeding biology, in particular territorial behaviour and breeding success in relation to numbers of Short-tailed Voles *Microtus agrestis*.

The Sedbergh area is typical of much upland hill country in north-west England. Cultivated land is confined to the Lune, Rawthey, Clough and Dee valleys and gives way, at 750-1,000 feet, to treeless fells used for sheep grazing. The steep sides of the fells, which rise in places to over 2,000 feet, are broken by gullies containing fast-flowing streams. These gullies, together with the more substantial crags and areas of boulder scree elsewhere on the fells, provide the main nest sites for Buzzards, but mixed plantations high up on the valley sides, on the boundary between the cultivated land and the fell, are also used.

TERRITORY AND NEST SITES

Most pairs appeared to occupy several square miles. Because of the difficulty involved in recording territorial behaviour over such large areas of ground, and the absence of topographical features which might delineate boundaries on the open fell, it proved difficult to confirm the sizes of individual territories. In the study area, however, there were five contiguous ones on a single tract of fell about 17 square miles (4,400 hectares) in extent. If we assume that each of the five pairs had a territory of similar size, this indicates a density of one pair to 3.4 square miles (880 hectares).

Each of seven territories where pairs were consistently present contained more than one nest site. In many cases these included ones which had been in intermittent use since 1937 and even before. Some sites are occupied more often than others in the same territories: it appears that these must possess certain features which make them particularly attractive, the wealth of used alternatives indicating that it cannot be a general scarcity of sites which causes this persistent adoption of just a few. In most territories one site seems to be used more frequently than all the others; even so it is unusual for any to

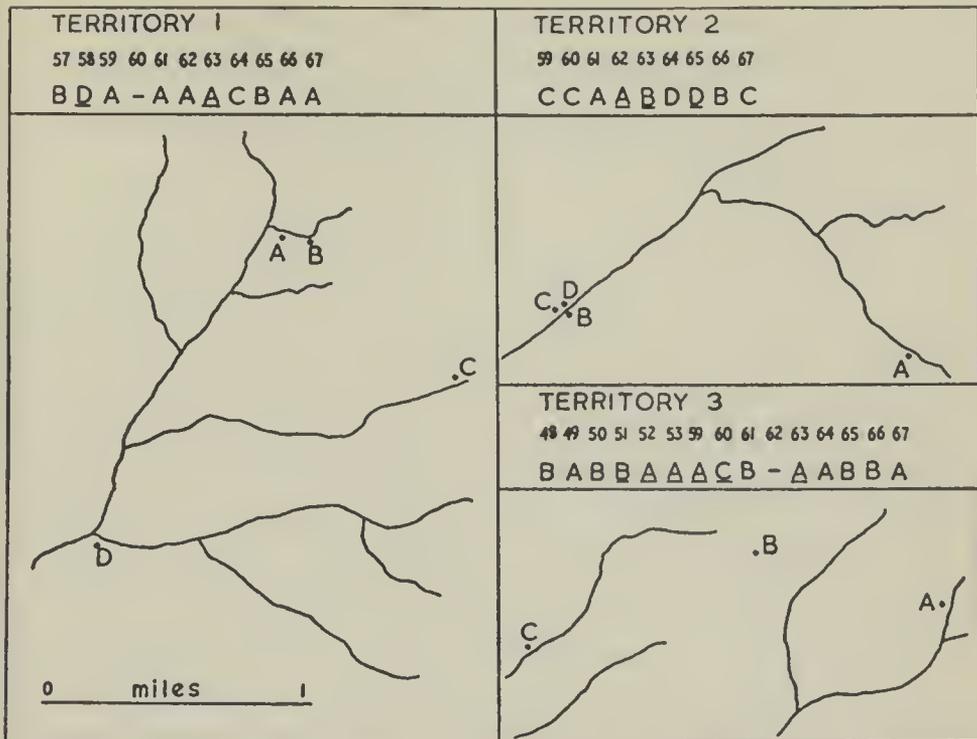


Fig. 1. Breeding histories of Buzzards *Buteo buteo* in territories 1-3 at Sedbergh, Yorkshire, during 1948-67, showing the locations of nest sites. Underlining of the site in the annual key indicates that breeding was unsuccessful and a dash that no nest was found

be occupied for more than two years in succession. In the few territories where tree sites are the rule, alternatives in crags are occasionally occupied; similarly, the habitual crag nesters will sometimes resort to tree sites.

Fig. 1 sets out the histories of the three best documented of the territories with maps to illustrate the locations of nest sites. Sites A and B in territory 1, and likewise B, C and D in territory 2, are within 100 metres of each other; the other sites appear to be on the boundaries of the territories and are up to 1½ miles (2.4 kilometres) from the more regularly used ones. In territories 1 and 2 these favoured areas (A/B and B/C/D) dominate the main valley, while in territory 3 most of the nesting is divided between two sites in a double valley system. Territorial considerations of this rotation from site to site are briefly discussed below, but failure of breeding also appears liable to lead to nest change. In table 1 the data from the three territories in fig. 1 have been presented to relate success or failure of breeding to retention or change of nest site. These data represent 27 two-year periods of uninterrupted observations. They suggest that, after successful breeding, the chances of a pair of Buzzards remaining for another season in the same nest or moving to a new one are equal. After

Table 1. Retention or change of site in 27 nestings of Buzzards *Buteo buteo* in territories 1-3 at Sedbergh, Yorkshire, during 1948-67

These data are extracted from fig. 1

	After success	After failure	TOTALS
Nest retention	8	2	10
Nest change	8	9	17

failure, however, a much greater proportion moves to a different site. Reasons for the frequent rotation after success are not clear.

A feature in many cases is the occupation of fringe sites, which are often poor in quality and generally on the edges of the territories. This can be seen in sites C and D of territory 1, in site A of territory 2 and in site C of territory 3. Examples of these once only or occasional nestings in unlikely sites were also recorded in other territories less thoroughly covered. Such sites can easily be overlooked and must often result in a nest not being found. They are clearly exceptions to the more usual pattern of alternation between two or three sites. An explanation for the occupation of fringe sites is suggested by the correlation of their use with good prey years (pages 417-419). Between 1945 and 1966 there were seven good prey years and ten bad ones. Seven of the recorded occupations of fringe sites were in the good years and only three in the bad. Precisely why a temporary unfamiliar nest may be used more readily when prey is abundant is not easily understood. It could be that the stronger association with the more familiar sites is not so important when food is easily obtained, or it could be that there is a greater risk in these circumstances of a pair which would otherwise not have bred claiming an unused part of an established territory. If there were such a risk, the stronghold of the territory marked by the old regular nests (which, even if not being used for breeding, are often still decorated with greenery) would require less defence than the peripheral areas; thus, having the actual nest at the edge could be a means of safeguarding the whole territory.

BREEDING BIOLOGY

Breeding season

The date on which the first egg of a clutch was laid was taken to indicate the start of breeding. This date was calculated in the same way as in nest record card analyses (e.g. Newton 1964), using criteria for Buzzards from Mebs (1964). Incubation was taken to begin with the first egg in clutches of one and two, but with the second egg in larger clutches, and to last 33 days. A three-day interval was allowed between the laying of the eggs and a two-day interval between the hatching of the chicks. Three classes of nest were included: (1) those

found with incomplete clutches, i.e. with a number of eggs later exceeded by the number of young (three cases); (2) those containing both young and eggs which subsequently hatched (13 cases); and (3) those in which the ages of the young had been estimated by the observer as less than one week (13 cases). The median laying date was found to be 21st April, with a range from 8th April to 9th May. (Mebs's median date for 62 nests over a five-year period in Germany was 10th April.) Only one definite replacement clutch was recorded at Sedbergh during 1937-67.

Clutch size

Table 2 shows the percentage distribution of the various clutch sizes, together with comparative data from Denmark, Germany and the New Forest, Hampshire. The Sedbergh clutches are those recorded from all nests in which young subsequently hatched. Robbed or deserted nests have been omitted, together with a single instance of a nest with only one egg, it being considered in all these cases that the true clutch size had possibly been altered before the nest was examined. Some genuine clutches of one may thus have been excluded. Single egg loss from clutches of two or more is not infrequent and must often pass undetected: the effect of such losses would be to make the mean clutch size a slightly low estimate. The data on their incidence, however, are insufficient to allow a correction factor to be applied.

Mebs was able to demonstrate a correlation between high numbers of *Microtus* voles and the incidence of larger clutches of three and four eggs; the data are insufficient to see if this also applied in the Sedbergh area. Each of the studies in table 2 contains a long run of figures and presumably a reasonable sample of good and bad food years. The higher mean clutch at Sedbergh thus appears to be due to the compounded effect of those factors known to affect the number of eggs—altitude, latitude and density, with food the proximate factor as in Germany. The lowness of Tubbs's (1967) figures from the

Table 2. Clutch sizes of Buzzards *Buteo buteo* at Sedbergh, Yorkshire, during 1937-67, compared with those in three other areas

The comparative data from Denmark, Germany and the New Forest, Hampshire, are from Holstein (1956), Mebs (1964) and Tubbs (1967) respectively. Figures in brackets indicate the actual numbers of clutches of one or five recorded and are not included in the percentages or means

	Total clutches	NUMBER OF EGGS					Mean clutch
		1	2	3	4	5	
Sedbergh	56	(1)	18%	62%	18%	(1)	3.03
Denmark	—	4%	33%	55%	8%	0%	2.67
Germany	298	(9)	57%	38%	5%	(1)	2.40
Hampshire	33	27%	64%	9%	0%	0%	1.84

Table 3. Brood sizes of Buzzards *Buteo buteo* at Sedbergh, Yorkshire, during 1937-67

	NUMBER OF YOUNG					Total broods
	1	2	3	4	5	
Number of broods	18	27	24	5	1	75
Percentage of total	24%	36%	32%	7%	1%	100%

New Forest, where there is a higher density of Buzzards than in the other areas, provides support for his view that the dependence of that population on avian prey has failed to make good a deficiency in the small mammalian prey usually preferred and that the clutch size has accordingly been adjusted.

Brood size

The frequency distribution of the various brood sizes at nests where the young were at least three weeks old is shown in table 3. Some nests which were visited at later dates had suffered losses and these would tend to make the mean of 2.2 a high estimate. Other studies gave means of 1.9 (Mebs 1964) and 1.4 (Tubbs 1967).

Information is available for 40 nests which were followed through the main part of the breeding cycle, i.e. from the start of incubation until the young were over three weeks old. Using these data, but excluding nests in which all the eggs failed to hatch, the success rate was 88 young from 118 eggs laid (75%). The incidence of egg loss from all causes was greater than the number of small young that died, but precise data on the proportions of each are lacking. From similar calculations, Mebs showed a population in Germany to have an almost identical success (73%), and Tubbs's figures from the New Forest produce a ratio of mean clutch to mean brood size of 100:78. Although these data are not directly comparable, the success rates appear uniform and suggest that it is the adjustment of clutch size which determines the number of young fledging.

FOOD

Prey species

No systematic attempt has been made to record prey remains, but the following prey species have been noted at nest sites, all the birds being nestlings or juveniles:

Domestic Fowl <i>Gallus gallus</i>	Shrews <i>Sorex spp</i>
Red Grouse <i>Lagopus lagopus</i>	Mole <i>Talpa europaea</i>
Carrion Crow <i>Corvus corone</i>	Rabbit <i>Oryctolagus cuniculus</i>
Jackdaw <i>Corvus monedula</i>	Short-tailed Vole <i>Microtus agrestis</i>
Dipper <i>Cinclus cinclus</i>	Wood Mouse <i>Apodemus sylvaticus</i>
Ring Ousel <i>Turdus torquatus</i>	Stoat <i>Mustela erminea</i>
Meadow Pipit <i>Anthus pratensis</i>	Weasel <i>Mustela nivalis</i>

Food supply and breeding success

Moore (1957) and Mebs (1964) both regarded the Buzzard as an adaptable predator that takes whichever of its regular prey species are abundant in any particular area. Dare (1957) showed that, after the drastic reduction in Rabbit numbers as a result of myxomatosis, Short-tailed Voles had become a significant part of the diet of this species in Devon. Prestt (1965) and Parslow (1967) considered that by 1955 British Buzzards had become stabilised at a lower level than before myxomatosis. Tubbs (1967) noted that, in the absence of mammalian prey, the New Forest population was taking large numbers of birds, a practice not previously recorded. Table 4 shows the breeding history of Buzzards at Sedbergh from 1947 to 1967 when observations were most consistent. It is unfortunate that all the Sedgwick Society's records for 1955 have been lost, but the table shows that, even if there was a drop in population or breeding success in that year, recovery was total by 1957. Clearly, the Buzzards at Sedbergh adapted rapidly to the reduction in Rabbits and the resulting decrease in available prey.

Voles and mice (mainly Common Voles *Microtus arvalis*) constituted 67% of the prey items found in stomach analyses of this species in Germany (Uttendörfer 1952); Mebs converted these data into proportions by weight of 46% voles and mice and 30% other mammals (mainly Moles, Rabbits and Hares *Lepus europaeus*), thus confirming that voles and mice are the main prey of German Buzzards. No attempts have been made to determine precisely on what food Buzzards at Sedbergh depend. Rabbits were certainly no longer available in such large numbers following myxomatosis, but Short-tailed Voles remain common and Simms (1961) has shown from pellet analysis that voles constitute up to 58% of the breeding season diet of Kestrels *Falco tinnunculus* in Yorkshire. The study area supports a relatively high density of breeding Kestrels which are primarily associated with the upper areas of cultivated land bordering the fell.

Snow (1968) has demonstrated that there is good agreement between the years when voles are abundant in northern England and southern Scotland (recently 1952, 1957, 1961 and 1964) and the years when large numbers of nestling Kestrels are ringed in these areas; when

Table 4. Breeding success of Buzzards *Buteo buteo* at Sedbergh, Yorkshire, during 1947-67

No records are available for 1955. The numbers of young given are those which actually fledged

	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67
Pairs	4	6	3	7	6	4	9	5	?	4	7	5	9	9	9	6	6	6	7	7	7
Young	2	7	5	5	9	4	6	6	?	3	15	4	8	17	17	4	0	11	7	3	7

plotting the relative amplitudes of the various fluctuations in the numbers ringed, however, he stressed the importance of compensating for the general increase in ringing activity. Similarly, when the number of Buzzards known to have fledged each year at Sedbergh was plotted, it was apparent that, despite the marked fluctuations, there was a general tendency towards an increase due to a rise in observer activity; to compensate for this, a regression line was drawn by eye and an index calculated for each year by expressing the number actually recorded as a percentage of the value predicted by the regression line. This index is plotted in fig. 2 and compared with the numbers of nestling Kestrels ringed in northern Britain expressed as percentages of the annual totals of ringed nestlings of all species in the whole of Britain and Ireland (following Parslow and Snow). Both indices suggest a series of regular fluctuations, but examination shows that

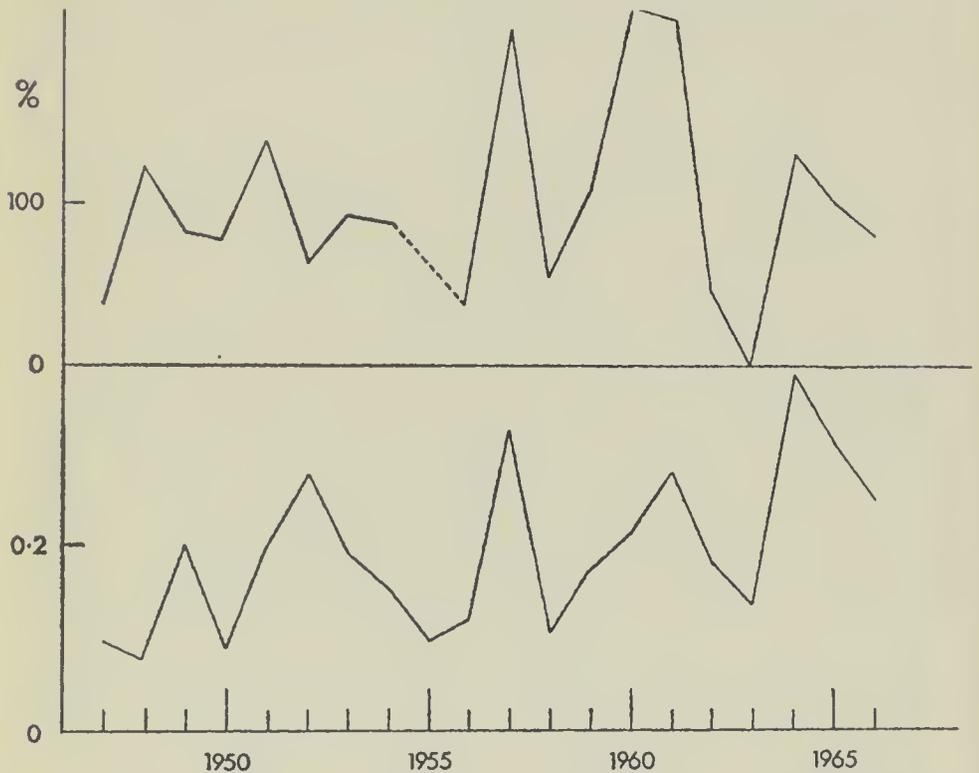


Fig. 2. Upper, annual index of Buzzards *Buteo buteo* known to have fledged at Sedbergh, Yorkshire, during 1948-66 (there are no data for 1955): the numbers recorded were an unsatisfactory measure of breeding success because of a general increase in observer activity in later years; this bias was corrected by drawing a visual regression line on the plot of the actual numbers and then calculating the index by expressing the total for each year as a percentage of the value predicted by the regression line. Lower, annual numbers of nestling Kestrels *Falco tinnunculus* ringed in northern Britain, expressed as percentages of the totals of ringed nestlings of all species in the whole of Britain and Ireland, during 1947-66: a national survey resulted in special attention being paid to Kestrels from 1963 and so the numbers in 1963-66 were adjusted to compensate (following Parslow 1967)

the peaks of the Buzzards are more pronounced and more similar to those of the Kestrels after 1954-55. Parslow also noted a tendency for Buzzard numbers to fluctuate more markedly after 1954-55. The conclusion is that the Buzzards became more dependent on voles after myxomatosis reduced the numbers of Rabbits.

To examine this conclusion further, the years 1947-67 were divided into two periods, 1947-53 and 1956-66 with 1954-55 omitted, and a χ^2 test was used to establish whether the numbers of Buzzards reared in the peak Kestrel years (1949, 1952, 1957, 1961 and 1964) were greater than in the other years. The test established that, whereas the Kestrel and Sedbergh Buzzard peaks in the early period did not coincide, their later peaks showed a significant relationship ($P < 0.01$). Snow considered that in 1957, 1960, 1961 and 1964, years of vole abundance, Kestrel breeding success was correspondingly high; the present analysis suggests that Buzzards at Sedbergh were similarly affected and thus provides further support for the conclusion that they became more dependent on voles.

It is likely that Buzzards took voles to some extent before myxomatosis, and it is unfortunate that the vole data for 1947-53 are incomplete, but it appears probable that any real dependence on them is recent. Moore, Prestt and Parslow all noted local crashes in Buzzard populations and breeding success in 1955, and numbers of nestling Kestrels and Barn Owls *Tyto alba* ringed in Britain and Ireland in that year were unusually low (see Parslow). This indicates that a scarcity of voles, now suggested as the major alternative prey of Buzzards, aggravated the effects of myxomatosis in that year and that the gradual recovery after 1955 was as much a result of increased vole numbers as of a return by Rabbits. In addition, there is evidence that Buzzards and Kestrels breed at Sedbergh in different habitats, though this is probably unconnected with food supply; Lack (1946) has suggested that predators on *Microtus* voles do not effectively compete with each other, because these small mammals are superabundant for much of the time and when their populations are low each species of predator turns to different alternative prey.

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SUMMARY

Breeding records of Buzzards *Buteo buteo* in the area of Sedbergh, Yorkshire, over 30 years were analysed with particular reference to territorial behaviour and to

breeding success in relation to numbers of Short-tailed Voles *Microtus agrestis*. Histories of well documented territories indicated a breeding density of one pair to 3.4 square miles (880 hectares). In most territories there was regular alternation between a series of nest sites, and reasons for this are suggested. The median laying date was 21st April and the mean clutch size of 3.03 is discussed with reference to comparative data from other published studies. The mean brood size was 2.2 and the success rate (fledged young from eggs, excluding nests in which all the eggs were lost) was 75%. Annual totals of Buzzards fledged are considered in relation to the food available, especially in the light of recent work on the effect of fluctuations in vole numbers on the breeding success of Kestrels *Falco tinnunculus*. The conclusion is reached that, as a result of the reduction in the numbers of Rabbits *Oryctolagus cuniculus* following myxomatosis in 1954-55, the Buzzards at Sedbergh have become increasingly dependent on voles and that for this reason their breeding success now fluctuates in a way similar to that of Kestrels.

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Notes

Female Golden Orioles in male plumage In the first part of his current series on 'Scarce migrants in Britain and Ireland during 1958-67' (*Brit. Birds*, 62: 169-189) Dr J. T. R. Sharrock was right to point out that first-year male Golden Orioles *Oriolus oriolus* may be wrongly recorded as females, but my experience leads me to believe that some females may also be misidentified as adult males.

I am familiar with Golden Orioles over much of their range in Europe and have photographed them several times from hides at nests. In one case, for example, the female was very dull and there was never any doubt which sex I was watching. Another pair could be sexed from the hide at the nest, but only with difficulty at a distance or in flight and then not certainly unless both were seen together. During our first sessions in the hide at one nest near Segovia, Spain, in June 1961, however, D. N. Dalton and I both believed that only the male was incubating and it was not until we came to know these two birds well that we were quite sure from their behaviour that the one incubating was, in fact, a very brightly coloured female (plate IIb). We also noticed two scarcely discernible differences between the pair: the female lacked the black lores of the male (hers were a dirty grey and indistinct) and her bill was a slightly duller red. These characters were useless in the field and I have no doubt whatever that, had we not identified her as a female from a hide four feet away, we should unequivocally have said that she was a male. This individual in particular, and to a lesser extent several others, have convinced me that in some cases it is virtually impossible to separate a brightly plumaged female from a mature and normally coloured male, such as that shown on plate IIa photographed near Abrantes, Portugal.

I have seen two 'male' Golden Orioles together many times, never doubting that my sexing was correct, but now I wonder how many of these were brightly coloured females. Indeed, I seem to remember having seen far more 'males' than 'females' and this may not have been entirely due to the greater conspicuousness of what is accepted as male plumage. It also seems possible that some skins in museum collections have been incorrectly labelled: if it is generally assumed that a velvet-black and golden-yellow individual is a male, the preparer of a skin might not have thought it necessary to prove the point by examining the sexual organs. It is my impression, but I have no proof, that brightly coloured females are commoner in the Iberian peninsula than elsewhere. In any case, I am certain that greater care is needed when sexing this species in the field, especially in Britain and Ireland where it is usual to see single birds.

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Food-hiding by Magpie In view of recent notes by Dr K. E. L. Simmons and others (*Brit. Birds*, 61: 228-229; 62: 334-336; 63: 174-177) on the hiding of surplus food by Corvidae, a different aspect of the habit may be worth recording. In this case the natural inclination to escape quickly from danger was overruled by the impulse to conceal the prey, which was too heavy to be moved rapidly.

At about 08.00 on 28th May 1970, in my garden at Frocester, Gloucestershire, I saw a Magpie *Pica pica* in the rose-bed attacking a juvenile Starling *Sturnus vulgaris* which was unable to fly strongly. A minute or so later its mate flew to the house roof and remained there quietly, apparently on guard, while a commotion of mobbing birds continued below. Eventually this Magpie on the roof turned its head, saw me and swooped down the far side; I was in the garden about 50 yards away, but heard no alarm call. Nevertheless, its behaviour seemed to alert the other Magpie, which emerged a few seconds later from the rose-bed, carrying the young Starling by the neck, walked awkwardly and hurriedly nine yards over the lawn to an area of rough, uncut grass and pushed its prey out of sight. It then immediately took wing, turning its head to look in my direction, just clearing the hedge in its haste and skimming low beyond it in an obvious attempt to keep out of sight. On examination I found the dead Starling hidden deeply in the grass nine inches from the edge of the lawn; it was quite invisible at a distance of five feet.

Some 20 minutes later a Magpie landed on the lawn about eleven yards from the cache, presumably intending to retrieve it, but it saw me and flew off. The Starling was still in the grass at noon, but was removed during the afternoon when no-one was at home. There are no dogs or cats near-by, so I think it must have been taken by one of the Magpies.

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Choughs digging for food in sand During 1968-70 I developed the practice of photographing birds from a hide erected near a tin of maggots of bluebottles *Calliphora*. In September 1970, while sitting in such a hide on a beach on Bardsey, Caernarvonshire, I noted that Choughs *Pyrhocorax pyrrhocorax* were making regular feeding visits without, however, showing any interest in the tins of bait. Invariably two would arrive together on the beach and wander along the high tide line, pecking here and there as they went until they found what was presumably a suitable spot, whereupon they would start to dig in the sand with their beaks, throwing it over their heads or to one side. It was never possible to be certain what they were digging for and sometimes the holes were quite small, but occasionally it was only just possible to see the digging bird as it bent forward in the hole, throwing out showers of sand and every few strokes raising its

head to look around and call. I noticed that the birds would often return to some of the holes during subsequent visits and so I partly filled two of the larger ones with maggots and covered these with a layer of sand before moving my hide closer. Several hours later two Choughs returned to the beach and came back to these holes where they continued to dig (and presumably take the maggots), but they were a little wary of the hide at a distance of only six feet and, after I had made a few exposures, they flew off to the other end of the beach. The following day I repeated the experiment with the hide a little farther away and their behaviour was the same except that they were probably still more wary of the camera's clicking sound. Two of the photographs I took are reproduced on plate 64.

I examined several other areas where I saw Choughs feeding on the island and generally there was little evidence of their digging comparable holes, except on the tops of earth walls.

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Feeding behaviour of Ortolan Bunting on autumn passage I was interested in C. W. Craig's observation (*Brit. Birds*, 61: 375) of a Goldfinch *Carduelis carduelis* repeatedly biting and bending the stems of dandelions *Taraxacum officinale* in order to obtain the seeds more readily. On 18th October 1962, on St Agnes, Isles of Scilly, I watched rather similar behaviour by an immature Ortolan Bunting *Emberiza hortulana*: over a period of about half an hour it methodically bit through the bases of a number of tough stems of couchgrass *Agropyron repens*. Each stem was taken in the bill and dealt with by a deliberate and forceful sideways movement of the head; then slowly the bill was moved along the stem to extract both the soft pith from within as well as the seeds from the seed head. When its mouth was full, the Ortolan systematically swallowed the pappy material with 'bill-chattering' movements.

BERNARD KING

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News and comment *Robert Hudson*

Oceanic dustbin? The ill-starred July voyage of the *Stella Maris* gave wide publicity to a subject that has worried conservationists for some time, namely the dumping of industrial effluents at sea. The *Stella Maris*, a Dutch vessel, carried 600 tons of chemical waste classified as polychlorinated aliphatic hydrocarbons, an unwanted by-product of the plastics industry; it will be recalled that high levels of PCB residues were found in seabird corpses during the Irish Sea kill in autumn 1969. This cargo was to be dumped in the Atlantic 600 miles from Iceland and Ireland, but international protests at governmental and popular levels led to the ship being recalled to the Netherlands.

Unfortunately, at the present time there is nothing except public opinion to prevent such ocean dumping, and this relatively cheap method of disposal is escalating. In 1968 the International Council on Exploration of the Sea reported that Dutch sources alone were discharging into the North Sea 3,600 tons of sulphuric acid and 750,000 tons of sulphur dioxide annually; and German firms were dumping 375 tons per day of sulphuric acid, 750 tons per day of iron sulphate, 200,000 tons per year of gypsum, 40 tons per month of chlorinated hydrocarbons and 40–50 tons per month of polyethylene. It seems likely that the I.C.E.S. and the planned autumn conference of the North-East Atlantic Fisheries Commission will call for a complete ban on the disposal of chemical waste in the North Sea before the ecological effects become irreversible, but to be effective prohibition would have to be extended to the Atlantic as well, since wastes are carried in ocean currents. In fact, legislation could only work if applied *in the countries of origin* of ships involved in marine dumping. At the preparatory meeting on marine pollution for the United Nations Human Environment Conference (to be held in 1972), European nations showed concern at the growing pollution of the North and Mediterranean Seas; but which country will give the legislative lead?

Cold feet in the Nature Conservancy? It is an unfortunate fact (noted in various British coastal localities) that in protected areas gulls are inclined to increase greatly, to the detriment of other shore-nesting species and of local vegetation. One such locality is the Isle of May, Fife, where the breeding population of Herring and Lesser Black-backed Gulls has jumped from 800 pairs in 1940 to 17,000 pairs at the present time; as the gulls prospered so the island tern colonies dwindled, while some passerines ceased to breed as the gullery area expanded. Eiders and Oystercatchers are heavily predated by the gulls, and the island's vegetation is suffering (with soil erosion in parts). It has long been clear that gull control measures are essential on the Isle of May, and egg-taking having proved unsuccessful the only effective alternative in a colony of this size is to kill large numbers of adult gulls with poisoned bait—unpleasant, of course, but necessary to stabilise the island's ecology. The control measures were to have been carried out by staff of the Nature Conservancy (Scotland), beginning in May 1971. Scottish newspapers obtained the 'story' prematurely, however, and the Nature Conservancy then announced that they would not begin during 1971; one can only assume that, fearing adverse publicity, they lacked the courage of their convictions. We support the view of the editors of *Scottish Birds* (6: 294): '... it is a pity that time should be lost in implementing an effective gull-control policy on the island, for its necessity seems adequately demonstrated'.

Avicultural notes Occasional Publication no. 5 of the Association for the Study and Propagation of European Birds in Aviaries, published in May, lists members' aviary breeding records for 1969 and 1970; these indicate how wide a variety of species can be bred in captivity when sufficient trouble is taken. Some of these records, such as Philip Wayre's successes with Stone Curlews and Eagle Owls, are already well-known, but this cannot be said of such cases as Kestrel, Ringed Plover, Skylark, Wheatear, Redwing, Long-tailed Tit and Reed Bunting. In all, 44 species are listed, including the Collared Dove which is seldom kept by aviculturists though readily bred. There are several other short articles, mostly elaborating on some of the 1969–70 breeding records. These include a particularly interesting note, by D. Washington, on the difficulties of sexing Serins: avicultural experience has convinced the author that, contrary to what most textbooks say, some males retain an inconspicuous (female-type) plumage, in particular lacking a yellow forehead; a more reliable character appears to be the degree of streaking in the centre of the breast—marked in females, largely absent in males. These publications are available from D. Washington, 4 Ivy Dene Lane, Ashurstwood, Sussex.

Welsh wildlife disc The B.B.C. has broken new ground in the natural history field with the publication of a disc entitled 'Wildlife in Wales'. W. M. Condry points out in the introduction that large parts of Wales have retained something of their original wildness and some of the shyest and rarest of Britain's wild vertebrates are still found there. The record includes commentaries by various speakers on Welsh 'specialities'—Red Kite and Chough, Pine Marten and Polecat. This B.B.C. disc is Wildlife Series no. 11 (RED 96M), and is available (price £1.07) from B.B.C. Record Enterprises, Villiers House, The Broadway, London W5 2PA; alternatively it may be ordered through any local record shop.

Future B.O.U. meetings The 1971 Annual Scientific Meeting of the British Ornithologists' Union will be held at the British Museum (Natural History), London SW7, during the evening of Tuesday 16th November; the principal speaker, Professor Dr K. H. Voous, will be talking on 'Systematic and geographical problems as illustrated by owls'. Timetable and booking forms will be available later from the B.O.U. The Union's 1972 Annual Conference will be held in St Patrick's Hall, University of Reading, over the weekend 7th–9th April. The main theme will be 'Tropical ornithology', though one session will be given over to more general ornithological subjects: papers are invited. Further details of this conference will be given in a future issue of *The Ibis*.

Second Aberdeen zoology professor Dr G. M. Dunnet, who for more than a decade has supervised Aberdeen University's Culterty Field Station, has been appointed Professor of Field Studies of that University; he thus becomes the second zoological professor at Aberdeen (Professor V. C. Wynne-Edwards has long held the chair of zoology there). George Dunnet, an Aberdeen University graduate, achieved international recognition in the 1950's from his work, with Dr Robert Carrick, on Starlings and Fulmars. After a spell in Australia, where he diversified his interests to include mammals (especially marsupials) and avian ectoparasites, he returned to Aberdeenshire to take charge of the University's field station at Newburgh; this he has made Britain's leading university centre for the promotion of integrated field studies. Research there into the Ythan estuary ecosystem and specific studies of Fulmars (mainly in Orkney), Shelducks, Eiders and Rooks have gained wide recognition. Ornithologically, Aberdeen may now fairly be described as the most progressive of British universities.

Obituary We have learned with regret of the death of Dr James W. Campbell on 2nd January 1971. Dr Campbell was born in Streatham, London, in 1906, attended Charterhouse School, and in 1928 graduated at King's College, Cambridge; subsequently he studied at St Bartholomew's Hospital Medical School, gaining his M.B. and B.Chir. in 1933, but financial independence made it unnecessary for him to practise medicine. He joined the B.O.U. in 1929. At this period his family home was in Essex (at Layer Marney, near Colchester), and during the 1930's he was one of the very few ornithologists working in Essex. Most of his publications appeared in *British Birds*, and included papers on the habits of the Rook and on bird foods as shown by stomach examinations (1946), on more detailed studies of waterfowl food (1946, also in *Ibis* in 1947), and on important early observations at the newly constructed Abberton Reservoir (1947). After serving in the R.A.M.C. in the Second World War, Dr Campbell moved to Scotland, his home being in Perthshire though he made numerous visits to the Outer Hebrides; he became an authority on the birds of those islands, and had been writing a book on the subject (as yet unpublished). When the *Scottish Naturalist* was revived from 1948 to 1957 Dr Campbell was one of its editors; and he gave sterling service to the Scottish Ornithologists' Club, becoming vice-president in 1954–55 and serving on Council and on the Scottish Bird Records Committee for long periods.

Recent reports *P. F. Bonham*

These are largely unchecked reports, not authenticated records

This summary deals with June 1971, to which all dates refer unless otherwise stated. It begins with two remarkable reports of **White-billed Divers** *Gavia adamsii*: one in breeding plumage on Upper Loch Torridon (Ross-shire) from mid June to early July, and the other off the Bass Rock (East Lothian) on 26th. Movements of seabirds were very slight, apart from a large but not unprecedented passage or feeding movement of **Manx Shearwaters** *Puffinus puffinus* off Brean Down (Somerset), with totals of 202 on 19th and 225 on 20th in parties of up to 35; one **Sooty Shearwater** *Puffinus griseus* was also seen on the first day. Single **Fulmars** *Fulmarus glacialis* occurred well inland at Colwick (Nottinghamshire) on 4th—a new county record—and at Bittell Reservoir (Worcestershire) on 8th.

Pride of place among southern herons goes to the adult **Squacco Heron** *Ardeola ralloides* at Eye Brook Reservoir (Leicestershire/Rutland) from 16th June to 18th July; but there was also an adult **Purple Heron** *Ardea purpurea* at Minsmere (Suffolk) on 19th; and **Night Herons** *Nycticorax nycticorax* near Lichfield (Staffordshire) on 13th (immature), at Walberswick (Suffolk) on 19th (adult) and at Stodmarsh (Kent) on 20th (immature). Another unexpected species in Staffordshire was a **Bittern** *Botaurus stellaris* at Blithfield Reservoir on 27th. A **White Stork** *Ciconia ciconia* near Belton (Rutland) on 9th may have been the one at Thorpe Langton (Leicestershire) on 7th May (*Brit. Birds*, 64: 381), as the two localities are only seven miles apart; another White Stork remained at Cripsey Bridge (Lincolnshire) most of the month. Single **Spoonbills** *Platalea leucorodia* occurred at Loch Lomond (Dunbartonshire/Stirlingshire) from 12th until 3rd July, at Breydon Water (Norfolk/Suffolk) on 19th and 22nd, and at Minsmere (Suffolk) from 19th to 23rd. There was also a **Crane** *Grus grus* in Nigg Bay (Ross-shire) from mid June to early July. More exotic were no less than five reports of escaped **Flamingoes** *Phoenicopterus ruber* involving seven individuals, two together and a single in Warwickshire, two in Leicestershire/Rutland, and singles in Worcestershire and Norfolk; most, if not all, were of the Chilean race *P. r. chilensis*.

Rather surprisingly, June was a good month for rare ducks: in addition to the **Blue-winged Teal** *Anas discors*, **Steller's Eider** *Polysticta stelleri* and **King Eider** *Somateria spectabilis* remaining from May (*Brit. Birds*, 64: 381), there was another **Blue-winged Teal** on the North Slob (Co. Wexford) from 16th to 20th, a **Green-winged Teal** *A. crecca carolinensis* on Treseo (Isles of Scilly) on 1st and a drake **Surf Scoter** *Melanitta perspicillata* at Murcar (Aberdeenshire) from 22nd onwards. Two **Long-tailed Ducks** *Clangula hyemalis* at Vane Farm (Kinross) from 6th to 12th and a drake **Velvet Scoter** *M. fusca* at Hilbre (Cheshire) on 20th were also out of season. **Snow Geese** *Anser caerulescens* are usually omitted from these summaries, as most reports concern single birds which are almost certainly escapes, but perhaps it is worth mentioning an unusual series of reports of Lesser Snow Geese *A. c. caerulescens*: a flock of five white phase and four blue phase were seen briefly at Whitby Abbey (Yorkshire) on 24th; they left and later that day four white phase and four blue phase were seen heading north up the coast nearly 50 miles to the north-east at Whitburn (Co. Durham), while a single white phase appeared at Farnham gravel pit, Knaresborough (Yorkshire), 50 miles south-west of Whitby, from 24th to 30th. Despite the wide geographical spread of these sightings, it seems likely that the same nine were involved, an interesting case of co-ordinated observations, but one can only speculate on their origin.

A **Black Kite** *Milvus migrans* occurred at Blythburgh (Suffolk) on 3rd, and it or another was reported at Fingringhoe (Essex) on the same day. Two **Honey Buzzards** *Pernis apivorus* were seen in Shetland, one near Lerwick in early June and the other

on Fair Isle on 30th; the latter was found weak on 5th July and it died next day. **Ospreys** *Pandion haliaetus* were seen in England at Leighton Moss (Lancashire), Holkham Park (Norfolk) and in Northumberland, Derbyshire and Shropshire. Migrant **Hobbies** *Falco subbuteo* occurred on the Ouse Washes (Cambridgeshire/Norfolk) on 3rd, near St. Levan (Cornwall) on 5th, at Teesmouth (Co. Durham/Yorkshire) on 6th and 28th, and at Winterton (Norfolk) on 12th; one was also found dead at Great Yarmouth (Norfolk) early in the month.

On the Ouse Washes, at least 53 pairs of **Black-tailed Godwits** *Limosa limosa* and at least 22 **Reeves** *Philomachus pugnax* nested; indeed, it is possible that these totals were as high as 65 and 40. On Havergate Island (Suffolk), 93 pairs of **Avocets** *Recurvirostra avosetta* were nesting by the end of June, a drop from 102 last year and 118 in 1969; at Minsmere, however, the situation had correspondingly improved with 25 pairs, compared with 16 in 1970 and eleven in 1969. Apart from the breeding population, Avocets were reported from several other places in the south and east, and one at Tynninghame (East Lothian) on 4th and 5th was unusually far north.

Three or four more **Kentish Plovers** *Charadrius alexandrinus* were reported, at Dungeness (Kent) on 5th, at Berrow (Somerset) on 10th and at Minsmere on 11th and 26th; a **Dotterel** *Eudromias morinellus* appeared on Salthouse Heath (Norfolk) on 6th, and **Temminck's Stints** *Calidris temminckii* were recorded at Havergate on 3rd and 7th, at Minsmere on 12th and on the North Slob on 28th. **Wood Sandpipers** *Tringa glareola*, **Little Stints** *C. minuta* and **Curlew Sandpipers** *C. ferruginea* continued to occur in small numbers with little discernible pattern, and it may well be that many of these were not new arrivals but wanderers remaining from May (*Brit. Birds*, 64: 382). Single **Red-necked Phalaropes** *Phalaropus lobatus* appeared at Frodsham (Cheshire) on 9th–10th and on Loch Lomond on 28th; and there was a **Pratincole** *Glareola pratincola* on Fair Isle on 2nd only five days after the one at Dungeness (*Brit. Birds*, 64: 382). Lastly, three American waders were reported—a **Pectoral Sandpiper** *Calidris melanotos* on Skokholm (Pembrokeshire) on 6th, a believed male **Wilson's Phalarope** *P. tricolor* at Dorman's Pool, Teesmouth (Co. Durham) on 5th, and a female Wilson's Phalarope at Minsmere during 10th–16th and at Hickling Broad (Norfolk) from 17th into July.

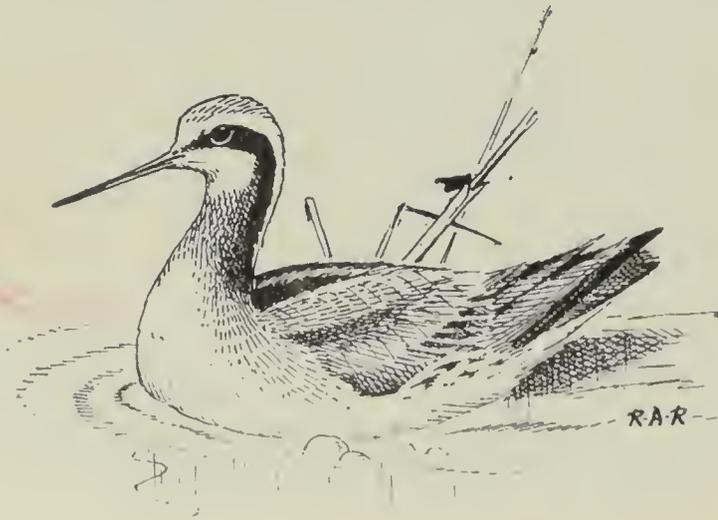
With the exceptions of a sub-adult (? second-summer) **Laughing Gull** *Larus atricilla* on St Kilda (Outer Hebrides) on 28th and a **Caspian Tern** *Hydroprogne tsebegrava* at Aberlady Bay (East Lothian) on 20th, June was a disappointing month for rare gulls and terns, as indeed was May. Most of the interest was centred on **Little Gulls** *L. minutus* and **Black Terns** *Cblidonias niger*, about 50 of the former and over 150 of the latter being reported. The main Black Tern passage in May 1971 (*Brit. Birds*, 64: 383) coincided almost exactly with the anniversary of the peak in May 1970; and again in June 1971 the pattern was remarkably similar to that in June 1970 (*Brit. Birds*, 63: 311–312) with the greatest movement during 2nd–7th, especially on 5th and 6th. A **White-winged Black Tern** *C. leucopterus* appeared at Dungeness on 8th, and **Mediterranean Gulls** *L. melanocephalus* at Teesmouth on 1st–2nd, at Dungeness on 3rd and at Rye Harbour (Sussex) on 16th. **Kittiwakes** *Rissa tridactyla* were unexpectedly found inland at Attenborough (Nottinghamshire) on 1st and at Belvide Reservoir (Warwickshire) on 11th. The only reports of **Pomarine Skuas** *Stercorarius pomarinus* were from Porthgwarra (Cornwall): one on 20th and four on 27th.

Coming to land-birds, the influx of **Hoopoes** *Upupa epops* in April and May (*Brit. Birds*, 64: 334, 383) dwindled almost to nothing in June, with new reports from only six places at the beginning of the month—Tresco (Isles of Scilly), Stockbridge Common (Hampshire), Chesham (Buckinghamshire), Norwell (Nottinghamshire), Hamsterley Forest (Co. Durham) and Hauxley (Northumberland). **Golden Orioles** *Oriolus oriolus* continued to arrive, however, being newly reported in Co. Wexford, Cornwall, Somerset, Surrey (two), Kent, Buckinghamshire, Suffolk, Norfolk (two),

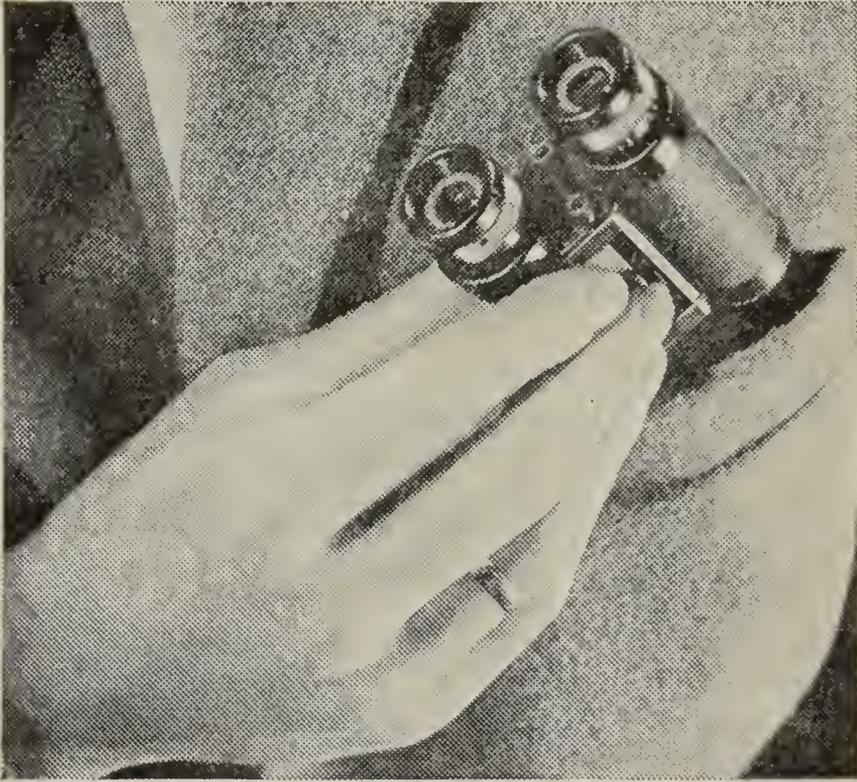
Lancashire (two) and Shetland. Two other southern species, neither of which had been reported earlier this year, were **Rollers** *Coracias garrulus* at Tynningham on 2nd and at Semblister (Shetland) on 4th-5th; and **Bee-eaters** *Merops apiaster* at Dunge-ness on 8th and on Fair Isle on 30th (the latter coinciding with one of the orioles). A **Nightjar** *Caprimulgus europaeus* on North Ronaldsay (Orkney) from 11th to 13th was also unusual.

There were still a few Scandinavian passerines appearing in June, though a singing male **Brambling** *Fringilla montifringilla* on the Ouse Washes throughout the month could hardly qualify as a migrant. The rarest was the year's fourth **Thrush Nightingale** *Luscinia luscinia*, trapped at Spurn (Yorkshire) on 5th, but other species seen on the east coast at about that time included single **Bluethroats** *L. svecica* on Fair Isle and at Cley (Norfolk), and both **Red-breasted Flycatcher** *Ficedula parva* and **Ortolan Bunting** *Emberiza hortulana* on North Ronaldsay. There was an **Icterine Warbler** *Hippolais icterina* on Fetlar (Shetland) on 1st and another on North Ronaldsay on 19th. **Red-backed Shrikes** *Lanius collurio* were seen on 2nd on Fair Isle, North Ronaldsay and the Calf of Man, the last being an adult male trapped, and on 13th and 14th near Garlieston (Wigtownshire); and there was another out-of-season **Brambling** at Holme (Norfolk) on 15th.

A **Short-toed Lark** *Calandrella cinerea* on Ramsey Island (Pembrokeshire) on 3rd seems more likely to have originated from the south, but a **Tawny Pipit** *Anthus campestris* at Spurn from 10th to 12th and a **Marsh Warbler** *Acrocephalus palustris* there on the latter date were probably of southern Scandinavian origin. Single **Woodchat Shrikes** *L. senator* were reported at Nanquidne, St Just (Cornwall) on 2nd, at Wells (Norfolk) on 5th-6th and at Westleton (Suffolk) on 13th. Other passerines worth mentioning were **Hooded Crows** *Corvus corone cornix* at Wylde Green (Warwickshire) on 6th and at Breydon on 20th; **Rose-coloured Starlings** *Sturnus roseus* at Droman, Kinlochbervie (Sutherland) on 3rd and at Snettisham (Norfolk) on 2nd; and a **Serin** *Serinus serinus* at Minsmere on 15th. Minsmere also produced a **Trumpeter Bullfinch** *Rhodopechys githaginea* from 11th to 15th; this caused a considerable stir, but news of a second individual 500 miles away on Handa (Sutherland) on 10th did not spread quite so fast. The almost simultaneous occurrence of two does not necessarily support the contention that either or both were wild vagrants; if they were wild, however, it seems more likely that they would have come from the Middle East than from North Africa, though vagrants probably from south of the Mediterranean are known to have wandered into Spain, Italy, and some of the Mediterranean islands. We should remember the Cretzschmar's Bunting *Emberiza caesia* on Fair Isle from 10th to 20th June 1967 (*Brit. Birds*, 62: 144-148).



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British Birds

Recent changes to the British and Irish list

The Records Committee of the British Ornithologists' Union has recommended in its sixth report (*Ibis*, 113: 420-423) that the list of British and Irish birds maintained by the Union be categorised as follows:

1. Species which have been recorded in an apparently wild state in Britain or Ireland at least once within the last 50 years.
2. As A, but not within the last 50 years.
3. Species which, although originally introduced by Man, have now established a regular feral breeding stock which apparently maintains itself without necessary recourse to further introduction.
4. Species which would otherwise appear in category A except that (1) there is a reasonable doubt that they have ever occurred in a wild state, or (2) they have certainly arrived with ship-assistance, or (3) they have only ever been found dead on the tideline; also species which would otherwise appear in category C except that (4) their feral populations may not be self-supporting.

Categories A, B and C will together form the main list, and category D a separate one. The species in each group will be reviewed annually so that the lists will be dynamic and not static. The report has been approved by the Council of the B.O.U., and the species are categorised in this way in its forthcoming publication *The Status of Birds in Britain and Ireland*. All species already on the list following the previous report (*Ibis*, 113: 142-145) are included in category A only, with the following exceptions:

Frigate Petrel <i>Pelagodroma marina</i>	B	Caspian Plover <i>Charadrius asiaticus</i>	B
Capped Petrel <i>Pterodroma hasitata</i>	B	Eskimo Curlew <i>Numenius borealis</i>	B
Greater Flamingo <i>Phoenicopterus ruber</i>	D	Great Auk <i>Pinguinus impennis</i>	B
Canada Goose <i>Branta canadensis</i>	AC	Eagle Owl <i>Bubo bubo</i>	B
Egyptian Vulture <i>Neophron percnopterus</i>	B	Little Owl <i>Athene noctua</i>	C
Spotted Eagle <i>Aquila clanga</i>	B	Red-necked Nightjar <i>Caprimulgus ruficollis</i>	B
Capercaillie <i>Tetrao urogallus</i>	BC	Egyptian Nightjar <i>C. aegyptius</i>	B
Red-legged Partridge <i>Alectoris rufa</i>	C	Isabelline Wheatear <i>Oenanthe isabellina</i>	B
Pheasant <i>Phasianus colchicus</i>	C	Citril Finch <i>Serinus citrinella</i>	B
Parus Rail <i>Porzana carolina</i>	B		

In its previous report, the committee had already recommended the removal from the list of the Kermadec Petrel *Pterodroma neglecta* and the Collared Petrel *P. leucoptera*, since the origins of the single specimens of both species (see *The Handbook*, 4: 63, 66) are inadequately proven, especially in view of the extreme unlikelihood of their occurrence. The Mute Swan *Cygnus olor* is placed in category A because wild immigrants do occur and because most of the breeding population is derived from semi-domesticated descendants of wild stock rather than artificially introduced. Four species are added to category A:

Franklin's Gull *Larus pipixcan* (Hampshire, February-May 1970)
Spectacled Warbler *Sylvia conspicillata* (Yorkshire, October 1968)
Fan-tailed Warbler *Cisticola juncidis* (Co. Cork, April 1962)
Evening Grosbeak *Hesperiphona vespertina* (Outer Hebrides, March 1969)

Five species originally introduced by Man have now established regular feral breeding stocks (in the areas shown in brackets) and are added to the British and Irish list in category C:

Mandarin Duck *Aix galericulata* (particularly south-east England, also Perthshire)
Ruddy Duck *Oxyura jamaicensis* (mainly south-west England)
Egyptian Goose *Alopochen aegyptiacus* (East Anglia)
Golden Pheasant *Chrysolophus pictus* (particularly East Anglia)
Lady Amherst's Pheasant *C. amherstiae* (particularly the English east Midlands)

Category D is an entirely new grouping, except for the tideline corpses which have previously been included but which it is now considered need further proof of natural occurrence; the main object of category D is to collect together the occurrences of species which are not yet full additions, so that these are not overlooked if there are subsequent acceptable records, or if changing circumstances or new knowledge call for a reassessment. Seven species are added to it (the reason in each case is given here by a number from 1 to 4, for which see the explanation of category D on page 429, together with the possible feral breeding areas of introduced species):

Baikal Teal *Anas formosa* (1)
Wood Duck *Aix sponsa* (4, south-east England and East Anglia)
Bob-white Quail *Colinus virginianus* (4, East Anglia)
Reeves's Pheasant *Syrnaticus reevesi* (4, Scotland and the English Midlands)
Blue Rock Thrush *Monticola solitarius* (1)
Ovenbird *Seiurus aurocapillus* (3)
Red-headed Bunting *Emberiza bruniceps* (1)

Lastly, the record of Moustached Warblers *Acrocephalus melanopogon* breeding at Cambridge in 1946 (*Brit. Birds*, 40: 98-104; 41: 387-388 and frontispiece) has been reconsidered by the committee in view of doubts raised by some of its members. Having re-examined the original evidence, all find it entirely convincing and the record stands. On the other hand, the committee cannot recommend the addition of the Brown Flycatcher *Muscicapa latirostris* to the list: the descriptions

of birds alleged to be of this species on Holy Island, Northumberland, on 9th September 1956 (*Brit. Birds*, 50: 125-126) and on Great Saltee, Co. Wexford, on 6th September 1957 (*Irish Bird Report*, 1957: 31) are considered inadequate to eliminate other possibilities.

New Palearctic bird sound recordings during 1970

Jeffery Boswall

The discs or sets of discs (in some cases part-sets) that appeared or first came to my notice during 1970 are listed below. Comments are rather briefer than in earlier papers (Boswall 1970 and references therein) except in the cases of the more scientifically important records. Parent (1969) has published a further instalment of his discography in French.

FURTHER ADDITIONS TO THE DISCOGRAPHY

133. ROCHÉ, JEAN-CLAUDE. 1969-70. *A Sound-Guide to the Birds of Northern Europe*. Eleven 7-inch 45 rpm, 1-11, with booklet in French and English (32 pages). Institut ECHO, 04-Aubenas-les-Alpes, Haute-Provence, France. Obtainable from Discurio, 9 Shepherd Street, London W1, or by mail order from Discourses Ltd, 34 High Street, Tunbridge Wells, Kent.

This is described as 'Volume III of a sound guide to the birds of Europe'. Volume I, reviewed earlier as 68, 75, 100 and 101, was announced at the time as 'A sound guide to the birds of France', but is now referred to as 'of western Europe'. Volume II, covering 'southern Europe', was reviewed as 102; and a supplement to volume II, subtitled 'A sound guide to the birds of north-west Africa', was reviewed as 115. Volume III now turns to 'northern Europe'. Each of the later publications repeats some species from the earlier ones, though largely using different recordings (or different 'dialects' in the case of the supplement to volume II), while at the same time including a fair proportion of new ones. 'Western Europe' covered 256 species, 'southern Europe' 80 species (32 new) and 'north-west Africa' 43 species (five new); now 'northern Europe' gives 129 species (79 new). Thus, if you own all three volumes and the supplement, you can hear the voices of 372 species of European birds, a total that compares very favourably with the 470 described in the main body of *A Field Guide to the Birds of Britain and Europe* (1966 edition).

To deal now with volume III, it is highly commendable that almost all the recordings are previously unpublished and that the great majority were actually made in 'northern Europe' as defined by Mr Roché. A few have had to be brought in from other continents, as is inevitable in a compilation of this kind, such as a diver, an owl and two finches from Canada, a Little Auk *Plautus alle* from Greenland and a Red-flanked Bluetail *Tarsiger cyanurus* from Japan; a few more were obtained in Europe outside the defined area. Just one recording is of a captive bird, and that is clearly stated. Although only 125 of the 319 species that nest in 'northern Europe' as defined by Mr Roché are included here, many of the balance appear in his earlier volumes and the only northern nesters notable for their absence are the Smew *Mergus albellus* and Steller's Eider *Polysticta stelleri*. More puzzling is the decision to exclude 'migrants that merely cross the territory of northern Europe' when the declared aim is 'to give auditory recognition criteria'. Thus, there are no recordings of such species as the Grey Plover *Pluvialis squatarola*, Curlew Sandpiper *Calidris ferruginea*, Knot *C. canutus* and Sanderling *C. alba*; and yet Mr Roché's own rule is broken when the Bewick's Swan *Cygnus bewickii* and three wintering geese are 'included for comparison only'.

The quality in general is very good. Indeed, there are many outstanding recordings. Yet others seem curiously lacking in body, suggesting a deficiency in mid-range tone due, perhaps, to over-zealous filtering. One soon finds the text frustratingly unhelpful in identifying various sounds on the discs. There is a recording of a pair of Barrow's Goldeneyes *Bucephala islandica* calling together on an Icelandic river, one of many excellent and hard-won recordings which make this set particularly desirable, yet the booklet fails to explain which calls are from the drake. The song of the Ring Ouzel *Turdus torquatus* is quoted as 'normal', but few British listeners would recognise it since the continental birds sound so very different. One would have appreciated being told whether the natural spacing between the hoots of the Ural Owl *Strix uralensis* had been preserved; it seems unlikely. Appropriate advice of this sort in the text, alerting the listener's ear to subtle distinctions, would have made the whole set much more valuable as an aid to identification. But despite these criticisms and certain other minor illogicalities, this set of eleven discs brings together a most valuable set of bird voices; it represents a great deal of largely original work by Mr Roché and his collaborators in Institut ECHO. JEFFERY BOSWALL and P. J. SELLAR

134. ROCHÉ, JEAN-CLAUDE. 1969-70. *L'Oiseau Musicien*. Eleven 7-inch 45 rpm, EPP-033, 34, 35, 36, 37, 38, 40, 41, 45, 46 and 47. The Bird as Musician Publishing Co., 04-Aubenas-les-Alpes, Haute-Provence, France.

'The World's Best Songsters' series, in which each side of each disc is devoted entirely to a single singer: for example, on the first disc the Blackbird *Turdus merula* fills side 1 and the Skylark *Alauda arvensis* side 2.

135. ROCHÉ, JEAN-CLAUDE. 1969-70. *Oiseaux Méditerranéens, Oiseaux Familiers, Oiseaux de Forêts et de Montagnes, and Oiseaux Scandinaves et Lapons*. Four 12-inch, 33.3 rpm, GO2 to GO5. The Bird as Musician Publishing Co., 04-Aubenas-les-Alpes, Haute-Provence, France.

Four more discs in the 'Bird Concerts Series' that started with 116; about 40 species on each. Notes in three languages, plus scientific names.

136. TRABER, HANS A. 1970. *Aus Wald und Feld: Vogelgesänge und andere Tierstimmen*. Two 12-inch 33.3 rpm stereophonic, EL 15006 and EL 12090. Ex Libris, Switzerland.

Two LPs in stereo to follow up Mr Traber's earlier 7-inch disc (80): each side features five habitats, thus giving 20 in all. They adopt what is perhaps the most effective method to date of identifying the species that sing: first, on 18 of the 20 bands we hear about 45 seconds of the habitat, over which announcements are made, each from the same point between the loudspeakers as the relevant species sings from, and at the same time; second, a monophonic recording of each species is introduced and, third, we hear an uninterrupted 2½ minutes or so of each habitat in stereo. About 50 birds sing in all, and the voices of a dozen other animals are heard.

PETER COPELAND

137. REISINGER, H. 1970. *Vogelconcert in Stereo: durch die Wälder, durch die Auen*. One 7-inch, 45 rpm stereophonic, 75-0980.5. Kosmos, Franckh'sche Verlagshandlung, 7 Stuttgart 1, Postfach 640, West Germany.

Although it is described as stereophonic, the effect it gives is more an admixture of monophonic sounds. About 25 species appear on the disc.

138. CHAPPUIS, CLAUDE. 1970. *Vie de la Forêt en Hiver*. One 7-inch, 45 rpm and nine 35 mm colour transparencies. Jacana, Paris.

The calls or songs of eleven birds, and the vocalisations of four mammals.

139. KOCH, LUDWIG, and HAWKINS, DESMOND. 1970. *Ludwig Koch: Recollections and Recordings*. One 12-inch 33.3 rpm, RED 66M, B.B.C. Wildlife Series 1. B.B.C. Radio Enterprises.

A sequel to 128. Thirty-eight of Ludwig's recordings from the B.B.C. Sound Archives are included.

140. SIMMS, ERIC. 1970-71. *Highland Birds, Wildlife of East Anglia, Woodland Birds, and Back Garden Birds*. Four 12-inch, 33.3 rpm discs, RED 74M, 83M, 103M and 109M, B.B.C. Wildlife Series 4, 7, 10 and 9. B.B.C. Radio Enterprises.

Popular selections of species, mostly avian, grouped by habitat or season, and taken largely from recordings made by B.B.C. staff, particularly Eric Simms.

141. LEWIS, VICTOR C. 1970. *Bird Sounds in Close-Up. Volume Two*. One 12-inch 33.3 rpm and leaflet, MAL 1316. Marble Arch, Pye Records (Sales) Ltd, A.T.V. House, Great Cumberland Place, London W1.

A sequel to 129.

142. LEWIS, VICTOR C. 1970. *Guess the Birds*. One 12-inch 33.3 rpm and leaflet, XLP 50011. EMI Records, Hayes, Middlesex.

'A new arrangement of bird songs and calls providing entertaining instruction and a test of skill in aural recognition'. So says the blurb, and the reviewer has no reason to challenge the description.

143. TEMBROCK, G., and SCHUBERT, MICHAEL. 1970. *Stimmen der Vögel Mitteleuropas: II Wasservögel and III Vögel in Haus, Hof und Garten*. Two 12-inch 33.3 rpm, Eterna 8.20.999 and 8.21.112. Veb Deutsche Schallplatten, 108 Berlin, Reichstagufer 4/5, West Germany.

Successors to 119. Selections totalling about 60 species grouped by habitats, including one or two rarely recorded ones, such as the Hawfinch *Coccothraustes coccothraustes* and the Middle Spotted Woodpecker *Dendrocopos medius*.

144. BONDESEN, POUL. 1970. *Bird Song at Fuglsang* (Danish). One 7-inch 33.3 rpm. Refugium Fuglsang, 4891 Toreby L, Denmark.

A dozen musical species taped in the grounds of an old manor on an island in south Denmark, including a Blackbird that sings a motif identical with Brahms' 2nd Symphony, 2nd movement, 2nd theme.

ACKNOWLEDGEMENTS

I should like to thank those who sent discs; also Mrs A. Ludvik for typing this paper, and P. J. Sellar and Peter Copeland for undertaking reviews.

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Flight identification of European raptors

Steen Christensen, Bent Pors Nielsen,

R. F. Porter and Ian Willis

PART 2. KITES, BOOTED, BONELLI'S AND SHORT-TOED EAGLES, OSPREY

Here we are dealing with a miscellany of the larger raptors which, apart from the two kites, have little in common and are generally not difficult to identify. Bonelli's Eagle *Hieraaetus fasciatus* is the only one of these that exhibits a complicated range of plumages (linked with age), but the Booted Eagle *H. pennatus* has distinct light and dark phases which may cause the observer to think they are separate species. The light phase Booted Eagle, Bonelli's Eagle, Short-toed Eagle *Circaetus gallicus* and Osprey *Pandion haliaetus* all show whitish underparts in many plumages, though confusion is really only likely between the last two. The dark phase Booted Eagle, Red Kite *Milvus milvus* and Black Kite *M. migrans* form a group of similar size, jizz and coloration (especially of the upperparts). Figs. 14 and 15 on pages 436 and 438 show the main flight characters from underneath and particular points are commented on in the facing texts on pages 437 and 439 with brief outlines of the areas of Europe, the Middle East and north Africa in which each species may be seen. Figs. 16-23 on pages 441-455 illustrate the under- and uppersides in various plumages and wing positions (while plates 65-72 further emphasise some points). Fig. 13 below shows the basic head-on soaring profiles, though like those of all birds of prey they may vary with weather conditions. See also page 249 of part 1 for some definitions.

Pandion



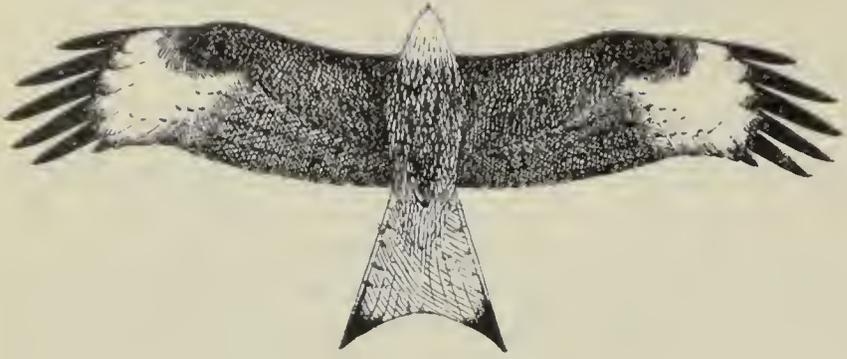
Milvus



Hieraaetus
Circaetus



Fig. 13. Head-on soaring profiles of Osprey *Pandion haliaetus*, true kites *Milvus*, and Booted and Bonelli's Eagles *Hieraaetus* and Short-toed Eagle *Circaetus gallicus* (but see text for details)



A



B



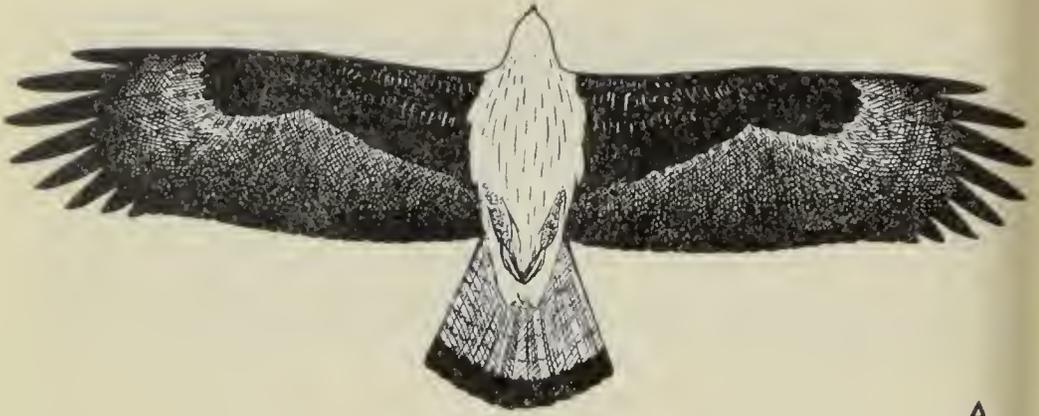
C

Fig. 14. Typical undersides of two kites and Booted Eagle

A. **Red Kite** *Milvus milvus* (pages 440-441, plates 65-66a). Rather slim, rakish build with long, angled wings and long, well-forked tail. Pure white wing-patches usually appear in startling contrast to blacks, browns and rufous-browns; head also normally much whiter than Black Kite, but immature can be confused with well-marked immature of that species. Flight very buoyant with tail constantly manoeuvred; and soars on slightly arched wings. Central Wales, most of continental Europe east to western Russia (but only south Sweden in Fenno-Scandia and not north France to Denmark or south Balkans), Caucasus to north Iran, and north-west Africa; only March-October in northern parts of range except for sedentary population in Wales and to some extent Sweden, remainder moving south to winter in Mediterranean region including North Africa, Middle East and south Balkans

B. **Black Kite** *Milvus migrans* (pages 442-443, plates 66b-67). Basically much dingier and more compactly built than Red Kite with tail only slightly forked. Pale primary patches variable, but typically as shown; immature can be confused with Red Kite. Flight similar to Red Kite though lacking same grace and finesse; often patrols lakes and rivers, scooping offal and dead fish from water with feet. Most of Europe, April-September, except Britain, Ireland, north France, Fenno-Scandia and south Greece; also North Africa, Turkey and Middle East; passage through whole Mediterranean area, mainly in April and August-September; most winter in Africa, but a few as far north as Balkans and west Turkey

C. **Booted Eagle** *Hieraaetus pennatus* (pages 444-446, plate 68). LIGHT PHASE SHOWN. Shape and size similar to buzzard group, but tail proportionately longer than Buzzard *Buteo buteo* itself. In light phase this combination and black and white coloration eliminate all other European species, though watch for confusion at distance with Egyptian Vulture *Neophron percnopterus*. (For less common dark phase see pages 444-446.) Flight swift and agile with deep wing-beats interspersed with glides; soars on level wings. Iberia, north-central France, Balkans, south Russia, Turkey and north-west Africa, April-October; on passage Mediterranean region from Spain to Middle East, mainly April-May and September



A



B



C

Fig. 15. Typical undersides of two eagles and Osprey

A. **Bonelli's Eagle** *Hieraetus fasciatus* (pages 446-449, plate 69). ADULT SHOWN. Medium-sized eagle: appears rather broad in wing and long in body and tail; head small and well protruding; wings held straight out from body when soaring, often with front and rear edges seeming nearly parallel, and shape can be strongly reminiscent of Honey Buzzard *Pernis apivorus* (part 1), especially at distance; tail fairly long and sometimes looking very narrow in contrast to rather broad wings. Much variation in plumage related to age: adult distinctively black, grey and white, blackest round wing edges, on underwing coverts (which contrast well with pale light feathers and white body) and at end of tail in broad band; juvenile, immature and sub-adult show various combinations of brown, pale brown and pinkish-rufous (pages 448-449 for details). Soars on wings held level. Mainly resident (but generally scarce) Iberia, north-west Africa, most larger Mediterranean islands, Greece, Turkey and Middle East

B. **Short-toed Eagle** *Circus gallicus* (pages 450-453, plates 70-71). Large size, long, broad wings and very pale appearance are best guide; head broad and thick-set. Amount of patterning variable: occasional individuals appear almost wholly white below, with very few dark markings, while others show considerable dark patterning on wings and body; small minority lack the dark brown hood seen here or show only traces of it in pale buff-brown, but though variable it is typical of majority (fig. 22 on page 453). Soars on flat wings and hovers when hunting. Most of Iberia, south and west France, Italy and east Europe north to Baltic States and across Russia to Urals, also Turkey, Middle East and north-west Africa, April-October; passage Mediterranean area, mainly April and September-October

C. **Osprey** *Pandion haliaetus* (pages 454-455, plate 72). Long, slightly angled wings, rather short tail and smallish, protruding head; fairly narrow hand with only five emarginated primaries. Large black carpal patches contrast strongly with white body, white underwing-coverts and generally pale appearance of underwing; buff-brown pectoral band variable in extent; unique black and white head pattern. Soars on sharply bowed wings like larger gulls *Larus spp* with which it can often be confused at distance. Fenno-Scandia and much of east Europe south to Black Sea and Caucasus, also isolated populations in Scotland, south Iberia, north Africa and some larger Mediterranean islands, April-October; passage most of Europe, April and August-October; a few winter around Mediterranean, but most farther south

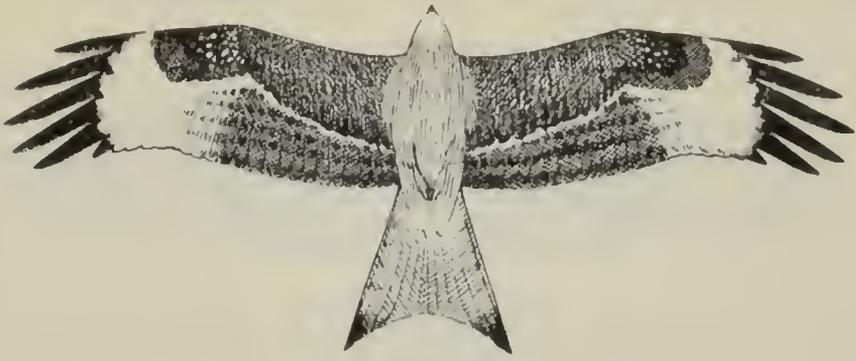
Red Kite *Milvus milvus* (pages 440-441, plates 65-66a)

Silhouette Larger than Buzzard *Buteo buteo* (part 1), though of similar body length. Wings long, fairly broad and set well forward on rather slim body, an effect accentuated by the long tail. Tail shows a slight notch even when fully spread and a deep fork at other times. In head-on profile when soaring, wings very slightly arched.

Flight In soaring, which it does frequently and magnificently, wings are held slightly forward from the body and often kinked with the carpal joint pressed forward. Wings constantly manoeuvred independently of each other and tail flexed from side to side with tips likewise moving independently. Flight easy, graceful and at times somewhat tern-like, the body rising and falling with the wing beats which are fairly deep, elastic and slower than those of Buzzard.

Identification Likely to be confused only with Black Kite (pages 442-443). Red Kite is slightly larger but slimmer, lacking Black's more thick-set appearance, but this may not always be obvious unless the two are seen together. Otherwise, apart from Red Kite's more graceful movements, best distinction is shape and colour of tail: whereas Black's is straight-ended when spread, Red always shows at least a faint notch and normally a deep fork (compare the two in plates 65-67); Red Kite's tail is also much redder than that of even the most brightly marked young Black and against the light is a rich translucent orange (at best dull orange in the case of the Black Kite). At the same time, Red Kite's whole plumage is paler and brighter, being a mixture of red-browns instead of sombre browns; the head is whitish, nearly always paler than that of the Black, and the pale band across the upperwing-coverts is much broader and more conspicuous.

NOTES ON FIG. 16 (*opposite*). Immature from below (16A) has russet-brown underparts with light ochre streaks, black primaries with a large white patch at the base nearly filling the width of each wing, and a russet tail with blackish outer tips. Adult from below (16B) is darker, more reddish-chestnut with chestnut-brown wings, less noticeable white patches at the bases of the primaries, and a brighter reddish-brown tail, still with black corners. Adult from above (16C) has a whitish crown, rather darker reddish-chestnut body and rufous-brown forewing, brown-black primaries and secondaries, and an often conspicuous but not necessarily clear-cut buffish band across the greater coverts; immature from above (not illustrated) is similar, but has a brown head with whitish streaks around the neck



A



B



C

Fig. 16. Immature and adult Red Kites *Milvus milvus* from below and adult from above

Black Kite *Milvus migrans* (pages 442-443, plates 66b-67)

Silhouette A little smaller and more compact than Red Kite (compare 14A and 14B on page 436). Wings and body have coarser and more thick-set appearance; from side wings look well bowed forward. Tail shorter and less deeply forked, becoming almost straight-ended with triangular shape when spread. In head-on profile when soaring or gliding, wings slightly arched.

Flight In soaring or gliding, slightly arched wings are rarely held rigid, but constantly flexed giving buoyant effect; tail also manoeuvred like Red Kite's. In active flight, wing beats are slower and more floppy than those of Buzzard *Buteo buteo* (part 1) and interspersed with glides; head often pointed downward as bird peers from side to side, combining with the slightly arched wings to give hunched look (plates 66b-67 show this well).

Identification Possibility of confusion, particularly of well-marked immature, with Red Kite (pages 440-441) and caution needed in identifying young kites on autumn passage. Black more thick-set and less graceful with duller and less forked tail. (Note too that Black start to move south in August and most have left Europe by end September, while October is main passage month for Red; in breeding season Black often frequent town edges, rubbish dumps and water, whereas Red are found more in open, lightly wooded country, but there is considerable overlap). May also be confused with all-brown Marsh Harrier *Circus aeruginosus* (part 4), but flight very different: Black Kite soars and glides on slightly arched wings and twists tail constantly from side to side, while Marsh Harrier always has wings raised in shallow V. Dark-phase Booted Eagle (pages 444-446) can sometimes be confused, but Black Kite has tail forked when closed and straight-ended when spread, while Booted has tail straight-ended when closed and rounded when spread; other distinctions under Booted.

NOTES ON FIG. 17 (*opposite*). Immature from below (17A) has dark russet-brown underparts with yellow-buff tips to the feathers (particularly noticeable on the lower body at close range), dark brown wings with a pale area at the base of the primaries (variable in extent even at this stage) and a dark yellowish-brown tail with faint bars and a darker tip; overhead, the tail can appear a translucent rufous—not unlike a Red Kite's tail, but duller—and this and the generally brighter plumage of the immature can cause confusion between the two. Adult from below (17B) is much darker, being largely grey-brown apart from a slightly paler area at the base of the primaries and even that is often absent; the head frequently has a greyish wash and the underparts a faint rusty tinge. Adult or immature from above (17C) is wholly blackish-brown with a pale buffish-brown band across the greater coverts: this is not nearly so conspicuous as the corresponding band on the Red Kite, but is quite distinctive



A



B



C

Fig. 17. Immature and adult Black Kites *Milvus migrans* from below and typical bird from above

Booted Eagle *Hieraaetus pennatus* (pages 444-446, plate 68)

Silhouette Size approximately as Buzzard *Buteo buteo* (part 1), but head and body slimmer, wings narrower and tail longer; wings also noticeably more angled when gliding than those of *Buteo*. Distant silhouette not unlike Black Kite (pages 442-443), but tail square-ended when closed and rounded when spread. In head-on profile when soaring, wings flat with hands often below level; when gliding, wings slightly lowered.

Flight In soaring, wings are held slightly forward and spread tail is often flexed from side to side. In gliding, wings are angled forward and slightly lowered. Active flight is swift and agile with four or five loose flaps followed by a glide: wing beats are deeper than Buzzard's and not unlike those of a harrier *Circus* (part 4).

Identification Of the two distinct colour phases, the light (18A) outnumbered the dark (18B) by about 7:3 in Europe. Light phase with white underbody and forewings contrasting with black flight-feathers can only be confused at a distance with Egyptian Vulture *Neophron percnopterus* (part 5), but latter is noticeably larger with longer, more pointed wings and wedge-shaped tail. Dark phase is more difficult and may be confused with Marsh Harrier *Circus aeruginosus* (part 4) or Black Kite (pages 442-443) and in silhouette with buzzards *Buteo* (part 1, but see above). Easily distinguished from Marsh Harrier at

[continued at foot of page 446]

NOTES ON FIG. 18 (*opposite*). Light phase adult from below (18A) has white wing-coverts and body lightly streaked with rufous (streaking variable, but usually difficult to see in the field); undertail white to pale grey with variable dark smudging forming an ill-defined band at the end and sometimes a short way up the central feathers; flight-feathers blackish with a pale wedge on the inner primaries and outer secondaries. Light phase immature is almost identical with the adult, but lacks the latter's usually discernible darkish patch below each eye and is more gingery on the underbody. Dark phase adult from below (18B) is entirely blackish-brown, except for the pale wedge on the inner primaries and outer secondaries (as in the light phase) and a paler greyish-brown tail which often shows an orange tinge, especially against the light. Dark phase immature is indistinguishable from the adult. Both phases also show a characteristic thin pale border to the rear edge of the wings and the end of the tail when soaring against the light (not illustrated here, but visible on plate 68, particularly 68c). From above (18C), both phases and all ages are similar and at first glance may be confused with a kite, especially a Red Kite: a conspicuous broad band of pale buffish-brown extends across the wing-coverts and scapulars, and the tail-coverts are the same or whitish, all contrasting with dark brown mantle and back, blackish primaries and secondaries and grey-brown tail



A



B



C

Fig. 18. Light and dark phase **Booted Eagles** *Hieraetus pennatus* from below and typical bird from above

Bonelli's Eagle *Hieraaetus fasciatus* (pages 446-449, plate 69)

Silhouette Much larger than Buzzard *Buteo buteo* (part 1) and approaching Short-toed Eagle in size (compare 15A and 15B on page 438). Head small but noticeably protruding. Wings broad with nearly parallel edges, though hand slightly narrower than arm. Tail longer than breadth of wing and can appear conspicuously long. In head-on profile when soaring, wings more or less flat; when gliding, almost flat or occasionally slightly below horizontal.

Flight In soaring, which it does far less readily than most other large raptors, wings are held flat at right angles to body and tail is usually only partly spread. In gliding, wings are almost flat with the carpal joints pressed forward in such a way that the leading edges are angled while the rear edges are still nearly straight (carpal joints even more accentuated in fast gliding); appearance is then not unlike large Honey Buzzard *Pernis apivorus* (part 1) or even Goshawk *Accipiter gentilis* (part 8). Active flight is swift and agile with powerful, but not deep, wing beats frequently interspersed with glides and occasionally with stoops.

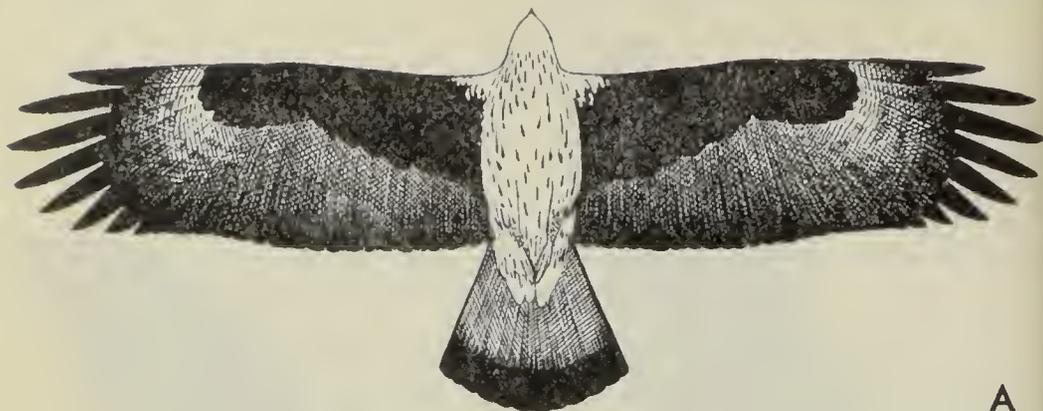
Identification Adult with white underbody and forewings (20B) may be confused with light phase Booted Eagle (pages 444-446) on poor view, but pattern and wing shape are really quite distinctive and there should normally be no difficulty. Also, white patch on back of adult (19A, 19B) is characteristic and visible at ranges of 1-2 km. Immatures do not show this, however, and because of the variation in plumages are much more likely to be misidentified: silhouette is still a useful guide, but the section dealing with immature plumages should be studied (pages 448-449).

[**Booted Eagle:** continued from middle of page 444]

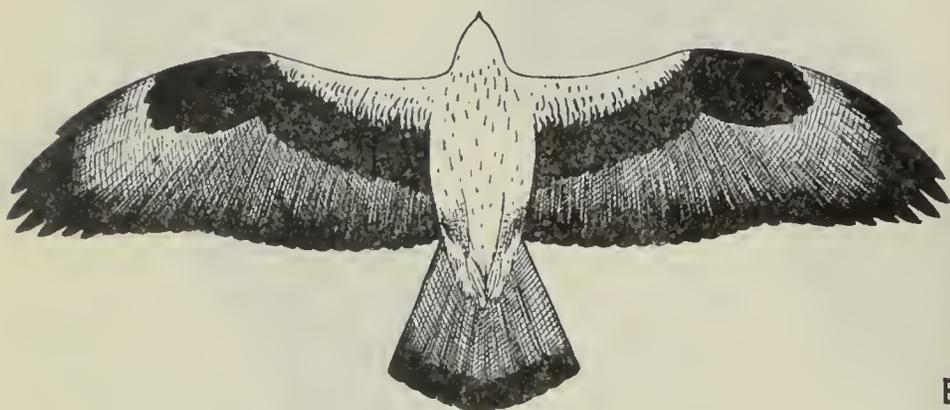
any distance, however, by its soaring on flat, not raised, wings; and from Black Kite by shape of tail, but care needed as Black Kite shows a straight end when spread (forked when closed) and Booted a straight end when closed (rounded when spread). Pale wedge on inner primaries and outer secondaries, thin pale border to rear edge of wings and tail (plate 68c) and sometimes discernible white shoulder-patches are added features of Booted.



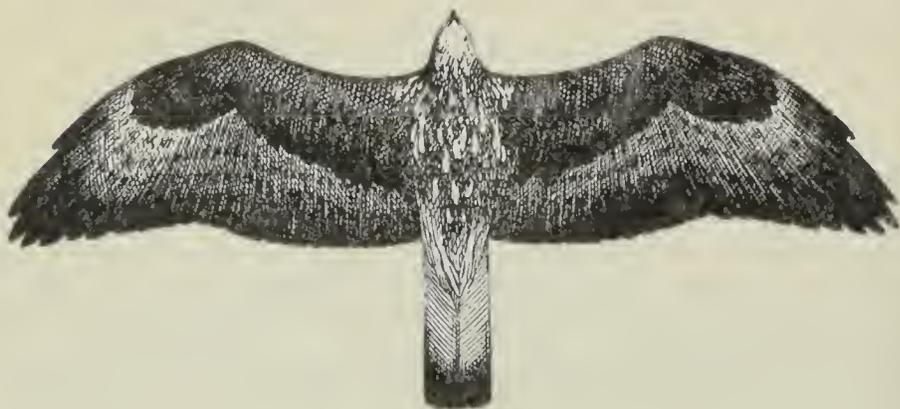
Fig. 19. Two adult **Bonelli's Eagles** *Hieraetus fasciatus* from above. Their most striking feature, and one of the best identification characters when it can be seen, is the white patch on the back: this varies in intensity (it is particularly obvious in bright sunlight) and also considerably in extent, sometimes covering only the mantle and shoulders (19A) and sometimes covering the whole back or even extending just on to the rump (19B); this variation seems to be due to age with the amount of white increasing as the bird grows older. The rest of the upperparts are also characteristic, with the wing-coverts, the rump and most of the tail a dark grey-brown contrasting with noticeably darker flight-feathers and a broad, black, terminal tail band which shows to a greater or lesser extent. Immatures (not illustrated here, but for undersides see 20C on page 448 and 20D and 20E on page 449) lack the white patch on the back and have the terminal tail band less well-defined or even absent: they are uniformly dark greyish-brown above with rather darker flight-feathers and sometimes a small, narrow, pale panel on the primaries



A

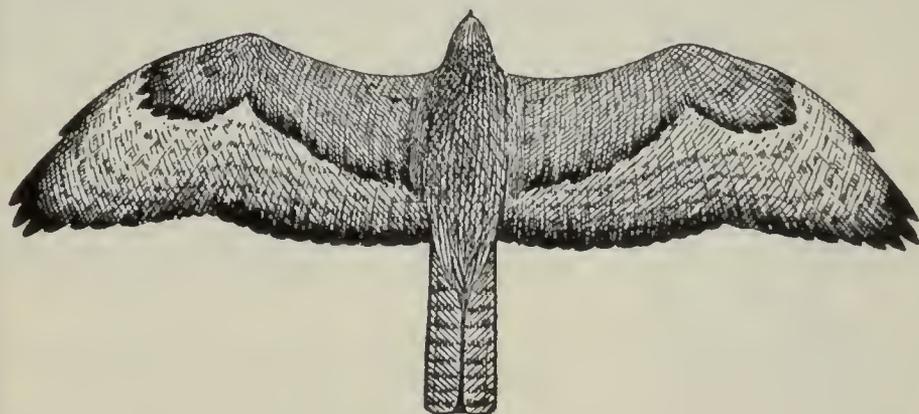
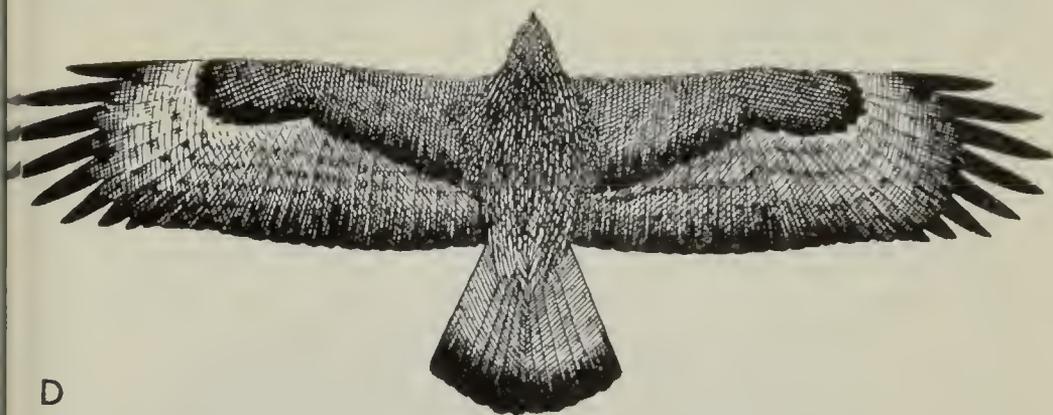


B



C

Fig. 20. Two adult and three immature **Bonelli's Eagles** *Hieraetus fasciatus* from below. The adults (20A, 20B) have silky white throat, body, legs, and leading edge to the wings: these areas, though finely flecked with brown (plate 69b), often appear gleaming white. The white leading edge is much less extensive in some (20A) than



in others (20B), those with more white probably being older (as with the white on the back in 19A and 19B), but at a distance the wings as a whole look generally dark in contrast to the body. Apart from the leading edge, the underwing coverts are actually black and form a broad band of slightly variable depth along the middle of each wing (plate 69a); the flight-feathers are light greyish with darker tips that produce an ill-defined border around the wings, but there is also a pale whitish area at the base of the primaries, often particularly noticeable against the light (again plate 69a). The tail is greyish with a conspicuous black terminal band. The other three sketches, in decreasing order of age, indicate how different the immatures are from the adults. The youngest (20E) has light ginger-buff or reddish-brown body and underwing coverts, the latter tipped with blackish forming a sometimes conspicuous line along the middle of each wing; the flight-feathers are greyish with darker tips which tend to produce an ill-defined border to the wings, while the tail is gingery or red-brown and lightly barred. (There is much variation among immatures at this stage: in north Africa and the Middle East, for example, they can appear entirely vinous-buff below apart from slightly darker wing tips.) In transitional stages (20D, 20C) the tail band starts to appear, the gingery coverts are replaced by darker ones and, while there are still blacker lines along the middle and the rear edge of each wing, further contrast is provided by the development of the whitish area at the base of the primaries (20D); this last grows more conspicuous as the wings darken further, and broad white streaks start to appear on the body (20C)

Short-toed Eagle *Circaetus gallicus* (pages 450-453, plates 70-71)

Silhouette Medium-large eagle, larger than any of the other raptors in this section. Head broad and well-protruding. Wings long, broad and rather square-ended with very full primaries which at times give an appearance recalling a Lapwing *Vanellus vanellus*. Tail of medium length and a little shorter than breadth of wing. In head-on profile when soaring, wings usually more or less flat, but occasionally raised slightly, particularly if heading into the wind; when gliding, arms raised very slightly and hands correspondingly drooped.

Flight In soaring, wings are held very slightly forward and more or less flat (though see above). In gliding, wings are angled not unlike shallower version of Osprey in similar circumstances; carpal joints are also pressed well forward and rear edges vary from straight to kinked with bulging primaries, the latter especially typical in strong winds when bird seems to hang in sky. In active flight, wing beats

[continued on page 452]

Fig. 21 (*opposite*). Four **Short-toed Eagles** *Circaetus gallicus* from above. Most plumages show a distinct contrast between dark brown to black flight-feathers and pale greyish to buff-brown wing-coverts and back, but there is much variation and 21B, 21C and 21D are all common types; the colour of the coverts and the back also changes in different lights from greyish-buff to warm golden-brown. In pale birds the black on the wings may join across the lower back, so that the rump and upper-tail-coverts are separated from the other light parts. A whitish area may be formed on the primaries by translucent feather-shafts (21B). On the other hand, some individuals are almost entirely blackish-brown, though even these invariably show some paler, golden-brown coloration on the nape, back and forewing-coverts (21A); it seems that those with the darkest upperparts are also the most heavily marked below (*cf.* 22A). In all types, the three tail bands are sometimes obvious, but the basal two tend to be less conspicuous than the distal one and at a distance the tail simply appears rather pale with a darker terminal band



PLATE 65. Red Kites *Milvus milvus*, Wales, May (photos. M. Condry). Above, adult with whitish head, not so conspicuous whitish patches at bases of primaries and less deeply forked tail; note also the long, angled wings and noticeable twist of the tail in manoeuvring. Right, immature with browner head, bolder white wing patches and less deeply forked tail (also more spread here). Below, note arched wings when gliding (pages 440-441)





PLATE 66. Above, three Red Kites *Milvus milvus*, Spain, May; below, Black Kite *M. migrans*, West Pakistan, November (photos: Eric Hosking). The right-hand bird above is flapping, but otherwise these two photos show the arched wings of both species when gliding. Compare the straight rear edge of the Black Kite's spread tail with the Red Kite's ever-present fork (see also in plate 65b). The tails of the lowest Red and the Black are twisted out of the horizontal, illustrating how both species characteristically use them in manoeuvring (pages 440-441, 442-443)





PLATE 67. Black Kites *Milvus migrans*. Above left, adult, France, August (photo: Pierre Petit), showing soaring silhouette with small head, triangular tail and wings slightly forward (missing 6th and 7th primaries give pinched effect here). Above right, immature, West Pakistan, November (photo: Eric Hosking), with pale-based primaries, brighter markings and still less forked tail. Below, in Switzerland, head-on profile and from above (photos: Claus F. Pedersen) and taking off from water (photo: J. F. Ormond): note pale diagonal on inner wing (pages 442-443)





PLATE 68. Above, two light phase Booted Eagles *Hieraetus pennatus* and, below, two dark phase, France, August (*photos: Pierre Petit*). These show the structure, not unlike a Buzzard *Buteo buteo*, but with slimmer head, slightly narrower wings and longer tail. Note the translucent wedges at the junctions of primaries and secondaries in all four and, below left, the translucent rear edges to wings and tail when against the light. The dark phase bears a resemblance to a Black Kite *Milvus migrans*, but the fanned tail is rounded, not straight-ended (pages 444-446)





PLATE 69. Bonelli's Eagles *Hieraaetus fasciatus*. Above, adult, Spain, May (photo: Pierre Petit); note the broad wings, long tail (looking unusually wide here) and well-protruding head, in all not unlike a thick-set Honey Buzzard *Pernis apivorus*, and the black tail band and translucent patch on the primaries. Below, adult flying from nest, Spain (photo: P. Van Groenendael and W. Suetens). Both these show the finely streaked white underbody and forewings, and the generally dark greyish wings with a broad black stripe along the middle of the underside (pages 446-449)





PLATES 70 and 71. Short-toed Eagles *Circus gallicus*. Above and also top left, France, May and April (photos: Pierre Petit). Top right, migrant, Lebanon (photo: Claus F. Pedersen). Inset right, migrant, Turkey, September (photo: M. J. Helps). Far right, hovering, Jordan, April (photo: Eric Hosking). Except the one at top right, these are all dark-headed birds with heavily patterned underwings. The two at top left were female (slightly larger) and male. Long, broad wings with full primaries produce a shape not unlike a Lapwing *Vanellus vanellus* (pages 450-453)





PLATE 72. Above, migrant Osprey *Pandion haliaetus* overhead, West Pakistan, November; and below, adult landing at nest, Connecticut, June (photos: Eric Hosking). Note the pure white underparts, characteristic head markings, dark band along the middle of the wing, and black carpal patch; when seen against the light from beneath, the spread tail becomes whitish and translucent. The inset shows the long, angled wings with long, narrow hands causing confusion with gulls (pages 454-455)





A



B



C



D

[continued from middle of page 450]

are deep and powerful, rather like those of Golden Eagle *Aquila chrysaetos* (part 3), and interspersed with glides. Except on migration, spends much time hovering in search of prey (plate 71D).

Identification Likely to be confused only with Osprey (pages 454-455) and then merely because both are large and pale. Osprey, however, has narrower and proportionately longer wings which are more angled and gull-like; it also has dark carpal patches, a dark band along the middle of the wing and otherwise gleaming white underwing-coverts and underbody, whereas Short-toed's barring, though sometimes very fine, makes it at best very pale rather than gleaming white. At closer ranges the characteristic head shape and head markings of each species can easily be seen. Dark-headed, heavily barred Short-toed can recall Honey Buzzard, but lacks the latter's dark carpal patches and distinctive spacing of tail bands, and is also much larger. On autumn migration dark-headed outnumber white-headed by about 9:1 and it has been suggested that the former are young birds and the latter old ones, but there is at present no evidence to support this.

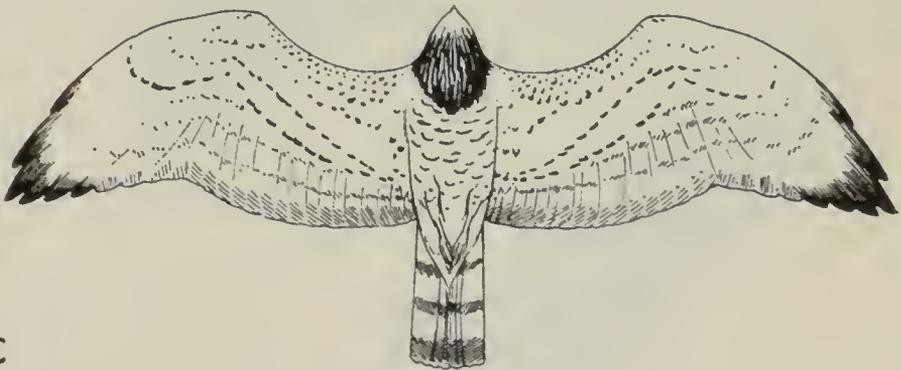
Fig. 22 (*opposite*). Four Short-toed Eagles *Circus gallicus* from below. The basic coloration is white and at a distance most individuals look off-white underneath with a distinct dark hood and black tips to the primaries (22B, 22C). Some have very dark chocolate hoods and much stronger blackish-brown markings on the wings and underbody (21A), the latter recalling the pattern of a Honey Buzzard *Pernis apivorus* (part 1). Others, but these are the least common, have white heads and almost unmarked wings (21D) apart from the black tips to the primaries, which remain in all plumages. Three fairly distinct bands on the tail are obvious even in the most lightly marked individuals. The cline of plumages from those with very dark heads and heavy patterning to those with white heads and few markings is not properly understood, though it may be linked with age



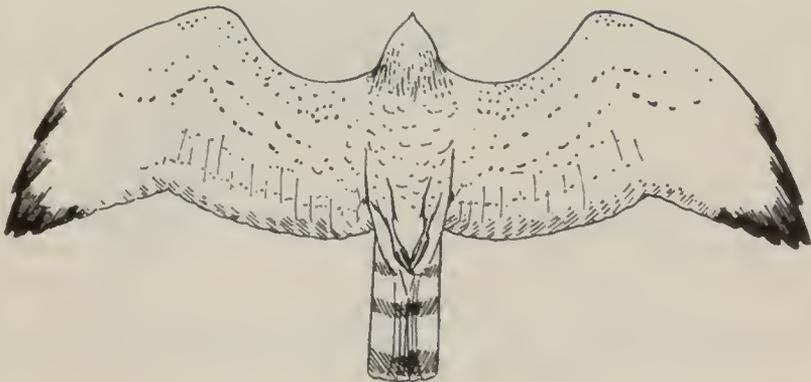
A



B



C



D

Osprey *Pandion haliaetus* (pages 454-455, plate 72)

Silhouette Medium-large, long-winged raptor with medium-short tail. Wings in most positions are decidedly angled and hands look long and narrow, giving appearance not unlike large gull *Larus sp.* Head fairly small, but neck well-protruding with upward curve. In head-on profile when soaring or gliding, wings sharply bowed in manner of large gull.

Flight In soaring, arms are raised and hands lowered, thus giving sharply angled or bowed appearance to the wings; in gliding, the carpal joints are also pressed forward. Wing beats rather loose and shallow, but powerful, and interspersed with long periods of gliding. Captures fish by gliding over water, occasionally hovering momentarily and then diving headfirst with feet thrown forward and down as it submerges with a huge splash.

Identification Confusion hardly possible with any other raptor except Short-toed Eagle (pages 450-453), and even then Osprey is noticeably smaller with a narrower head and thinner and proportionately longer wings which are more angled and gull-like; it also has black carpal patches and a dark band along the middle of the wing, while the underbody and underwing-coverts are gleaming white rather than, at best, very pale or whitish. Observers should beware, however, of possibility of overlooking distant Osprey as large gull, the shape and basic coloration being very similar.

NOTES ON FIG. 23 (*opposite*). Adult and immature very similar from below (23A): throat white bordered by black where the stripe through each eye extends on to the sides of the neck; underbody and underwing-coverts white, often strikingly so, except for the broad but variable band of buff and brown streaks (less defined in the immature) across the upper breast and the wide band of blackish along the rear edge of the coverts in the middle of the wings; the last joins the black carpal patches and further contrast is provided by the black wing tips; otherwise the primaries, secondaries and tail are narrowly and indistinctly barred with grey. In contrast to the largely white underparts, the upperparts are mainly dark brown. Adult from above (23B) is uniformly dark except for the white head and slightly paler tail. Immature from above (23C) is generally lighter brown and speckled with creamy white. Tails of both adult and immature become translucent when spread, particularly seen against the light, and can then seem whitish or slightly rufous



Fig. 23. One Osprey *Pandion haliaetus* from below and adult and immature from above

Dippers feeding on marine invertebrates

Wim Vader

For three hours during the morning of 10th October 1967, I watched a number of Dippers *Cinclus cinclus* foraging in the brackish innermost basin of the Esefjord, Sogn og Fjordane district, western Norway. Feeding on marine life is scarcely mentioned in the modern ornithological literature on this species.

ENVIRONMENT AND MARINE FAUNA

The Esefjord, which joins the Sognefjord near Balestrand, is a narrow, relatively shallow fjord not more than five kilometres long between high, steep mountains. It receives a considerable volume of fresh water and, especially in the innermost basin near Esebotn, is consequently very brackish. Judging from the fauna, these upper reaches are best classified as mesohaline (mean chlorinity 3-10 parts per 1,000). Chlorinity values below 2.5 parts per 1,000 were obtained in October 1967, but they may have been lower than normal as that autumn was exceptionally wet. At Esebotn the fjord is very shallow: from the eastern shore the bottom slopes gradually to a maximum depth of about one metre at ebb tide. Several small streams run out over this shore, which consists mainly of pebbles on hard clayey mud with a partial vegetational covering of a short, stunted seaweed of the genus *Fucus*. The north-east shore is somewhat steeper and strewn with large boulders; there the direct influence of fresh water is less marked and a more luxuriant vegetation of bladder wrack *F. vesiculosus* and egg wrack *Ascophyllum nodosum* has developed. The bottom of the basin consists of soft mud sparsely covered with patches of a green alga *Enteromorpha* and a layer of decaying leaves.

The epifauna (organisms on and above the bottom) is very poor in species, as is usual in mesohaline habitats, though those present are in abundance. It consists of the amphipods *Gammarus duebenii* and *G. zaddachi* (*sensu stricto*), the isopod *Jaera albifrons*, the periwinkle *Littorina saxatilis* and the mussel *Mytilus edulis* (small ones only). *G. zaddachi* and *Littorina* occur throughout the basin, *Jaera* and *Mytilus* mainly subtidally; *G. duebenii*, on the other hand, is completely restricted to the intertidal zone, and even there it is greatly outnumbered by *G. zaddachi*. The fauna in the muddy bottom is not considered here, as it is unlikely that Dippers prey on burrowing species.

METHODS OF FORAGING AND OTHER BEHAVIOUR

Dippers were present throughout the period of my observations and I counted up to seven at a time. Only two methods of foraging were

common. In the first, a Dipper would simply jump into the water from one of the boulders along the north-east shore, particularly from the stones at the edge of a small jetty projecting a few metres. (There the depth was only ten to 30 centimetres, with an abundant growth of *Fucus* and *Ascophyllum*.) Usually it was under water for only four to eight seconds before surfacing not far from the spot where it had submerged and flying back to the same stone. In the second method, one would fly out to the centre of the basin to land in water 40 to 100 centimetres deep; it usually swam around for a few seconds and then started an unbroken series of two to five dives, each normally lasting ten to 15 seconds, with an observed maximum of 29 seconds. In this case it often surfaced some distance from its point of submergence, especially in the shallower part of the basin. Between dives it swam (or possibly just floated) on the surface; on a few occasions one was seen to dip its head under water while swimming, in the manner of a Black Guillemot *Cepphus grylle*. After the series of dives, the bird would take off and fly to the shore. No holding or swallowing of food was ever observed, so the prey items must have been small.

Occasionally I watched a Dipper walk into the water from the flat, pebbly eastern shore. Foraging in the intertidal zone was not observed at all, although the large numbers of *Gammarus* and *Littorina* there were easily available and were being eagerly exploited by a flock of Starlings *Sturnus vulgaris*. Instead, the Dippers frequently used the eastern shore for bathing. Close encounters between two to five birds while bathing or foraging at the most favoured spots almost invariably resulted in pursuit-flights, in which they chased each other rapidly and usually low over the water, calling loudly, until the leading bird dived, to be followed immediately by the others. Such dives were normally very short, and on surfacing the birds usually flew off in different directions; in a few cases the pursuit was taken up again and the whole performance repeated.

DISCUSSION

In the European ornithological handbooks, the only mention of the Dipper feeding on marine animals is in Bannerman (1954: 362): 'Less often it is found on the sluggish rivers or tidal estuaries, though it will frequent the latter in winter and during severe frosts may even be encountered occasionally on the seashore.' Creutz (1966: 78-80) gave a long list of prey animals, but this did not include any marine or brackish-water species. Nevertheless, earlier records in the Scandinavian ornithological literature show that this behaviour is by no means exceptional. For example, Collett (1921: 186-187) noted that in northern Norway he had repeatedly seen Dippers foraging in the intertidal zone or in the sea, and that a pair which nested along

a small stream near the sea in Sunnfjord, western Norway, obtained more of their prey from the seashore than from the stream itself. More recently, Högström (1962) has described a series of winter observations along the brackish coast of Gotland in the Baltic Sea. In none of these cases, however, did the author give any information concerning the food taken. In the Esefjord *Gammarus zaddachi*, *Jaera albifrons* and *Littorina saxatilis* are the most likely prey; *G. duebenii* is restricted to the intertidal zone, while *Mytilus edulis* is not easily dislodged. A few small fish and opossum shrimps (Mysidacea) may have been present in the central basin, but none was seen or caught.

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Notes

Moorhen killing Jackdaw In view of A. Blackett's note (*Brit. Birds*, 63: 384), the following incident may be of interest. On 28th June 1964, at Corsham Lake, Wiltshire, I was watching a pair of Moorhens *Gallinula chloropus* with five small chicks feeding by some partly submerged willows. A juvenile Jackdaw *Corvus monedula* alighted on a branch of one of the willows at a point only two feet above the water. It moved along the branch until it was near enough to the surface to begin drinking. Suddenly one of the Moorhens flew at the Jackdaw, knocking it into the lake, and followed up the attack by forcing it under the water. About a minute later the Moorhen desisted and returned to its mate; the Jackdaw, with some effort, started to move towards the bank. The splashing it made with its wings attracted the Moorhen again: this time the attack was so vicious that the Jackdaw was drowned.

JULIAN C. ROLLS

The Limes, The Ridge, Corsham, Wiltshire

Colour of soft parts of immature Glaucous Gull On 27th November 1968 I found an immature Glaucous Gull *Larus hyperboreus* just inside the entrance to Shoreham Harbour, Sussex, and was able to observe it in good sunlight for 15-20 minutes at ranges down to about 100 yards. The plumage suggested a fourth-winter bird, but a striking feature was the bright pink colour of the legs, clearly noticeable to the naked

eye. Through binoculars, the tip of the bill was also seen to be pink, though much less bright than the legs. A small dark area in the region of the gonys did not quite extend up to the culmen, and behind this the bill was pale pink fading to horn at the base. The bird was not seen again until 3rd March 1969, when C. F. Helyer found what can hardly be doubted was the same individual at Hove, about two miles to the east. In rather dull conditions he noted that the feet and legs were 'distinctly pink', though not a bright shade. Subsequently, I saw it on five occasions between 18th March and 3rd April. At first, in good light, the leg colour appeared much the same as in the previous November, though not so intense. Later it seemed to fade gradually, but when last seen was still very noticeably more pink than that of the Herring Gulls *L. argentatus* with which the bird associated.

The only previous published record of an immature Glaucous Gull with bright pink legs appears to have been of one seen at Seahouses, Northumberland, on 2nd July 1950 (*Brit. Birds*, 43: 412-413). In that instance the bill was also bright pink except for a restricted dark area at the tip. One of the observers, H. Tully, stated that he could find 'no previous reference to this colour as applying to immature birds, but it may be a summer characteristic of certain stages of immaturity and, so far as the legs are concerned, of adults also, as among others Howard Saunders in his *Manual of British Birds* (1889) and Slater in his *Birds of Iceland* (1901) refer to the "bright pink" of the legs.'

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R. H. Dennis comments: 'The pink legs of Glaucous Gulls, adults and immatures, are a field character which I have just taken for granted and are certainly not unusual for the young of this species. G. T. Kay (*Brit. Birds*, 40: 369-373) stated: "The feet and legs of the adult Glaucous Gull, in the winter, are pinkish flesh colour, distinctly brighter than those of the Herring-Gull. Although the pinkish tint is not so bright in the immature birds, it is pronounced at all ages." I agree with this, but would add that immatures, even in their first winter, can have legs and feet bright flesh-pink, always noticeably brighter and cleaner in colour than Herring Gulls. The pale area on the bill is also flesh-pink. The Glaucous Gulls seen on Fair Isle, sometimes in numbers as large as 300 in November 1969 and up to 50 in November 1970, are birds which are resting after following the off-shore fishing fleets—they are all in excellent condition, feeding on the offal from the fishing boats at sea. In contrast, I would think that those which turn up at rubbish dumps and other places on the mainland are usually weaker individuals and generally in poor condition: this might explain why their soft parts are not usually so brightly coloured.'

We also thank Dr Agnar Ingólfsson for providing the following

analysis of 14 breeding *adults* collected in Iceland: four with legs greyish, no pink tint; eight with pink tint on toes and webs only; one with pink tint on whole legs; and one with yellowish tint on toes and webs only. None was in poor condition, and leg colour was not correlated with body weight; unfortunately, such data were not available for immatures, but clearly the leg colour of healthy adults in summer is somewhat variable. EDS

House Martins apparently roosting in nests of Striped Swallows

On 4th October 1970 I saw several groups of up to 50 House Martins *Delichon urbica* feeding and settled on wires near the Kafue river at Kitwe, Zambia. They had not been present two days previously. A house by the river had a colony of about 40 pairs of Striped Swallows *Hirundo abyssinica* under the eaves, their nests being retort-shaped with tubular entrances up to ten inches long. There were also many unoccupied nests in various stages of collapse, a few of which were tenanted by White-rumped Swifts *Apus caffer*. At intervals throughout the day up to six House Martins, all apparently juveniles with little gloss, were seen flying with and approaching the nests of the Striped Swallows and were heard calling. At dusk I watched from a window below some of the nests and saw two House Martins enter one of a cluster of three nests, only one of which was occupied by Striped Swallows. I watched until well after dark, but did not see them emerge and assumed that they must have roosted there, although I was unable to visit the nests again next morning. E. C. FELLOWES

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Carrion Crow pecking at window panes and putty On the morning of 19th May 1967, near Corsham, Wiltshire, I was awakened by a loud tapping on the bedroom window. The curtains were not drawn and I could see a Carrion Crow *Corvus corone* on the window sill. It moved along the sill, continuously pecking at the glass as it did so. On reaching the end it pecked several times at the putty, which was old and quite hard, before moving back to the centre, still pecking. The crow then flew into a tree, apparently disturbed by my movement, but at once made for the adjoining bedroom window where it resumed pecking at the putty. There the curtains were drawn and it continued for about a minute. It then returned to the first window where it repeated the performance, finally flying off. On examining the windows I found many peck marks on the putty up to 28 centimetres above the level of the sill. JULIAN C. ROLLS

The Limes, The Ridge, Corsham, Wiltshire

This observation was originally received in 1968 but never published; following Mrs Stephanie J. Tyler's on the same subject (*Brit. Birds*,

64: 230-231) and some previous notes, the author resubmitted it. Correspondence on this topic must now be closed, unless new aspects are brought to light. EDS

Display of Krüper's Nuthatches On 24th April 1970 I spent two hours watching Krüper's Nuthatches *Sitta krueperi* on the pine-clad lower slopes of the Taurus Mountains in southern Turkey. One pair was indulging in courtship feeding, the presumed female soliciting food in a crouched, wing-shivering posture. On two occasions this was followed by rapid chases around the surrounding trees. Once the pursuing bird, presumed to be the male, broke off to chase what was probably another male: this chase was brief, the pursuer alighting on a horizontal pine branch and assuming a crouched posture, with head lowered; it remained like this for about five seconds before climbing the adjacent trunk in normal fashion. I watched another individual near-by mobbing a male Red-backed Shrike *Lanius collurio*, flying round it in an agitated manner and frequently alighting on a bush or pine tree, with occasional brief spells of wing-shivering. The commonest utterances during all this time were a short rasping note, sometimes a short ascending whistle, and in the presumed courtship chases a series of low-pitched reedy notes.

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Both M. D. England and Dr H. Löhrl agree that the above note describe parts of the normal courtship and territorial defence behaviour. Wing-shivering, courtship feeding, the crouched posture and chasing are common to most, if not all, species of nuthatch. The literature on the behaviour of Krüper's Nuthatch is very scanty, however, and Dr Löhrl's observations of the species over several weeks in 1961 (during which, incidentally, he did not see the mobbing of a shrike) have not yet been published. It should be added that Mr England has kept and studied various species of nuthatches in aviaries, as has Dr Löhrl whose work has established that the Red-breasted *S. canadensis* of North America, Corsican *S. whiteheadi* and Krüper's, formerly regarded as conspecific with also the Chinese *S. villosa* and Yunnan *S. yunnanensis*, should be treated as separate species (*J. Orn.*, 101: 245-264; 102: 111-132; 103: 418-419). EDS

Multiple nesting of pair of Mistle Thrushes On 25th April 1968 an electrician in charge of a sub-station at Bradwell Nuclear Power Station, Bradwell-on-Sea, Essex, told H.R.T. over the telephone of four nests of 'fieldfares' on his sub-station. As a result, C.W.D. went to investigate. He discovered five nests of the Mistle Thrush *Turdus viscivorus*, each built on top of identical iron and concrete pillars about eight feet in height which supported ceramic insulators.

These pillars are regularly spaced about 20 feet apart in a rectangular block measuring about 200 feet by 80. The first nest was built on the pillar at the north-west corner of the block, and the other four were on consecutive pillars along the northern (longer) side. The corner nest and that next to it were complete and each contained two eggs, but the other three were in various stages of construction, becoming progressively more rudimentary the greater their distance from the corner. All were built of normal materials for a Mistle Thrush. When the site was first visited a bird was incubating the eggs in the corner nest; these eventually hatched and the young fledged successfully. On a later visit, the eggs in the second nest and the three partly-built empty nests were found unchanged.

Only one pair of Mistle Thrushes was ever seen during the three visits made to the site, and a member of the staff who had been watching the nests regularly confirmed this. The multiple nesting is considered to be due to a failure of the birds' power of orientation caused by the presence of numerous, exactly identical sites. It is interesting that the nests were confined to one corner of the block; there was no sign that the birds were ever deceived into building on any of the other corners.

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The literature contains many examples of 'multiple nesting' in such sites as the rungs of ladders stacked horizontally, stacks of pipes, spaces between rafters, identical niches, vents or ledges in buildings, long horizontal beams and so on. The best summaries are those by A. M. Hemmingsen (*Dansk Orn. Foren. Tidsskr.*, 50: 179-190, in Danish with long English summary and photographs), and by the same author with A. F. Bruun (*Dansk Orn. Foren. Tidsskr.*, 54: 48-55, in English). Up to 28 nests have been recorded in a series, and Hemmingsen cited 17 passerine species known to have built multiple nests, including Blackbird *T. merula*, Song Thrush *T. philomelos*, Redwing *T. iliacus* and American Robin *T. migratorius*, but not Mistle Thrush. The present note is particularly interesting also because of the very large gap between successive nests—this is usually only a few inches. ED3

Longevity in Reed Warblers In 1964 I reported some remarkable cases of longevity in Reed Warblers *Acrocephalus scirpaceus* ringed and retrapped since 1951 at Jersey Bird Observatory (*Brit. Birds*, 57: 128-129). At that time we had records of a few individuals five or more years old, two aged at least nine, one eleven and one twelve. Two papers listing records of longevity in wild birds, as revealed by ringing, were cited but they showed an almost complete absence of small birds from their lists, the minimum age for inclusion being five years. We regarded the ages of the oldest Reed Warblers as so excep-

tional that they could not be truly representative of the maximum life-span of small passerines. There is now evidence, however, that such longevity is not so unusual. From the substantial body of data accumulated in the course of regular ringing in the colony of Reed Warblers adjoining the observatory, it appears that this species has a reasonable likelihood of attaining an age considerably greater than that usually accepted for small passerines. Up to August 1971, 392 (nearly 11% of the total ringed) had been retrapped a year or more after having been ringed. The longest intervals between ringing and retrapping are shown in the following table:

11 years:	two birds, one ringed as an adult
10 years:	three, one ringed as an adult
8 years:	two, both ringed as adults
7 years:	two
6 years:	seven, two ringed as adults
5 years:	19, six ringed as adults
4 years:	32, twelve ringed as adults

Because those ringed as adults were at least a year old when ringed, one year should be added to the elapsed time to obtain their minimum ages.

I know of no comparable results from other colonies of Reed Warblers or for other small passerines, although there is absolutely no reason to think that in Jersey they are particularly long-lived; the accumulation of this long and continuous series of ringing/retrap data is due to the fortuitous siting, twenty years ago, of the observatory and its Heligoland trap on the edge of a breeding colony.

R. LONG

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Starling eating glass fragments On 22nd May 1971, at Lawrence Weston, Bristol, I saw an adult Starling *Sturnus vulgaris* probing in a small heap of broken glass beside a main road. It picked up and swallowed a spicule $\frac{1}{2}$ -1 cm in length and then a second of about the same size before flying off. On inspecting the heap of glass I could find no evidence of organic material which might have attracted the bird in the first place. I thought the glass had been swallowed as a substitute for grit, although there seemed to be no shortage of that in the area. It appears that the question is more complex, however: according to Colonel R. Meinertzhagen, in *A New Dictionary of Birds* (1964: 341), Starlings use small shells instead of grit to aid the digestion of vegetable matter; also, it seems likely that in spring the Starling would have been eating mainly animal food.

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Derek Goodwin comments: 'Much, though not all, of the so-called "grit" eaten by birds functions rather to supply minerals than to grind

food. Some glass looks whitish when broken: this sort would most probably appear as a calcium-containing substance and be eaten by a bird in need of calcium as would fragments of egg-shell, snailshell, cuttle "bone" and so on.' EDS

Reviews

Birds of Prey in the Field. By Roger Harkness and Colin Murdoch. Witherby, London, 1971. 208 pages; 61 black-and-white photographs; 44 pages of drawings. £2.25.

Birds of prey present difficult problems in field identification and many birdwatchers have long reserved for them a special place in their notebooks. More than once in the last 20 years there have been tantalising rumours that the last word on their diagnosis was about to appear. It never came, however, and such new information that leaked from various experts was too often subject to hearsay, severe compression by the authors of identification guides, or restricted publication. For the British observer, probably the best summaries and diagrams have been those by P.J. Hayman incorporated in the 1962 revised edition of *The Popular Handbook of British Birds*. Thus this new book on the identification of European diurnal raptors will be greeted with considerable interest.

The guide is of a handy size and in five sections. The first refers to the special problems of raptor identification and proposes a new approach to their solution, a 'clockface' notation of details round a rough sketch of the bird in question. Second comes a rather piecemeal chapter on field identification. It contains helpful tables of breeding distributions, habitat preferences and, importantly, an index of cross-references between similar species. In this original feature every species (and, if pertinent, each sex) is compared with all others that might be mistaken for it. The layout and typography are rather confusing, but the contents seem very sound as far as they go. The third main section contains a series of field sketches by Colin Murdoch, covering 14 species. While clearly honest efforts, their small size, erratic scale and lack of detail combine to diminish seriously their usefulness. One therefore moves on with a growing sense of disappointment to the fourth chapter, in which each species is described and its range, habitat and behaviour discussed. These accounts seem to assume that the reader owns at least one field guide with colour plates, but most do place proper emphasis on the crucial marks and allow for plumage variation; the asides on behaviour are often enlightened and make particularly worthwhile reading. Within this part of the text appear the black-and-white plates: sadly, the 23 species featured include only five or six of the really difficult ones and

again one is stimulated rather than satisfied. The book ends with a further series of field sketches, this time by Roger Harkness, covering about 40 species. These exhibit the same deficiencies as the earlier series, and to disappointment is added real concern that inexperienced observers may be misled by them. This is the crux of the book. It is true that both authors disclaim real artistry and state that their drawings are strictly functional. Even so, if they set out to instruct observers in such difficult subjects as flight attitudes, then a much higher standard of portrayal should have been achieved.

While saluting the authors' initiative in undertaking to meet a difficult challenge too long unanswered, I cannot commend their book because its major illustrative components lack the absolute precision that its subject will always require.

D. I. M. WALLACE

Man and Birds. By R. K. Murton. Collins, London, 1970. 364 pages; 32 black-and-white plates; 40 text-figures. £2.50.

'Economic ornithology', Dr Murton explains, would have been an alternative title for this timely and good addition to the 'New Naturalist' series. The book is more restricted in scope than the earlier *Birds and Men*, by E. M. Nicholson (1951), and reads as though it were aimed at a more informed and enquiring readership. Indeed it could not have been written 20 years ago, for it is primarily a review of all recent British research on the 'truly economic aspects of man's inter-relationships with birds', discussing such controversial species as Woodpigeons, gulls and Oystercatchers. It also gives a lot on farmland birds, drawing both from studies which have not before been summarised in popular form and from Dr Murton's own previously unpublished work.

The book begins with a historical introduction on the development of Man's interest in birds. Then two chapters set out the main principles on which modern ecological bird work is based, including the factors affecting numbers and distribution, predator/prey relationships, ecological niches and so on. For the lay reader these could be the most important part, but they are rather hard-going. Other chapters deal with birds and forestry (mainly bird predation on insect pests), farmland, horticultural and fisheries pests, and also with urban bird problems—those created by roosting Starlings, birds on airfields, and so on. The final chapter, on wildlife management, deals mainly with the various ways of reducing bird damage. To the amateur ornithologist this book will surely prove informative and stimulating, albeit difficult in places, and for people working in the field it will provide a useful review of facts and ideas together with a good bibliography.

One theme crops up repeatedly as different species (pest and game) are considered, namely that large numbers of birds can be killed annually without reducing the numbers which are present the following

year. This is because most species produce so many surplus offspring that an enormous slaughter can be inflicted each year without long-term detriment to the population. Repeatedly this man-induced loss has been shown to replace, rather than augment, the natural losses from starvation, predation and so on. To reduce a population in the long term, Dr Murton points out, more birds must be killed than would otherwise die from natural causes. This can be achieved by culling at that season when the population is naturally at its lowest (at the start of breeding), the time when most control agencies think that action is uneconomic, unnecessary or ungentlemanly. If it transpires, after study, that culling cannot control a particular population, then culling can be justified only if it takes place each year in time to prevent damage, and is worth the cost.

In the section on predator/prey relationships, it appears that, while the effects of Ravens, crows and eagles on sheep are fairly well documented, much more information is needed in Britain on the relationships between birds of prey and gamebirds. Our ideas on this subject are still largely extrapolations from theory or from studies made in areas where predators were controlled. Reference in the book to some North American work would have provided a stronger case that reducing birds of prey in the interests of game is in most situations pointless and wasteful of effort. Nevertheless, the need for more studies in the British context is evident, and such work might also include the admittedly difficult problem of the effects of gamekeepers on birds of prey. These are among the few birds which have been seriously reduced in numbers and range by repeated culling, perhaps because they live at lower densities and breed more slowly than more generally accepted 'pest species'.

A century ago, it seems, people concerned with the countryside found it easy to paint birds black or white, and acted accordingly. Today, because of the growing interest in the environment, and because of the greater need to strike a balance between the conflicting demands of intense agriculture, pest control, game management and wildlife conservation, many of the problems posed by birds seem intractable. This book does much to clarify these problems and at £2.50 is good value for money.

I. NEWTON

Infectious and Parasitic Diseases of Wild Birds. Edited by John W. Davis, Roy C. Anderson, Lars Karstad and Daniel O. Trainer. Iowa State University Press, Ames, Iowa, U.S.A., 1971. 344 pages, several line-drawings and photographs. £7.50.

This is a disappointing book. The opening sentence of the preface states that 'Disease is an important ecologic factor affecting wild populations', but ecological aspects receive no special attention. The aims of the book are not entirely clear, especially as diseases of

birds in captivity are also dealt with to some extent. It would have been most valuable to have had chapters on the part played by free-living birds in the epidemiology of disease and on the possible effect of disease on whole populations of wild birds, as well as more information on the susceptibility of birds in different orders or families to the various infectious diseases.

The book is divided into five main parts: viral diseases; bacterial, rickettsial and mycotic diseases; parasitic infections; neoplastic diseases; and toxins. There are no general chapters, apart from the one entitled 'Effects of toxic substances' which scarcely belongs in a book on infectious and parasitic diseases and is not even a good summary of this vast and complex subject. The chapters are arranged by disease and a few make good review articles, examples being those on Newcastle disease (fowl pest), avian cholera, pseudotuberculosis, botulism, chlamydiosis (ornithosis-psittacosis), aspergillosis, and nematodes, the last-named being one of the best. The chapter on coccidia is also useful, although the author confines himself to the Anseriformes, Galliformes and Passeriformes.

Numerous diseases are not mentioned at all, perhaps the most serious omissions being those caused by mite infestations, fungous infections of the skin, infectious sinusitis and anthrax. Although flukes, tapeworms and thorny-headed worms (*Acanthocephala*) are only occasionally pathogenic, the complete lack of reference to them is difficult to comprehend. There are other less important omissions, while some chapters (such as those on puffinosis and arboviruses) are very incomplete. The chapter on tumours is also incomplete, and there is no mention of pedal papillomata of Chaffinches in spite of the fact that this is a relatively common disease. Tuberculosis and salmonellosis, two of the commonest bacterial diseases of free-living birds, are dismissed in $5\frac{1}{2}$ and $7\frac{1}{2}$ pages respectively; duck plague, which is relatively rare, receives twelve pages. Over ten pages are devoted to quail disease (ulcerative enteritis) and quail bronchitis in spite of the fact that both are virtually unknown in free-living birds.

All 28 contributors are from North America; only ten appear to be veterinary graduates and it is doubtful if many are ornithologists. They certainly seem to be unaware of many important contributions on diseases of wild birds which have been published in some well-known ornithological journals. There are also few references to journals in foreign languages. The book is well produced in a hard cover, clearly printed on good quality paper and quite liberally illustrated. Without exception, the line-drawings are excellent, but the majority of photographs are of poor quality. Although this book is very incomplete, the editors have succeeded in correlating information on some of the diseases of wild birds: it will therefore be of limited value to scientists working in this field. I. F. KEYMER

Letters

Guillemots in Perthshire The most interesting note by E. J. Wise on the occurrence of Guillemots *Uria aalge* on the upper Tay inland in central Scotland in the autumns of 1969 and 1970 (*Brit. Birds*, 64: 77) raises a number of points. First, it is of course not unprecedented for Guillemots to wander inland and even to survive there for some time: Brünnich's Guillemots *U. lomvia* used to migrate south from Hudson Bay to inland waters in North America regularly at the end of the last century, some apparently surviving on the Great Lakes for weeks or months (J. H. Fleming, 1905, *Proc. Int. Orn. Congr.*, 4: 528-543). Secondly, according to the late Misses E. V. Baxter and L. J. Rintoul (1953, *The Birds of Scotland*), there is a previous record of auks appearing inland in Perthshire following a wreck on the west coast at the end of the 19th century, though I have been unable to trace the original report and would much like to do so, if anyone can locate it. Thirdly, I am informed by Mr Wise that he first saw Guillemots on the upper Tay on 21st September 1969, which coincided closely with the start of the notorious Irish Sea birdkill (M. W. Holdgate, 1971, *The Seabird Wreck of 1969 in the Irish Sea*, report cyclo-styled by the Natural Environment Research Council; also summarised in *Seabird Report 1969*: 5-6) and was, incidentally, the date on which the *Sunday Post* reported the occurrence of scores of Guillemots in the town of Kinlochleven at the head of a sea loch to the west. A number of other auks were also recorded inland throughout the Highlands at much the same time, according to reports summarised by A. G. Stewart in *Scottish Birds* (6: 142-149), and it seems likely that all these records are related. Fourthly, if the Guillemots on the Tay originated from those involved in the birdkill, it is curious that they appear to have survived inland for some time when others were dying on the coast; indeed, one wonders whether it could have been one or more of the birds seen in 1969 that was still present on the Tay in 1970.

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Mr Wise has confirmed that on several other visits to the Tay at Dunkeld, both before and after his observations in September and October 1969-70, he saw no Guillemots. EDS

Sooty Shearwaters in the Straits of Dover W. B. Jones (*Brit. Birds*, 64: 322-324) suggests that the Sooty Shearwaters *Puffinus griseus* which appear in the Straits of Dover in autumn come from the west. If this were so, surely they should occur with Great Shearwaters *P.*

gravis and Cory's Shearwaters *Calonectris diomedea*, as at Cape Clear Island, Co. Cork, where they undoubtedly come from the west, rather than alone or with Manx Shearwaters *P. puffinus*, as is the case in autumn in the northern North Sea?

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News and comment *Robert Hudson*

Puffins in peril This is the title of an article by Dr J. J. M. Flegg in a recent issue (no. 46) of *BTO News*, published by the British Trust for Ornithology. Dr Flegg, who has been studying the Puffin colonies on St Kilda for several years, has concluded that an enormous decrease has occurred. Early writers referred to the immense numbers of Puffins there, but by 1969 whole colonies had been deserted, 'overgrown with sorrel flourishing on the guano deposits of past glories', their burrow entrances draped with cobwebs. Sample counts of burrows indicated that 19th century estimates of three million pairs may well have been reasonable, but there has since been a disastrous decline, perhaps of the order of 80-90%. Various possible causes are postulated, including the suggestion that Puffins may be particularly sensitive to one or more marine pollutants; the need for research is emphasised. (The B.T.O., the Royal Society for the Protection of Birds and the Seabird Group, through the Bird Disasters Committee, are already monitoring Puffin and other auk numbers at certain selected colonies, and Dr W. R. P. Bourne, of the Seabird Group, is currently working on the distribution of auks and their food at sea.) Dr Flegg concludes his article with these comments: 'One thing is certain—the island group that we once considered as the stronghold of our Puffin population is no longer that, and the disaster that has hit the Puffins is not only on an enormous scale but is continuing. What is most alarming is that it is so difficult to find the cause.'

Appeal for a new Yorkshire reserve The Derwent Valley Washes are an important 400-acre wetland in Yorkshire. Bewick's Swans, Mallard, Teal and Wigeon winter there in numbers; Ruffs, Black-tailed Godwits and Black Terns visit the area in spring and might be induced to breed in the future, as they have done on the Ouse Washes. The Yorkshire Naturalists' Trust is appealing for £55,000 for the purchase of these Derwent Valley Washes, and the British National Appeal of the World Wildlife Fund has made a grant of £5,000 towards this.

1971 Cage Bird Exhibition The 1971 National Exhibition of Cage and Aviary Birds will be held in Alexandra Palace, London N22, during 2nd-4th December. Sponsored by the weekly newspaper *Cage and Aviary Birds*, this is one of the largest British exhibitions of its kind. The massed ranks of Budgerigars and Canaries are unlikely to appeal to birdwatchers; nevertheless, this show provides a useful opportunity to see some of the foreign species which are being imported, perhaps to escape into the wild and confound the unwary.

National Reference Library catalogue To an increasing extent, research workers and technologists are using the facilities of the National Reference Library of Science and Invention, London, where over 20,000 technical and scientific serial publications may be consulted or photocopies ordered. A catalogue of the journals

held at the library has been published in three parts: (1) List of non-Slavonic titles in the Bayswater Division (1969); (2) List of Slavonic and East European titles in the Bayswater Division (1971); (3) List of current titles in the Holborn Division (1970). These are available (price £1.25 each for parts 1 and 2, and £1.75 for part 3, postage extra) from the Publications Department, British Museum, London WC1B 3DG.

New bird magazine While editor of the weekly part work *Birds of the World* (of which the final issue appeared in July), John Gooders concluded that there was an unfilled niche for a popular colour magazine for birdwatchers. He has now launched, as an independent venture, a monthly magazine entitled *World of Birds*, in which he intends to offer full-colour printing of high quality and a text both accurate and informative. The first issue contains five articles: 'Wryneck in focus' (M. D. England), 'Autumn in Ireland' (Frank King), 'The New Forest' (C. R. Tubbs), 'Shearwaters: *World of Birds* field identification guide' (J. D. Parrack) and 'Trans-African Hovercraft Expedition' (Hilary Fry). The second includes articles on bird life in the Cairngorms and the Norwegian Dovrefjell, another on the Asian wildfowl crisis, and a profile of the Long-tailed Tit. The first issue consists of 30 pages of good quality printing, on which standard the magazine deserves to succeed. *World of Birds* cannot be ordered through newsagents: it is available by subscription only (£3 per year) from John Gooders, 6/7 Queensthorpe Mews, Queensthorpe Road, London SE26.

Obituary On 2nd September 1971, Mungo David Malcolm Murray, Seventh Earl of Mansfield and Baron Seone, died in Perth Royal Infirmary. Born in 1900, he graduated from Christ Church College, Oxford, in 1922; he was a Member of Parliament from 1931 to 1935 when, on the death of his father, he succeeded to the earldom. Subsequently, Lord Mansfield held many positions in public life; he was twice Lord High Commissioner to the General Assembly of the Church of Scotland, and at the time of his death was Lord Lieutenant of Perthshire. He was much interested in farming and the countryside, and took a practical hand in the management of agriculture and game preservation on his several Scottish estates. He had a lifelong interest in ornithology, and was the first chairman of the British Trust for Ornithology (1933-39); subsequently he served on the Trust's Scientific Advisory and Bird Ringing Committees. In the post-war years his special interest in game preservation crystallised, and he became much involved with the Wildfowlers' Association of Great Britain and Ireland, including a long spell as president. Lord Mansfield was also a member of the Secretary of State for Scotland's Advisory Committee on the Protection of Birds.

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

Request for information

Scottish records The 'Scottish Bird Report', published annually by the Scottish Ornithologists' Club in its journal *Scottish Birds*, presents a record of unusual occurrences, the year's pattern of migration and changes in the status of species for the whole of Scotland. The editors are keen to make it as comprehensive as possible, and observers visiting Scotland are invited to submit records for inclusion in the 1971 report to Major A. D. Peirse-Duncombe, Scottish Ornithologists' Club, 21 Regent Terrace, Edinburgh EH1 7 5BT. Copies of the 1968 and 1969 reports are available from the same address, price 50p each. The 1970 report is being published in the autumn 1971 issue of *Scottish Birds*.

Recent reports *P. F. Bonham*

These are largely unchecked reports, not authenticated records

This summary covers July 1971, and all dates refer to that month unless otherwise stated. A wreck of sprats at Teesmouth (Co. Durham/Yorkshire) in the third week attracted thousands of gulls and terns and remarkable numbers of skuas. On 22nd at least 18 **Pomarine Skuas** *Stercorarius pomarinus* headed north out of Tees Bay and several dozen **Arctic Skuas** *S. parasiticus* and some **Great Skuas** *S. skua* were also reported. Three different adult **Long-tailed Skuas** *S. longicaudus* were seen in the Hartlepool-North Gare area during 20th-22nd, and Arctic and Pomarine Skuas continued to be noted during the rest of July. There were also two adult **Sabine's Gulls** *Larus sabini*, one from 20th to at least 31st and the other on 21st only, and vast numbers of **Kittiwakes** *Rissa tridactyla*, estimates on 22nd ranging from 25,000 to at least 100,000. Other east coast reports of skuas, possibly involving some of the Teesmouth birds, included two **Pomarine Skuas** at Cresswell (Northumberland) on 18th, an adult **Long-tailed Skua** south at Whitburn (Co. Durham) on 20th and another (or the same one) north on 21st, and an adult Long-tailed at Holme (Norfolk) on 25th; but a **Sabine's Gull** at Scarborough (Yorkshire) on 27th was said to be distinct from the two further north, and another report of Sabine's Gull came from Gibraltar Point (Lincolnshire) on 31st. A **Sooty Shearwater** *Puffinus griseus* was seen at Holme on 17th, and next day three passed Cresswell and one flew north off Whitburn.

Much excitement and discussion was caused by the discovery of an all-white, apparently juvenile, **Cattle Egret** *Bubulcus ibis* by the River Thames at South Stoke (Berkshire/Oxfordshire) on 10th. It was last seen alive on 4th August and found dead and badly decomposed under telephone wires on 9th. None of the corpse was preserved and no measurements were taken, but the finders reported that 'the primaries were in perfect condition and the feet and toe nails showed no sign of cuts or abrasions'. Meanwhile another juvenile had appeared at Morfa Harlech (Merioneth) on 14th and, more recently, a third stayed near Malltraeth (Anglesey) from 25th August to 13th September. Because the South Stoke egret was believed to be a bird of the year, and none was traced as having been reared here in captivity in 1971, it was suspected to be a wild vagrant, presumably from Iberia; but we have since learned that a dealer in the west of England imported a consignment of all-white juvenile Cattle Egrets of the eastern race *coromandus* in early June, all of which had been sold by the end of the month. The origin of the one at South Stoke and of the two in Wales must therefore be highly suspect; it is most unfortunate that the bill and tarsus were not properly measured in an attempt to establish the subspecies, and we emphasise here the importance of preserving the corpse of any rarity found dead, or at least as much of it as possible, especially where its origin is in doubt. There were only three other reports of rare herons—an adult **Night Heron** *Nycticorax nycticorax* at Slimbridge (Gloucestershire) from 4th to 8th, an adult **Purple Heron** *Ardea purpurea* at Fairburn Ings (Yorkshire) on 18th and a **Little Bittern** *Ixobrychus minutus* near Sittingbourne (Kent) on 26th. A **Spoonbill** *Platalea leucorodia* remained at Minsmere (Suffolk) from 12th to 19th.

Wildfowl reports were few. A **Surf Scoter** *Melanitta perspicillata* found on the Aberdeenshire coast in June (*Brit. Birds*, 64: 426) stayed throughout July. Overland migration of **Common Scoters** *M. nigra* (see *Brit. Birds*, 62: 332-333; 63: 253-254, 382-384) was evident from reports of 27 males and a female at Howden Reservoir (Derbyshire) on 26th and 22 males at Gouthwaite Reservoir, Harrogate (Yorkshire) on 30th.

The single young reared by the pair of **Golden Eagles** *Aquila chrysaetos* in the Lake District flew on 23rd; eleven young **Ospreys** *Pandion haliaetus* fledged at seven Scottish sites; and the pair of **Snowy Owls** *Nyctea scandiaca* on Fetlar (Shetland) successfully raised all five of their young (last year three chicks died in the nest and only two flew). **Ospreys** also appeared in Kent, Nottingham, Stafford, Lancashire and Northumberland; there was a **Buzzard** *Buteo buteo* at Minsmere on 15th; and single **Honey Buzzards** *Pernis apivorus* were seen at Birdholme Pool (Derbyshire) on 5th and at Loch Garten (Inverness-shire) on 25th.

The most interesting wader was an adult **Sociable Plover** *Vanellus gregarius* at Ouston airfield, Stamfordham (Northumberland) from 6th to 13th, the twelfth record in all and the first in July, the others having been in January, April and August-December. Single **Kentish Plovers** *Charadrius alexandrinus* appeared at Dungeness (Kent) on 11th and at Havergate (Suffolk) from 18th to 21st; **Temminck's Stints** *Calidris temminckii* were identified at Donna Nook (Lincolnshire) on 26th, Holme on 28th (staying to 6th August) and Wisbech sewage-farm (Lincolnshire/Norfolk) at the end of July (to 7th August); and other scarce waders included a **Pectoral Sandpiper** *C. melanotos* in the Weaver estuary (Cheshire) from 28th to 31st and a **Broad-billed Sandpiper** *Limicola falcinellus* at Washington Ponds (Co. Durham) on 30th. Among the commoner migrants were at least 25 **Wood Sandpipers** *Tringa glareola*, 20 **Little Stints** *C. minuta* and 60 **Curlew Sandpipers** *C. ferruginea*, almost all at the end of the month; the first sizable influx of Curlew Sandpipers was thus 3½ weeks earlier than in 1970 and 2½ weeks earlier than in 1969 (*Brit. Birds*, 62: 392, 503; 63: 351, 398). A juvenile **Spotted Crake** *Porzana porzana* found dead by the roadside at Attenborough (Nottinghamshire) on 11th might have been bred somewhere in the area; another Spotted Crake was seen at Havergate on 16th and a **Corncrake** *Crex crex* near Boat of Garten (Inverness-shire) on 3rd, while at near-by Loch Garten there was a **Crane** *Grus grus* on 11th.

Two unconfirmed reports of an adult **Slender-billed Gull** *Larus genei* in Norfolk, at Beeston from 4th to 7th and at Cley shortly afterwards, were followed by a definite sighting of an adult at Dungeness on 21st. In full plumage with pink underparts, bright carmine legs and feet and a dark red bill, it spent most of the time either on the shingle beach or feeding at the 'patch' mainly with Black-headed Gulls *L. ridibundus* and Kittiwakes; it was last seen on 1st August. The two previous British records were both of first-summer birds in Sussex, in 1960 and 1963. Reports of **Mediterranean Gulls** *L. melanocephalus* were as follows: single adults at Dungeness on 10th and from 24th to 31st and an immature during 26th-29th, an immature at Ramsey Island (Pembrokeshire) on 14th, an adult in Teesmouth on 20th and an immature at Hoveringham (Nottinghamshire) on 24th. July also produced a **Lesser Crested Tern** *Sterna bengalensis* in Wexford Harbour on 9th which, if accepted, will be new to the British and Irish list. Other rare terns were two **Caspian Terns** *Hydroprogne tschegrava* at Aberlady Bay (East Lothian) on 1st and two **Gull-billed Terns** *Gelocbelidon nilotica* at Dungeness on 9th. Passage of **Black Terns** *Chlidonias niger* was almost non-existent until 28th, but during the last four days of July over 150 were reported.

There were very few unusual near-passerines and passerines. A **Bee-eater** *Merops apiaster* found on Fair Isle (Shetland) on 30th June stayed into August, and **Golden Orioles** *Oriolus oriolus* were seen at West Newton (Norfolk) on 25th and at Maidstone (Kent) on 31st. **Savi's Warblers** *Locustella luscinioides* bred in Suffolk at Minsmere (one pair) and Walberswick (two pairs) and one was present at Fairburn Ings from 8th to 13th. A **Subalpine Warbler** *Sylvia cantillans* at Fingringhoe (Essex) about 13th, a **Marsh Warbler** *Acrocephalus palustris* on Fair Isle on 19th and an **Icterine Warbler** *Hippolais icterina* at Hornsea (Yorkshire) from 29th to 31st were also unusual. Finally, a **Woodchat Shrike** *Lanius senator* occurred at Fetcham (Surrey) on 10th, and another, an adult, stayed at East Hill, Walberswick, from 18th until at least the end of August.



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J. A. Batten

Gulls nesting on buildings in Britain and Ireland

Stanley Cramp

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British Birds

Firecrests breeding in Buckinghamshire

L. A. Batten

On 28th May 1971, while censusing the birds of a Forestry Commission plantation near Wendover, Buckinghamshire, I heard and later saw a male Firecrest *Regulus ignicapillus* singing about eight metres up in a Norway spruce *Picea abies*. The plantation is dominated by mature Norway spruces nine to 15 metres high and about 40 years old, forming a closed canopy. It contains a scatter of deciduous trees, predominantly larch *Larix decidua*, but also including beech *Fagus sylvatica* and hazel *Corylus avellana* with some lime *Tilia platyphyllos* along the rides. I returned on 4th June to find the bird apparently still holding territory in the same area; this time he was more active and was singing frequently as he moved around his territory. There was, however, no sign of a female. Several days later Kenneth Williamson visited the area and also located the singing male.

On 24th June, David Glue and I found the Firecrest without difficulty. He was very excited and flew to join another Firecrest, a female which had just emerged, carrying a feather, from a mat of vegetation in a lone field maple *Acer campestre*. After some preliminary display, hovering over her with his fiery crest raised and pointed in her direction, he mounted and they mated several times. She then resumed collecting feathers, taking them into the foliage of the maple and reappearing without them. Closer inspection revealed a newly completed nest 2½ metres above the ground, containing one egg. The suspended cup was supported by a lateral maple branch and a dead Norway spruce branch which had fallen into a fork of the maple.

I returned on 1st July to find that the nest had been attacked and partly destroyed by a predator. Three eggs (two broken) were buried in the nest lining. The male was still singing frequently; his mate was taking feathers from the old nest to a new site high in some Norway spruces. He took no part in this, but was seen accompanying the female. Also on that date, I found another male singing 300 metres

away in a similar habitat. Subsequently David Glue discovered a third occupying a territory between the first two, and I found a fourth rather less than one kilometre from the first nest site. All four territories were on the edges of rides.

On 29th July, at the second site, a Firecrest was seen taking food to a nest about twelve metres up in a Norway spruce. The food appeared to consist of small moths, flies and caterpillars, collected from the branches of Norway spruces. Henry Mayer-Gross later examined this nest: he could see six half-grown young, about eight days old, their creamy eye-stripes obvious even at that age. Soon after they fledged, however, at least five of them were found huddled together on a twig high up in a spruce; then the eye-stripes could be seen only with difficulty and were not nearly as conspicuous as those of the adults.

Both nests were eventually collected for examination. The first contained twelve twigs from coniferous and deciduous trees, those from the latter being doubly forked, and these formed the skeletal structure of the nest. Moss and some leaf skeletons were the main material: this was intertwined around the twigs and bound by spiders' webs. The cup was copiously lined with feathers, mainly from Wood-pigeons *Columba palumbus*. The successful second nest contained two unhatched eggs, one buried in the lining. Its dimensions were as follows:

Outer circumference	235mm	Outer diameter	78mm	External depth	70mm
Inner circumference	168mm	Inner diameter	50mm	Internal depth	45mm

Perhaps the most remarkable feature was the very thick floor of the cup which was 25mm in depth.

The birds were most active territorially at the start of observations in late May and June. Song intensity subsided in July when they became difficult to locate. None was seen after 8th August. All documented sightings of the two known pairs were mapped and these registrations were used to calculate the territory size. One occupied about four-tenths of a hectare and the other half a hectare.

Once learnt, the song was not difficult to pick up, though similar enough to that of the Goldcrest *R. regulus* to confuse an untrained ear. In May and June, when the song output was at its peak, both song and call notes were distinct from the Goldcrest's and the male would sing at any time of day, though most frequently within a few hours after dawn. As the season progressed, however, the song became weaker and was largely restricted to the mornings, being heard only occasionally in the afternoons and very rarely in the evenings; calling was then more usual.

The song was harsher than the Goldcrest's, lacking its rhythmic quality and terminal flourish. Care is necessary, however, because the Goldcrest's song sometimes lacks the terminal flourish, especially in late June and July. Phonetically the Firecrests's song can be written

'zit-zit-zit-zit-zit-zit.zit.zit.zit.zit', delivered rapidly and becoming slightly louder and faster just before ending abruptly, the whole song lasting usually $2-2\frac{1}{2}$ seconds. This contrasts with the 'te-didi-te-didi-te-didi-te-didi-te-didi' of the Goldcrest, whose song is normally some $3\frac{1}{2}-4$ seconds in duration (but see Adams 1966). The call notes were louder and harsher than the Goldcrest's, sounding more like 'sit-sit-sit' than the 'si-si-si' of the commoner species. In fact, the song seemed to be just a longer and slightly more variable version of the call notes. Later in the season the two species could not be separated on call alone, owing to the varying sounds made by wandering parties of young Goldcrests, some of whose calls were decidedly harsher than those of the adults.

There are very few cases of proved breeding of Firecrests in Britain and these are almost all from Hampshire (Adams 1966). It is difficult to believe, however, that this species is restricted to two or three isolated areas. Can it be that the Firecrest breeds locally in other parts of southern England, being either a resident or a summer visitor in those areas?

ACKNOWLEDGEMENTS

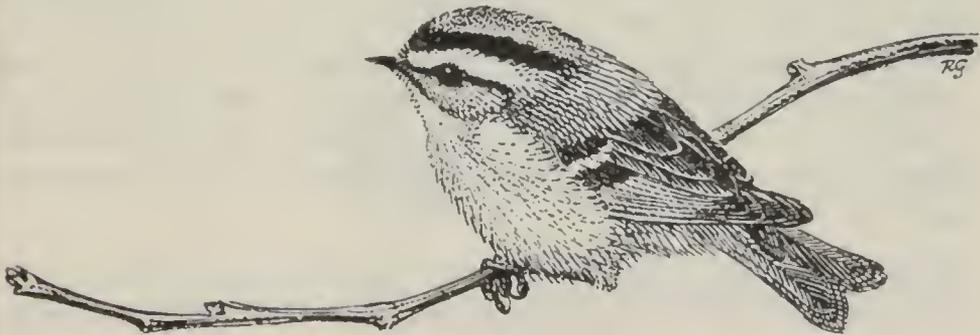
I should like to thank Henry Mayer-Gross, Kenneth Williamson, David Glue and Miss Dorothy Keating for allowing me to use their observations in this paper and also for their comments on the manuscript.

SUMMARY

In a conifer plantation in Buckinghamshire in 1971, two pairs of Firecrests *Regulus ignicapillus* were proved to be breeding and two other singing males were located. The habitat was mature Norway spruce nine to 15 metres high with some larch, beech and hazel. The birds were located by song in late May and early June, although one nest still contained young in early August. Territory size was from four-tenths to half a hectare. The calls and song are compared with those of the Goldcrest *R. regulus*.

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- L. A. Batten, *British Trust for Ornithology, Beech Grove, Tring, Hertfordshire*



Gulls nesting on buildings in Britain and Ireland

Stanley Cramp

Plates 73-75

INTRODUCTION

Thirty years ago the nesting of gulls on buildings in areas frequented by human beings was almost unknown in Britain and Ireland. Witherby *et al.* (1938-41) mentioned a single instance of Herring Gulls *Larus argentatus* on a house roof in Devon, and stated that Kittiwakes *Rissa tridactyla* nested exceptionally on buildings. Parslow (1967) described how the Herring Gull's habit of nesting on the roofs of houses in many seaside towns became established in the 1940's and 1950's and thought that the tendency was probably continuing, while the Kittiwake was making increasing use of buildings and harbour walls. The Seabird Group, feeling that new instances might be overlooked or go unreported as the habit grew more common, decided to attempt an accurate assessment of the current position, in conjunction with Operation Seafarer which aimed to locate and count all coastal seabird colonies in Britain and Ireland in 1969-70.

SOURCES OF DATA

This survey was largely based on the records submitted for Operation Seafarer, but appeals were also published in various journals for records prior to 1969 and away from the coasts, and a search made of the relevant literature. Despite this three-pronged approach, the habit of nesting on buildings in several towns in one well-watched county came to light largely by accident, so it is unlikely even now that the results are complete. Moreover, even where the habit is known isolated nests can easily be missed, whilst a full count of the larger colonies in towns may be impossible. The survey, therefore, probably relates to minimum numbers, both of sites and of nests. A further difficulty is one of definition: gulls have been known to nest on ruins or empty buildings on islands or in other remote places for many years, but this survey is confined to nests on buildings or other man-made structures in areas frequented by human beings, such as cities, towns, villages, factories and air stations. A very few past reports did not specify whether they fell within this definition and doubtful cases have been excluded from the maps and analyses, although they are mentioned in square brackets in the county summaries in the appendix.

RESULTS OF THE SURVEY

Five species of gulls now nest or have nested on buildings in Britain

and Ireland. The three mainly involved are the Herring Gull, Kittiwake and Lesser Black-backed Gull *Larus fuscus*, while single cases are known for the Great Black-backed Gull *L. marinus* and Common Gull *L. canus*. The habit is most common and widespread in the Herring Gull (fig. 1), having been recorded in Shetland, the Outer Hebrides, the mainland of Scotland (mainly the east coast), north-east, south-east, south and especially south-west England, both north and south Wales and the Isle of Man. So far, however, no nests on buildings

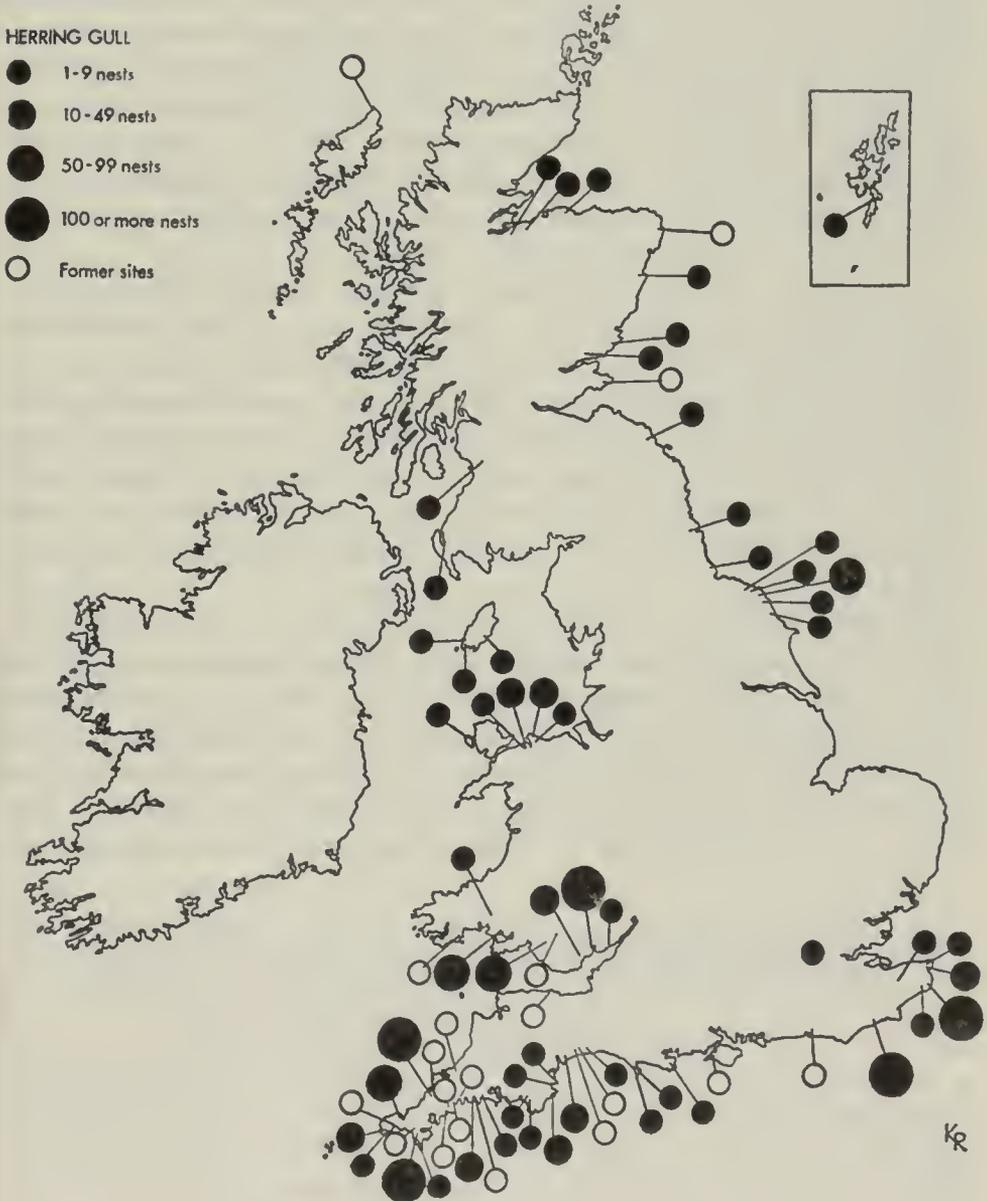


Fig. 1. Sites of Herring Gulls *Larus argentatus* nesting on buildings in Britain and Ireland. Sites in use during 1969-70 are shown by solid circles and former ones by open circles

of this or any other gull species are known in Ireland (Major R. F. Rutledge, D. Scott and J. Gray).

There were four definite cases involving Herring Gulls before 1940: two published ones in Devon (Budleigh Salterton in 1923, Torquay in 1928) and the beginnings of the now large colonies in Newquay (Cornwall) about 1926 and in Dover (Kent) in 1936. There were also two probable records, which would apparently be the earliest known: both were in Cornwall in 1910, single nests being reported on a roof at Port Isaac and on an old mill at Gulval, near Penzance, where intermittent nesting is said to have started then. The growth and spread of the habit since 1940 is shown in table 1. As precise counts are often not available, the colonies are classified in 'orders of abundance'; where annual counts were not made and the evidence suggests regular occupation, the most likely size has been assumed for years between definite records. The periods, too, differ in length, and the large increase in 1969 and 1970 probably owes much to a special survey being made.

Nevertheless, the general picture is clear—a remarkable and almost uninterrupted growth both in the number of sites and in their average size, especially in the last 30 years. The habit began in south-west England, spreading in the 1930's to Kent, and later to eastern England, Wales and Scotland. Most of these areas have shown a steady increase, the exceptions being Cornwall, where several, mainly small, sites were recorded during 1950-59 but do not appear to have been used since, and Scotland, where a big increase in small sites was recorded in 1969 and 1970.

The total number of Herring Gull nests reported on buildings in 1969-70 was between 1,252 and 1,365. This includes the estimate of 225 nests for the largest colony at Dover, where the true figure may be even higher, but clearly only a tiny fraction of the Herring Gull population of these islands has yet adopted the habit. The four next largest colonies in 1969-70 were in Cornwall at Newquay (189 nests) and Culdrose R. N. Air Station, Helston (100-150 pairs, one of

Table 1. Known sites and estimated numbers of nests of Herring Gulls *Larus argentatus* on buildings in Britain and Ireland in various periods

	ESTIMATED NUMBERS OF NESTS PER SITE				TOTAL SITES
	1-9	10-49	50-99	100+	
Up to 1939	6	—	—	—	6
1940-49	14	—	—	1	15
1950-59	22	4	1	1	28
1960-64	19	5	1	1	26
1965-68	23	6	3	2	34
1969-70	38	8	4	5	55

which is shown on plate 73a), in Sussex at Hastings and St Leonards (106 nests) and in Monmouthshire at a newly discovered colony at Newport (about 100 nests), while at St Ives in Cornwall, although no counts were made in 1969-70, there were probably over 100 pairs in 1971. The overwhelming majority of nests were built on the roofs of houses, shops, offices and so on, often between the chimney-pots, with only a handful on other structures, including factories, sheds, piers, and road and rail bridges. The sites are mainly on the coast, the chief exceptions being at Hirwaun and Merthyr Tydfil (Glamorgan), Carmarthen, London, and Kilmarnock (Ayrshire). Of the 75 sites revealed by the survey, 54 were in use in 1969 or 1970. Most of the abandoned ones had few birds, often only a single pair, and may well have been unrecorded in 1969-70. The only two large sites deserted were at Merthyr Tydfil, where nesting on a factory was prevented and the birds may have moved to the similar site at Hirwaun $6\frac{1}{4}$ miles away, and at Brighton (Sussex), where nesting ceased after the re-opening of the piers to the public after the war.

Lesser Black-backed Gulls have so far been much slower to adopt the habit of nesting on buildings. The first known instance was in 1945 or 1946 in south Wales, rising to two colonies by 1960-64, four by 1965-68 and five in 1969 or 1970. These five had a total population of 61-62 pairs, mainly confined to south Wales, but including a small recent colony not far away at Gloucester and a single pair in 1969 at Hastings and St Leonards (fig. 2). In every instance, with the exception of the site at Gloucester, they nest, or have nested, with Herring Gulls. Proportionately more sites than in the case of the Herring Gull have been found inland (three out of seven). Three have been on factories, the rest on houses, shops, warehouses and a church. Only two are known to have been abandoned, one shared with Herring Gulls at Merthyr Tydfil where nesting was prevented (see above), and the other at Pembrey (Carmarthenshire) where two nests were known among the Herring Gulls in 1965 only.

Kittiwakes started to make use of man-made structures much earlier. A small colony on a harbour wall at Granton, Edinburgh, in 1931 soon failed, but in 1934 the species began nesting further along the coast on a warehouse at Dunbar (East Lothian) and this has grown into the largest colony, with 163 pairs in 1969 (see plate 75). Other sites are now mainly in England, all in Northumberland and Co. Durham apart from one at Lowestoft (Suffolk), but there is also a small outlying colony in Caithness (fig. 2). Growth has been slow, reaching only seven colonies in 1969-70 with a total population of 410 pairs, so the average colony size is over twice that of the Herring Gull and five times that of the Lesser Black-backed Gull. Most colonies are on warehouses and similar buildings, where the birds tend to nest on window-ledges rather than roofs, while others are on piers

LESSER BLACK-BACKED GULL

- 1-9 nests
- 10-49 nests
- Former sites

KITTIWAKE

- 1-9 nests
- 10-49 nests
- 50-99 nests
- 100 or more nests
- Former sites

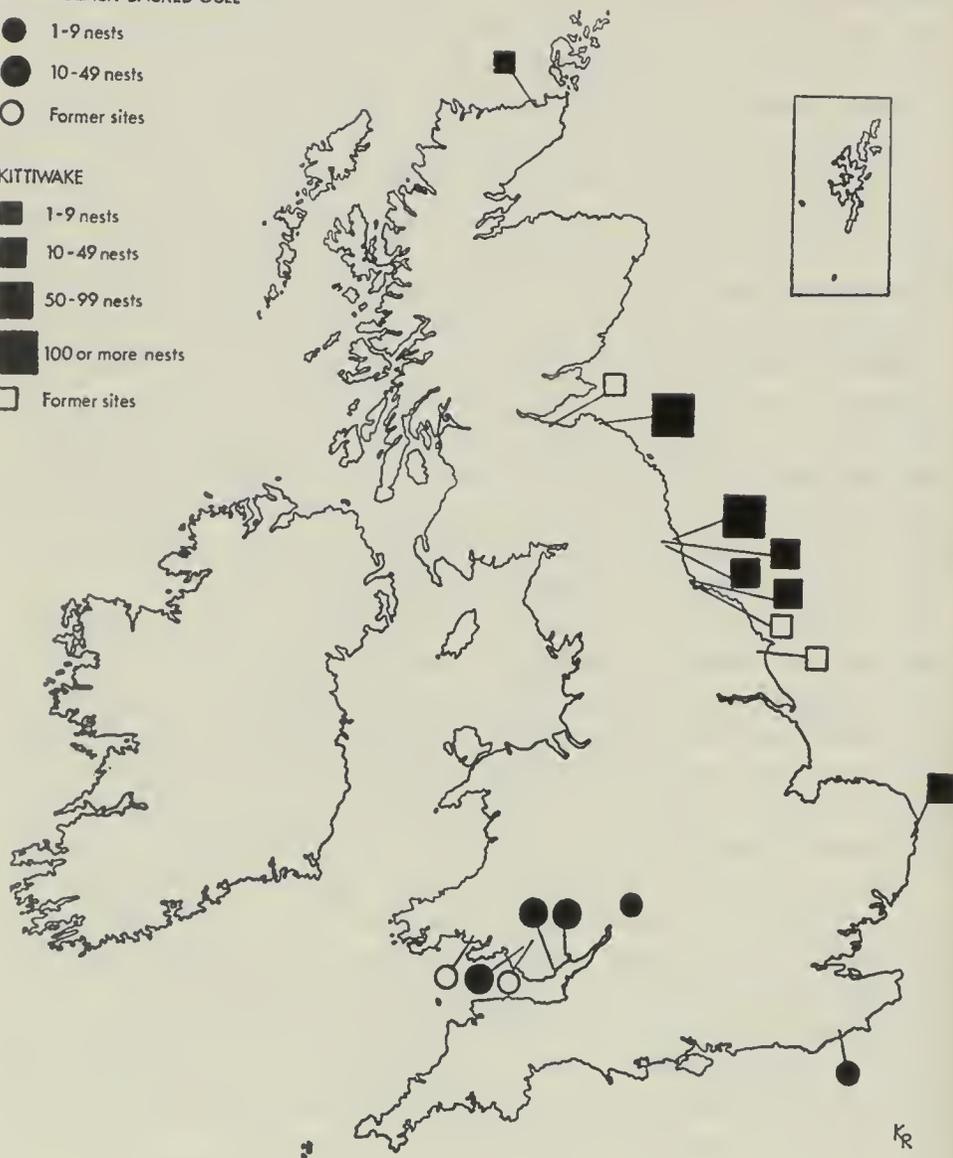


Fig. 2. Sites of Lesser Black-backed Gulls *Larus fuscus* (circles) and Kittiwakes *Rissa tridactyla* (squares) nesting on buildings in Britain and Ireland. Sites in use during 1969-70 are shown by solid symbols and former ones by open symbols

and a ruined wall. They are all coastal, apart from those a few miles up the River Tyne at Newcastle and Gateshead. Plates 73b-74 show parts of the colonies on warehouses at Gateshead and near the mouth of the Tyne at North Shields. Except at Bridlington (Yorkshire), where the colony failed in its first year, and Granton, where it lasted for three years, sites have been deserted only because the buildings have been demolished or nesting has been otherwise prevented.

The survey revealed only two records of other species of gulls

nesting on buildings in Britain. In 1970 a single pair of Great Black-backed Gulls bred on the same factory as the Herring Gulls at Newlyn (Cornwall), and in 1971 a pair of Common Gulls nested on the gantry framework of a shed on Dalcross Airport, Inverness.

DISCUSSION

This century has seen extensions of range and great numerical increases in several species of gulls on both sides of the North Atlantic, in which their new rôle as urban scavengers, climatic change and reduced persecution have each played a part (Voous 1960). In Britain and Ireland, Parslow (1967) showed that the population increases had been most marked in the Herring Gull, the Great Black-backed Gull, the Black-headed Gull *L. ridibundus* and the Kittiwake, while the Lesser Black-backed Gull had probably also increased. Reduced persecution was considered to be the main factor in the case of the Kittiwake (Coulson 1963), but for other species the growth of the habit of urban scavenging, especially in winter, at ports, rubbish dumps and sewage outfalls, has probably been more important. This population growth, leading to pressure on normal nest sites, seems to be the main reason for the increase in the habit of nesting on buildings. Most of the colonies on buildings are on the coast near traditional sites, and several observers have commented that these latter were becoming overcrowded. So far, few of the larger cities with major concentrations of scavenging gulls in winter are used for nesting. The main exceptions are the Newcastle area, where Kittiwakes have adapted to feeding on sewage, bread and freshwater fish (Coulson and Macdonald 1962), and London, where only occasional pairs of Herring Gulls have nested on buildings. This is perhaps due to the absence of normal colonies in or near most cities (the nesting birds in London were undoubtedly stimulated by the presence of caged gulls breeding in the Zoo). There is clearly considerable scope for a further extension of the habit of nesting on buildings, both in large cities and in the many coastal towns with normal colonies near-by where the habit is unknown or little developed. Such attempts may meet opposition, but the reactions of local authorities and individuals have varied greatly so far. Many nests appear to be tolerated, but in a few areas, for example Dover, vigorous measures of nest destruction have been carried out over a number of years. They may have served to restrict further increases, but they have usually failed to drive the birds away, except where the colonies are concentrated in easily accessible groups on warehouses and factories.

No full survey of nesting on buildings elsewhere has been attempted. The earliest record concerns the breeding of Herring Gulls on buildings at a Black Sea port as far back as 1894 (Kumerloeve 1957, Goethe 1960); by 1960 there were several hundred nests on roof-tops above

busy streets in Varna, Burgas and Nessebur in Bulgaria (Mountfort and Ferguson-Lees 1961) and this was still the case in at least the first two localities in 1970 (I. J. Ferguson-Lees *in litt.*). In north-west Germany, Herring Gulls have nested on buildings in Bremerhaven since 1956 (now about 80-100 pairs) and in Wilhelmshaven since 1961 (some 50 pairs) (Dr F. Goethe *in litt.*). In the eastern U.S.A. some 150 nests of Herring Gulls were discovered on flat roofs in the harbour area at Boston, Massachusetts, in 1961 and the colony was believed to have been started some years earlier (Paynter 1963), while more recently they have nested on buildings at Logan airport, Boston (G. L. Hunt, *per* Dr W. R. P. Bourne). In Norway Kittiwakes have nested on warehouses at Röst (Lofoten) since 1928, with about 130-140 pairs in 1963, and in Aalesund (Møre og Romsdal) since at least 1935; Common Gulls also nest on roofs, sometimes (as on the Finmark coast) on open boxes placed there (Haftorn 1971). In Sweden only Common Gulls appear to have adopted the habit, and there have been several recent records in the west, including at Göteborg and middle Halland (S. Mathiasson *in litt.*). In New Zealand Black-backed Gulls *L. dominicanus* nest on roofs of sheds on wharves and on house roofs in the central Auckland city area (Turbott 1969), and in western Canada a nest of Glaucous-winged Gulls *L. glaucescens* was reported in June 1962 on a roof in the outer docks at Vancouver (Oldaker 1963). From this it appears that the habit is more prevalent in Britain than in other parts of western Europe and eastern North America that have been affected by the recent growth in gull numbers, but a more extensive survey is clearly desirable.

ACKNOWLEDGEMENTS

I am greatly indebted to all observers who contributed records and to my various correspondents (who are mentioned in the appendix or the discussion); to David Saunders who supplied details from Operation Seafarer and undertook much correspondence on my behalf; to Miss Karen Rayner who tracked down many records in the literature and drew the maps; and to Dr H. M. S. Blair for translations.

SUMMARY

A survey of gulls nesting on buildings in areas frequented by human beings in Britain and Ireland was carried out on behalf of the Seabird Group in 1969-70. The Herring Gull *Larus argentatus* was the species most often involved, with 55 known sites and probably over 1,250 pairs in 1969-70, followed by the Kittiwake *Rissa tridactyla* with seven sites and 410 pairs and the Lesser Black-backed Gull *L. fuscus* with five sites and some 60 pairs. The geographical distribution, the types of sites and the growth and spread of the habit in these three species are described. There are single instances involving the Great Black-backed *L. marinus* and Common Gulls *L. canus*. The habit has not yet been recorded in Ireland. The growth of nesting on buildings probably results from the recent marked population increases in the species concerned. It appears to be more prevalent in Britain than in most other countries affected by these increases.

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Appendix. Records of gulls nesting on buildings in Britain

Sources of information are shown in brackets; LR indicates the appropriate local report.

Herring Gull *Larus argentatus*

NORTHUMBERLAND *Berwick-upon-Tweed*: one, possibly 2, pairs on Tweed road bridge 1969 (F. Brady). *North Shields*: several pairs on chimney stacks 1967 (LR); 2 pairs on warehouse 1969 (Dr J. C. Coulson).

CO. DURHAM *Hartlepool*: few pairs 1968; 8-11 pairs on hotels, shops, warehouse and other sites in and near docks 1970 (R. T. McAndrew).

YORKSHIRE *Staitbes*: on roofs 1947; again 1958; 10+ pairs 1959; 3 pairs 1970 (LR, W. Norman). *Runswick*: 2 pairs on chimney pots 1969 (W. Norman). *Whitby*: began near harbour 1942; steady increase and spread to other parts of town—c50 nests 1954, c60 1956, 76+ 1968, 97 1969 (Bryan T. Fewster). *Robin Hood's Bay*: on roofs 1947 (LR); 3+ pairs 1969 (A. J. Wallis). *Scarborough*: pair on church 1967; 7 pairs on church and houses 1968; 4 pairs 1969 (A. J. Wallis).

LONDON *Regent's Park*: nesting attempts at Zoo 1961-62; have bred in and near there most years since, but only nests reported on buildings were by pair on restaurant 1968 and pair on house roof 1969 (LR).

KENT *Kingsgate*: pair on roof 1968-70 (M. Sutherland). *Ramsgate and Broadstairs*: 2-3 pairs on buildings near harbour at Ramsgate 1970 and at least six years previously, perhaps others elsewhere there; 5-6 pairs on roofs at Broadstairs 1970, some at least two years (M. Sutherland); c24 annually on hotels and tall buildings along two miles of seafront from Ramsgate to Broadstairs (J. C. Wren). *Canterbury*: pair on hotel roof 1964; again 1965; 1-3 pairs 1966-69; breeding not established 1970 (W. G. Harvey). *Dover*: Largest colony of gulls nesting on buildings in Britain. Started 1936, when a few nested on house roofs (Harrison 1953); began to spread near harbour 1943, helped perhaps by bombing; c200 pairs by 1946 (Took 1955). Complete census virtually impossible; size has probably fluctuated around this level, though estimates have varied from 100 pairs in 1956 to 200 pairs in 1964 (LR), while the local authority estimated that c300 nests were destroyed in 1967 (G. Thomas). Destruction by the local authority and private individuals has continued, known nests destroyed numbering 112 in 1968, 152 in 1969 and 127 in 1970; total population in those years perhaps c225 pairs (A. Lett). *Folkestone and Cheriton*: 2 pairs on houses 1956 (LR); perhaps bred 1966-67; 2 pairs 1968; pair 1969; nesting prevented 1970 (J. N. Hollyer).

SUSSEX *Hastings and St Leonards*: 2 pairs nested on roofs for first time 1954, although a few had bred on the pier at St Leonards 1945, 1946 and 1949; slow increase to 35-40 pairs 1960; full census 1966 gave 46 pairs at St Leonards and 31 pairs at Hastings (LR); 106 nests and perhaps a further 20-25 pairs whose nests could not be seen 1969 (H. A. R. Cawkell). *Brighton*: 20+ nests on West Pier and c30 on Palace Pier 1945 (Boswall 1947).

ISLE OF WIGHT *Alum Bay*: pair on ruined pier 1955 (J. Stafford).

DORSET *Swanage*: pair 1968-69; nesting prevented 1970 (S. P. W. Corbett, W. G. Teagle). *Wyke Regis, Weymouth*: pair on house chimney 1969 and for some years previously; pair on factory roof near-by 1969 (F. R. Clifton). [*Portland Harbour*: pair on jetty 1968 (LR).]

DEVON *Beer*: several nests 1946, probably started on houses about 1940; at least one pair 1958 and 1960; 5 pairs on houses 1969 (A. R. Hodge). *Ladram Bay*: nest being built on caravan 1960 (LR). *Sidmouth*: pair on house 1951 (LR). *Budleigh Salterton*: pair on house 1923 and again 1944 (*Brit. Birds*, 38: 120); 10-15 pairs on houses 1969 and for many years previously, perhaps started 10-15 years ago (R. M. Cox). *Torquay*: pair on villa 1928 (*Brit. Birds*, 22: 147); at least one nest 1971 (D. J. Steventon). *Paignton*: nest on chimney stack 1970, probably other scattered pairs (M. R. Edmonds). *Brixham*: Young seen on four roofs 1948 (LR); 22+ pairs and probably many others on roofs near harbour 1969 (M. R. Edmonds); nested 1970 (R. G. Adams). *Thurlestone*: 2 pairs on roofs 1969 (D. G. Hutchins). *Bigbury-on-Sea*: 2 pairs on hotel roof 1969 (D. G. Hutchins).

CORNWALL *Looe*: 2 pairs on chimney pots at Hannafore 1969 (LR). *Polperro*: before 1958 (Stevens 1961). *Polruan*: about 1950 and again 1958-59 (Stevens 1961); on houses 1966 (LR); 11 pairs on roofs 1970 (K. Pellow). *Par*: on houses 1959

(Stevens 1961); [2 pairs on walls of china-clay drying pans, year not stated (Penhallurick 1969)]. *St Austell*: pair on house 1958-59; again 1962 (LR). *Mevagissey*: 1946-47 (Stevens 1961). *Portloe*: 1958 (Stevens 1961). *Mullion*: pair on bungalow 1966 (Penhallurick 1969); quite a few on hotel roofs 1969; 3 pairs 1970 (N. Exelby). *Culdrose R. N. Air Station, Helston*: 20 pairs 1968; several 1969 (LR); c100-150 pairs on roofs 1970, probably started about 1967 (Lt-Cdr P. H. Stuart). *Porthleven*: 1946 (Penhallurick 1969); 1951 onwards (Stevens 1961); nest on roof 1952 (LR); apparently none breeding 1970 (J. H. Johns). *Gulval*: unconfirmed report of the start of intermittent nesting on old mill about 1910 (R. D. Penhallurick); 2 pairs on mill and barn 1967 (Penhallurick 1969). *Newlyn*: since about 1964 (Penhallurick 1969); 18 pairs on ice factory and houses, c30 pairs on galvanised roofs of sheds in Newlyn Quarry 1970 (J. H. Johns). *Mousehole*: pair on restaurant 1969; 3+ nests 1970 (J. H. Johns). *St Ives*: since 1952 on chapel, since 1956 on houses and even more widely since 1962 (Penhallurick 1969); c25 pairs on roofs 1967 (LR); no counts 1969-70; 65+ nests with young, probably over 100 pairs in and around town on houses, church and garden shed 1971 (N. R. Phillips). *Newquay*: well established during 20 years up to 1946, on hotels, houses, church tower and other sites (LR); built up steadily from 28+ sites 1960 to 203 sites (189 nests) 1969, when many nests destroyed but 131 successful (P. J. Dwyer). *Porth*: pair 1943, deserted (*Brit. Birds*, 37: 120). *Port Isaac*: nest recorded between chimney stack and isolated chimney pot 1910 (*Brit. Birds*, 22: 147).

SOMERSET *Minehead*: pair on cottage 1957 (LR).

GLOUCESTERSHIRE/MONMOUTHSHIRE *Chepstow*: 5 pairs on rail bridge over River Wye, pair on house chimney 1969; no count on rail bridge, but 5 pairs on road bridge and pair on chimney 1970 (Miss C. A. Shirley).

MONMOUTHSHIRE *Newport*: new mixed colony of Herring and Lesser Black-backed Gulls on flat roofs of warehouses in docks 1969; c100 nests of Herring Gulls (W. G. Lewis).

GLAMORGAN *Cardiff*: new mixed colony of 15-20 pairs of Herring and Lesser Black-backed Gulls on factories 1962; Herring Gulls numbered c10 pairs 1963-64. The two species have continued to nest in fluctuating numbers and on various sites, including also houses, warehouses and railway sheds. Difficult to observe all nests, but in 1970 there were 29-31 nests of Herring Gulls plus perhaps a further 15 pairs with young (Col. H. Morrey Salmon). *Merthyr Tydfil*: another mixed colony on factory roofs, discovered 1958 but started probably about 1945 or 1946 and increased gradually; 19+ nests of Herring Gulls 1958; nesting prevented 1959 (Salmon 1958, Griffiths 1967). *Hirwaun*: 6½ miles west of Merthyr Tydfil, another mixed colony, perhaps an offshoot. Breeding suspected 1963, confirmed 1964-65; present 1966-67 (Griffiths 1967). 69 nests on one factory, c15 on others near-by; c80% Herring Gulls 1969 (R. M. Scott); present 1970 (Col. H. Morrey Salmon).

CARMARTHENSHIRE *Pembrey*: since 1951; 20-30 pairs 1965; present 1967; 50-60 nests on factory roofs 1969 (Dilwyn H. V. Roberts). *Carmarthen*: 9-15 pairs on hospital roofs 1969 (Melville Lewis).

PEMBROKESHIRE *Tenby*: Occasionally on roofs in past, but none 1969 (S. Sutcliffe).

ANGLESEY *Holyhead*: 2 pairs on Town Hall 1969, site in use since 1958 (A. J. Mercer); perhaps others on railway warehouses and sheds, but not confirmed (Ivor T. Rees).

CAERNARVONSHIRE *Conway*: from at least 1962 and probably before 1960; 40-50 pairs nesting 1969, plus a further 10-20 holding breeding sites on town walls, road and rail bridges, houses and church (Dr P. J. Dare). *Deganwy*: on flat roofs of garages 1970, no counts (Ivor T. Rees). *Llandudno*: on roofs since 1947 (Eric Hardy); young reared 1955 (LR); reported 1964 (P. Hope Jones); probably not more than 20 pairs 1970 (Ivor T. Rees). *Rhos-on-Sea*: 4-6 pairs 1964, but first nested at least

two years before; c5 pairs on roof-tops 1970 (P. Hope Jones). (Also unconfirmed reports of roof-nesting at near-by Colwyn Bay.)

ISLE OF MAN *Douglas*: pair on house in town centre 1969. *Port St Mary*: pair on bungalow 1970. *Port Erin*: pair on house 1970. (D. J. Slinn.)

WIGTOWNSHIRE *Stranraer*: began 1969, pair on chimney stack (R. C. Dickson).

AYRSHIRE *Kilmarnock*: 2+ pairs on chimney pots 1969-70 (A. Millar).

OUTER HEBRIDES *Butt of Lewis*: pair on house about 1962 (*Scot. Birds*, 2: 266).

SHETLAND *Lerwick*: for at least 30 years (J. Peterson); few pairs on Police station for a number of years up to 1955 (Venables and Venables 1955); on Police station, school and house roofs since then; 4-5 nests 1969 (F. Hunter).

INVERNESS-SHIRE *Inverness*: began a few years before 1965, when at least one pair; 2+ pairs 1969; 4-5 pairs 1970 (Dr M. Rusk).

NAIRNSHIRE *Nairn*: pair 1969 (Press report).

MORAYSHIRE *Lossiemouth*: since late 1950's; 2+ pairs on house 1968 (Press report); c8 pairs 1969 (Cdr D. S. Smith); 7 pairs 1970 (P. A. Kemp).

ABERDEENSHIRE *Peterhead*: attempt reported in press about 1952 (*Scot. Nat.*, 64: 122). *Aberdeen*: began 1969, pair on roof (Mrs V. A. Forshaw).

ANGUS *Arbroath*: 3-4 pairs on factory, chimney stack and possibly tower 1969 (M. Nicoll). *Dumdee*: 3-6 pairs on roofs in city centre 1969 (Jeremy Greenwood).

FIFE *Cellardyke*: pair on house 1951-53 (Dr W. J. Eggeling).

Lesser Black-backed Gull *Larus fuscus*

SUSSEX *Hastings and St Leonards*: pair 1969 (H. A. R. Cawkell).

GLOUCESTERSHIRE *Gloucester*: 2 pairs on warehouses in docks 1967 (Owen 1967); 3 pairs 1968; 4 pairs there and 3 pairs on church tower in city centre 1969 (B. A. Owen).

MONMOUTHSHIRE *Newport*: 10 pairs in new mixed colony with Herring Gulls on flat roofs of warehouses in docks 1969 (W. G. Lewis).

GLAMORGAN (see under Herring Gull for the history of these mixed colonies) *Cardiff*: c10 pairs 1963-64; 7-8 pairs 1965; 13-14 nests and also c10 pairs apparently with young 1970. [Earlier, Lesser Black-backed Gulls had nested on the foreshore in 1954-58 and on 'moth-balled' ships in 1957.] (Col. H. Morrey Salmon.) *Merthyr Tydfil*: 26+ pairs 1958; nesting prevented 1959 (Salmon 1958, Griffiths 1967). *Hirwain*: of c84 nests in 1969, c20% were of this species (R. M. Scott); present 1970 (Col. H. Morrey Salmon).

CARMARTHENSHIRE *Pembrey*: 2 pairs among Herring Gulls 1965 (Dilwyn H. V. Roberts).

Kittiwake *Rissa tridactyla*

NORTHUMBERLAND *North Shields*: 4 nests on warehouse 1949, increasing to 47 by 1956 (full details in Coulson and White 1958). Continued to grow, spreading to other buildings; 62 nests 1959 (Coulson 1963); 133 pairs 1969 (Dr J. C. Coulson). *Newcastle*: 2 pairs on warehouse, 10 pairs on quayside sheds 300 yards away 1965; 8 pairs on warehouse, prevented from nesting on sheds 1966; 16 pairs on warehouse 1967, 30 pairs 1969; warehouse demolished 1970 (Dr J. C. Coulson, LR).

CO. DURHAM *Gateshead*: up to 10 pairs on workshop 1962-64; building demolished 1965. Flour mill probably occupied from 1967; 35+ pairs 1970 (Dr J. C. Coulson). *Hartlepool*: 10 pairs on North Sands Pier 1970 (R. T. McAndrew). *West Hartlepool*: colony on dock warehouse started in 1958 or 1959; 6 nests 1959; building demolished 1960 (Coulson 1963).

YORKSHIRE *Bridlington*: pair attempted to breed on wall behind fish-dock 1949 (LR).

SUFFOLK *Lowestoft*: 2 pairs attempted to nest on pavilion on South Pier 1958; 5 pairs 1959, at least 3 successful; increased from 11 nests 1961 to 17 1963, but few young reared; 22 pairs 1964, more successful, then steady increase to 38 pairs by 1967; c37 pairs 1968, 32 1969 (LR, Mrs L. F. Kellow, Leslie Colley).

CAITHNESS *Scrabster*: 5 pairs on jetty 1967 (*Scot. Birds*, 4: 521); 7 nests 1969 (Dr D. Pottinger); 7 pairs 1970 (D. M. Stark).

MIDLOTHIAN *Granton, Edinburgh*: 2 pairs on harbour wall 1931; 4 pairs 1933, unsuccessful; none since (Baxter and Rintoul 1953).

EAST LOTHIAN *Dunbar*: 3 pairs on warehouse by harbour 1934; 14 pairs 1936; 21 pairs 1937 increasing to 54 pairs by 1945 (Baxter and Rintoul 1953). In 1956 there were 37 pairs on the warehouse and 119 nests across the harbour on a low cliff partly covered by a ruined castle wall; 37 pairs on warehouse and 164 on cliff 1959 (Coulson 1963); 79 pairs on window-sills and gutters of warehouse and 84 on castle wall 1969 (Miss Nancy Gordon).

Great Black-backed Gull *Larus marinus*

[DORSET *Portland Harbour*: pair reared one young on breakwater 1955 (LR).]

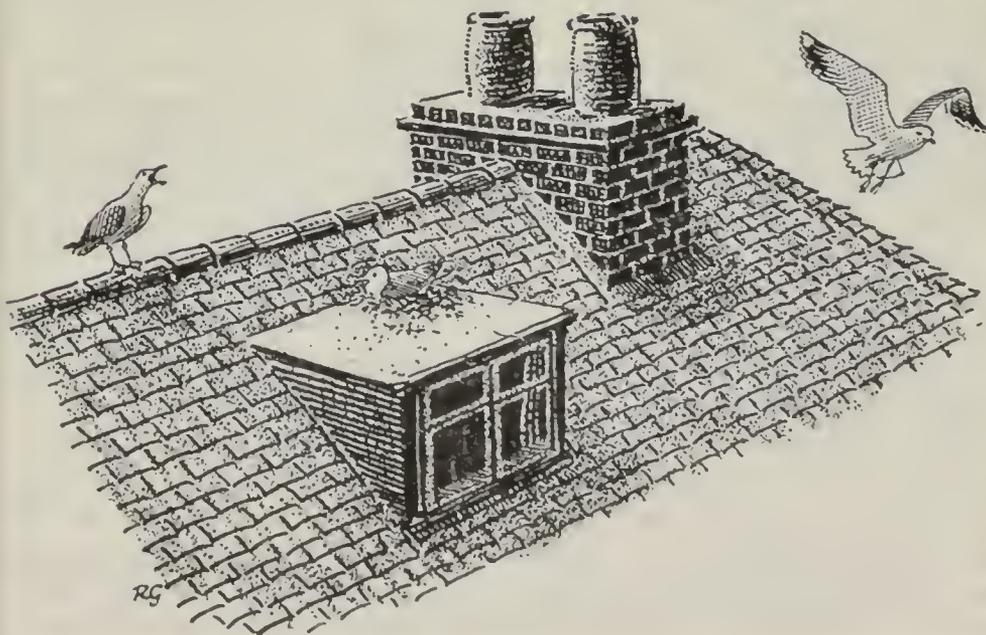
CORNWALL *Newlyn*: nest with one egg on ice factory occupied by Herring Gulls 1970; on very small flat roof sheltered on three sides by other roofs (J. H. Johns).

Common Gull *Larus canus*

INVERNESS-SHIRE *Dalcross Airport, Inverness*: nest on gantry framework of sliding doors of shed on airfield perimeter (C. J. Bridgman).

Black-headed Gull *Larus ridibundus*

[DORSET *Bridport*: pair reported to have reared young on top of large chimney stack 1968 (LR), but this was incorrect (F. R. Clifton *in litt.*).]



Recoveries in Great Britain and Ireland of birds ringed abroad

Robert Hudson

Unlike its predecessors, the present list covers two years (1969 and 1970)—it is obviously desirable that publication of recoveries should be as up-to-date as practicable—but to accomplish this it has been necessary to be more selective than usual in choosing which ones to give in full. During the two years 1,701 foreign-ringed recoveries were notified to the British Trust for Ornithology and these involved no fewer than 99 species. (In accordance with current opinion, the Bean Goose *Anser fabalis* and the Pink-footed Goose *A. brachyrhynchus* are no longer treated as conspecific.) Three species entered the file for the first time. One, a Norwegian Great Grey Shrike *Lanius excubitor* recovered in Staffordshire in March, was not wholly unexpected since the species is a regular passage migrant and winter visitor to Britain. The same could not be said, however, of an Alpine Swift *Apus melba* ringed as a nestling in Switzerland and found dead beneath a disused lighthouse in the Isles of Scilly two months later. The third new species concerned two recoveries of Purple Herons *Ardea purpurea* from the same thriving Dutch colony; one was trapped and released on Fair Isle and the other found dead in the Isles of Scilly, both in May (but one in each year) and thus assumed to have overshot on spring passage.

So many other interesting recoveries were notified during 1969 and 1970 that it seems invidious to single out a few for special mention. A Red-throated Diver *Gavia stellata* in Kent had been ringed in Finland in the Gulf of Bothnia; while a Dutch Great Crested Grebe *Podiceps cristatus* in Suffolk was only the second foreign-ringed one reported in Britain. A Fulmar *Fulmarus glacialis* from Iceland and a Barnacle Goose *Branta leucopsis* from the Netherlands (both in Norfolk) and two Herring Gulls *Larus argentatus* from the Baltic (in Suffolk and Yorkshire) were all firsts. The value of offshore observation was demonstrated by recoveries on North Sea oil rigs of an Osprey *Pandion haliaetus* and a Sparrowhawk *Accipiter nisus* from Sweden. (A Norwegian Redstart *Phoenicurus phoenicurus* on another of these oil rigs was listed in *Brit. Birds*, 63: 252.) The two years produced further recoveries of the northern races of the Razorbill *Alca torda*, Puffin *Fratercula arctica* and Willow Warbler *Phylloscopus trochilus*, and of the Continental form of the Dunnock *Prunella modularis*. One of the biggest surprises was a Sedge Warbler *Acrocephalus schoenobaenus* ringed in Malta and recaptured 24 days later in Essex, the first indication of north-west/south-east migration by British Sedge Warblers.

ected list of recoveries reported during 1969 and 1970

symbols and terms are the same as those used in the 'Report on bird-ringing 1969' (see page 150 in *Brit. Birds*, 64: 137-186), with the exception that the 'juv.' cannot always be relied upon to signify a young bird able to fly freely; due to lack of unanimity in the various ringing schemes, this term may sometimes mean a chick (=pullus). The figures in brackets after each scientific name denote the number of recoveries reported during 1969-70, and the grand total for the species.

Abbreviations used for ringing schemes

Vogeltekstation Arnhem	<i>Md.</i>	Ministry of Agriculture, Madrid
Natural Sciences Institute, Brussels	<i>NFBVV.</i>	Belgian bird-catchers' society
British Trust for Ornithology	<i>P.</i>	C.R.M.M.O., Paris
Copenhagen Museum	<i>Pg.</i>	Narodni Museum, Prague
Göteborg Museum	<i>P.V.</i>	Stacja Ornitologiczna, Poland
Vogelwarte Helgoland	<i>R.</i>	Vogelwarte Radolfzell
Vogelwarte Hiddensee	<i>Rk.</i>	Reykjavik Museum
Helsinki Museum	<i>Semp.</i>	Vogelwarte Sempach
Société Jersiaise	<i>St.</i>	Riksmuseum, Stockholm
Moscow Ringing Bureau	<i>Stav.</i>	Stavanger Museum

Black-throated Diver *Gavia stellata* (1: 3)

f.g.	18.5.67	Gulf of Bothnia: c. 62°00'N. 21°00'E., Finland
× (oil)	9.1.70	Ramsgate: 51°20'N. 1°25'E. (Kent)

Only two previous foreign-ringed recoveries had originated in Greenland.

Lesser Crested Grebe *Podiceps cristatus* (1: 2)

ad.	1967/68	Westeinderplassen: 52°15'N. 4°44'E. (Noord Holland) Netherlands
×	16.2.70	Oulton Broad: 52°28'N. 1°43'E. (Suffolk)

and the only previous foreign-ringed recovery (from Denmark, in Kent in May) indicate that there is some winter immigration into British waters, though there is no ringing or other evidence that the total numbers increase significantly at that season.

Lesser Frigatebird *Fulmarus glacialis* (3: 4)

(age?)	summer 61	Myggenaes: 62°06'N. 7°49'W., Faeroe Islands
+	21.4.65	Nympe Bank: c. 51°20'N. 7°30'W., St George's Channel
f.g.	3.4.65	Stórhöfði: 63°24'N. 20°17'W. (Vestmannaeyjar) Iceland
× A	24.6.70	Mundesley: 52°53'N. 1°26'E. (Norfolk)

The latter is the first from Iceland to be recovered here.

Common Shearwater *Puffinus puffinus* (1: 4)

f.g.	16.5.68	Ile d'Ouessant: 48°28'N. 5°05'W. (Finistère) France
v	13.6.69	Skokholm: 51°42'N. 5°16'W. (Pembroke)

Storm Petrel *Hydrobates pelagicus* (3: 7)

C.	f.g.	26.7.70	Mykinesholm: 62°06'N. 7°40'W., Faeroe Islands
9300048	v	4.8.70	Fair Isle: 59°32'N. 1°37'W. (Shetland)
J.	ad.	28.7.66	Burhou: 49°44'N. 2°15'W. (Alderney) Channel Islands
P1519	v	6.6.69	Skokholm: 51°42'N. 5°16'W. (Pembroke)
P.	ad. (nesting)	5.7.66	Ile de Molène: 48°19'N. 5°55'W. (Finistère) France
389250	v	5.7.69	Skokholm (Pembroke)

The last is puzzling, but it may indicate the feeding range of off-duty birds from the breeding colony.

Shag *Phalacrocorax aristotelis* (1: 4)

J.	pull.	20.6.70	Godin: 49°29'N. 2°25'W. (Herm) Channel Islands
F2998	× (net)	25.8.70	Portland: 50°32'N. 2°26'W. (Dorset)

All three previous recoveries had also originated in the Channel Islands.

Purple Heron *Ardea purpurea* (2: 2)

A.	pull.	17.6.67	Noorden: 52°10'N. 4°50'E. (Zuid Holland) Netherlands
8019764	v	16.5.69	Fair Isle: 59°32'N. 1°37'W. (Shetland)
A.	pull.	6.6.68	Noorden, Netherlands
8022276	×	30.5.70	St Mary's: 49°55'N. 6°18'W., Isles of Scilly

These are the first to be recovered here. There are some flourishing colonies in the Netherlands and stragglers are recorded annually in Britain (nearly 90 in the eight years 1963-70); the records are mostly in spring, suggesting overshooting by returning migrants.

Bittern *Botaurus stellaris* (1: 8)

A.	f.g.	14.1.67	Westeinderplassen: 52°15'N. 4°44'E. (Noord Holland) Netherlands
7005501	+	22.12.69	Robin Hood's Bay: 54°25'N. 0°33'W. (York)

Teal *Anas crecca* (120: 1,707)

Pg.	juv.	20.7.66	Cikar: 49°09'N. 14°50'E. (Jindrichuv Hradec) Czechoslovakia
E183530	+♂	16.11.68	Glen Parva: 52°34'N. 1°07'W. (Leicester)

This is the first from Czechoslovakia to be recovered here.

Gadwall *Anas strepera* (3: 21)

C.	pull.	21.6.70	Saltholm: 55°38'N. 12°46'E., Denmark
436674	+	10.11.70	Strangford Lough: 54°30'N. 5°35'W. (Down)
A.	juv.♀	6.11.69	Biesbosch: 51°43'N. 4°50'E. (Noord Brabant) Netherlands
4035850	+	0.12.69	Holbeach Marsh: 52°54'N. 0°04'E. (Lincoln)
Md.	1st year	25.6.68	Aznalcázar: 37°09'N. 6°17'W. (Sevilla) Spain
D9509	+	24.1.70	Ouse Washes: 52°29'N. 0°13'E. (Cambridge)

Pintail *Anas acuta* (11: 83)

Hki.	pull.	10.7.69	near Lumijoki: 64°52'N. 25°15'E. (Oulu) Finland
H80009	+	2.10.70	River Fergus: 52°45'N. 9°00'W. (Clare)

This is the only recovery here in 1969-70 of a foreign Pintail ringed as a pullus.

Shoveler *Anas clypeata* (10: 87)

	pull.	4.6.69	Matsalu Reserve: 58°44'N. 23°46'E., Estonian S.S.R.
1962	+♂	c.14.1.70	Harty: 51°23'N. 0°53'E., Sheppey (Kent)

This is the only recovery here in 1969-70 of a foreign Shoveler ringed as a pullus.

Trump *Aythya marila* (1: 65)

	f.g.♀	20.6.68	near Porvoo: 60°09'N. 25°38'E. (Uusimaa) Finland
1970	+	24.10.69	Lough Neagh: c.54°40'N. 6°40'W. (Tyrone)

There has been one previous recovery here from Finland; all other British recoveries have been of Icelandic origin.

Pochard *Aythya ferina* (10: 52)

	pull.	22.7.67	near Zandvoort: 52°21'N. 4°32'E. (Noord Holland) Netherlands
1948	+	2.1.69	Brean Down: 51°20'N. 3°01'W. (Somerset)
	juv.	19.7.69	near Bohdanec: 50°06'N. 15°38'E. (Pardubice) Czechoslovakia
1928	+	31.12.69	Kessingland: 52°20'N. 1°42'E. (Suffolk)
	pull.	16.6.66	Lake Engure: 57°17'N. 23°07'E., Latvian S.S.R.
1944	+	9.1.69	Brocklesby: 53°36'N. 0°17'W. (Lincoln)
	pull.	20.6.68	Lake Engure, Latvian S.S.R.
1979	+	12.1.70	Lough Neagh: c.54°40'N. 6°40'W. (Tyrone)

These are the only recoveries here in 1969-70 of foreign Pochard known to have been ringed in their natal areas.

Goldeneye *Bucephala clangula* (3: 19)

	f.g.♀	11.6.69	near Penilä: 60°21'N. 22°12'E. (Turku ja Pori) Finland
1972	+	20.12.69	River Tamar: 50°24'N. 4°12'W. (Devon)
	ad.♀ (nest)	23.6.62	Lundnäs: 61°28'N. 16°23'E. (Gävleborg) Sweden
193050	+	10.11.68	South Slobs: 52°19'N. 6°30'W. (Wexford)
	ad.♀	10.6.68	Rogberga: 57°44'N. 14°17'E. (Jönköping) Sweden
19258	+	8.1.70	Marlacoo: 54°20'N. 6°29'W. (Armagh)

Shelduck *Tadorna tadorna* (8: 103)

	pull.	7.7.66	Viken: 56°09'N. 12°34'E. (Malmöhus) Sweden
19763	+	20.2.70	Shellness: 51°23'N. 0°56'E., Sheppey (Kent)
	ad.♀	23.6.67	Amager: 55°38'N. 12°34'E. (Sjælland) Denmark
1965	×	1.1.70	Walberswick: 52°19'N. 1°39'E. (Suffolk)

There are exceedingly few British recoveries of Shelduck ringed north of the Humber and the Humber Bight moulting area.

Widgeon *Anser anser* (1: 31)

	ad.	4.8.67	Skipalón: 65°47'N. 18°12'W. (Eyjafjardar) Iceland
197	×	0.1.69	St Ninian's Bay: 55°49'N. 5°07'W. (Bute)

White-fronted Goose *Anser albifrons* (12: 247)

	1stW.♀	10.2.66	Vlijmen: 51°43'N. 5°15'E. (Noord Brabant) Netherlands
19138	+	15.2.69	Montrose Basin: 56°43'N. 2°30'W. (Angus)

This is selected for publication because of the recovery locality; all previous recoveries in Scotland have been of the Greenland race *A. a. flavirostris*.

Bean Goose *Anser fabalis* (1: 3)

A.	ad.♂	11.2.69	Vught: 51°40'N. 5°18'E. (Noord Brabant) Netherlands
8503732	+	14.2.70	Holbeach Marsh: 52°52'N. 0°02'E. (Lincoln)

One of the two previous recoveries was also on Holbeach Marsh and of Dutch origin (the other being a Swedish bird in Northumberland).

Barnacle Goose *Branta leucopsis* (17: 250)

A.	ad.♀	23.2.66	Oppenhuizen: 53°01'N. 5°42'E. (Friesland) Netherlands
7000784	×	26.12.70	Horsey Mere: 52°44'N. 1°35'E. (Norfolk)

This is the first ringed in the Netherlands to be recovered here. The Dutch wintering population comes chiefly from Novaya Zemlya, whereas those wintering in Britain and Ireland are from Spitsbergen and Greenland.

Osprey *Pandion haliaetus* (1: 9)

G.	pull.	2.7.57	Lake Avern: 58°55'N. 15°30'E. (Örebro) Sweden
E6465	×	18.9.69	Britannia Oil Rig: c.53°40'N. 1°00'E., North Sea

Sparrowhawk *Accipiter nisus* (3: 18)

St.	pull.	7.7.69	near Strömsbruk: 61°54'N. 17°17'E. (Gävleborg) Sweden
6039168	×	12.9.69	Platform 'C' Oil Rig: c.53°15'N. 1°45'E., North Sea
A.	1st W.♂	5.11.67	Westerschouwen: 51°40'N. 3°43'E. (Zeeland) Netherlands
2004233	×	19.2.70	Wootton: 50°44'N. 1°14'W., Isle of Wight
B.	f.g.♀	3.11.67	Kijkduin: 52°04'N. 4°13'E. (Zuid Holland) Netherlands
3105015	×	c.8.4.69	Cockfield: 52°10'N. 0°45'E. (Suffolk)

Kestrel *Falco tinnunculus* (4: 20)

St.	pull.	25.6.69	near Edefors: 66°05'N. 20°59'E. (Norrbotten) Sweden
7042523	×	(24.11.69)	near Yardley Hastings: 52°12'N. 0°45'W. (Northampton)
C.	pull.	24.6.66	Nørre Nebel: 55°47'N. 8°18'E. (Jutland) Denmark
505796	×	25.1.70	Trunch: 52°52'N. 1°25'E. (Norfolk)
NFBVV	ad.	6.10.66	Sint Kruis-Winkel: 51°09'N. 3°49'E. (East Flanders) Belgium
B19829	×	(27.9.69)	Barmpton: 54°32'N. 1°30'W. (Durham)
NFBVV	f.g.	27.10.68	Geluweld: 50°50'N. 2°59'E. (West Flanders) Belgium
C4001	×	(26.6.69)	Newington: 51°22'N. 0°40'E. (Kent)

Water Rail *Rallus aquaticus* (8: 17)

St.	juv.	14.9.65	Getterön: 57°08'N. 12°13'E. (Halland) Sweden
6049179	×	12.1.70	Beverley: 53°51'N. 0°26'W. (York)
C.	juv.	8.8.62	Nakskov: 54°50'N. 11°10'E. (Lolland) Denmark
648911	×	25.2.68	Laghey: 54°37'N. 8°05'W. (Donegal)
H.	pull.	2.7.66	near Schaumburg-Lippe: 52°27'N. 9°21'E. (Niedersachsen) Germany
6171222	v	4.4.70	Piel Island: 54°04'N. 3°10'W. (Lancashire)
H.	juv.♂	2.9.66	Wetzen: 52°17'N. 9°38'E. (Niedersachsen) Germany
6226435	×	(cat) 6.4.69	Pewsey: 51°21'N. 1°46'W. (Wiltshire)
H.	juv.	25.7.69	near Gifhorn: 52°25'N. 10°44'E. (Niedersachsen) Germany
6227650	×	A 6.4.70	Skomer: 51°44'N. 5°19'W. (Pembroke)
H.	juv.	4.9.69	Rantum/Sylt: 54°50'N. 8°18'E. (Schleswig-Holstein) Germany
6245529	×	15.10.69	Aberayron: 52°15'N. 4°15'W. (Cardigan)

06933	f.g.	15.10.68	Arnstadt: 50°50'N. 10°57'E. (Thuringen) Germany
	+	0.1.69	Summercourt: 50°22'N. 4°58'W. (Cornwall)
399625	ad.♂	21.7.69	near Trzebiez: 53°34'N. 14°22'E. (Szczecin) Poland
	× (mink)	0.10.69	Wrington: 51°22'N. 2°46'W. (Somerset)

is extraordinary that the 1969-70 recoveries should nearly equal the previous grand total. They include the first ones here from Sweden and Poland.

Moorhen *Gallinula chloropus* (13: 68)

8066	juv.	1.7.67	Wilhelmshaven: 53°31'N. 8°08'E. (Niedersachsen) Germany
	×	23.2.68	Stisted: 51°54'N. 0°37'E. (Essex)
6336	pull.	17.6.68	Rieselfelder-Münster: 51°57'N. 7°38'E. (Nordrhein-Westfalen) Germany
	+	0.30.3.70	Paddock Wood: 51°11'N. 0°23'E. (Kent)
57343	pull.	28.6.69	Rieselfelder-Münster, Germany
	× (car)	8.3.70	Grove Ferry: 51°19'N. 1°12'E. (Kent)

Only those which had been ringed in their natal areas are listed.

Coot *Fulica atra* (8: 21)

018867	pull.	20.6.69	Westeinderplassen: 52°15'N. 4°44'E. (Noord Holland) Netherlands
	×	28.1.70	Holkham: 52°58'N. 0°48'E. (Norfolk)

This is the only recovery here in 1969-70 of a foreign Coot ringed as a pullus.

Oystercatcher *Haematopus ostralegus* (12: 74)

021703	pull.	19.6.69	near Tvååker: 57°02'N. 12°19'E. (Halland) Sweden
	v	29.8.69	Dawsmere: 52°51'N. 0°07'E., Holbeach (Lincoln)
030682	pull.	19.6.68	Offingawier: 53°02'N. 5°43'E. (Friesland) Netherlands
	×	26.7.70	Snettisham: 52°53'N. 0°30'E. (Norfolk)
006042	pull.	14.6.64	Oosthuizen: 52°34'N. 5°00'E. (Noord Holland) Netherlands
	+	10.1.70	Pembrey: 51°42'N. 4°16'W. (Carmarthen)
038790	pull.	6.6.68	Rammekenshoek: 51°27'N. 3°39'E. (Zeeland) Netherlands
	×	18.4.69	Port Seton: 55°58'N. 2°57'W. (East Lothian)

The other eight had been ringed in Norway (six) and the Faeroe Islands (two). Countries which produce the bulk of overseas recoveries to and from Britain, 021703 is the first here from Sweden.

Wapwing *Vanellus vanellus* (12: 296)

077765	pull.	26.5.68	near Vehkalahti: 60°34'N. 27°13'E. (Kymi) Finland
	×	late 10.69	Newport: 52°01'N. 4°50'W. (Pembroke)

This is the most northerly origin of those recovered here in 1969-70.

Ringed Plover *Charadrius hiaticula* (4: 26)

0105307	juv.	30.8.70	near Giske: 62°30'N. 6°02'E. (Møre og Romsdal) Norway
	v	22.9.70	Low Hauxley: 55°19'N. 1°33'W. (Northumberland)
082403	pull.	20.5.68	Orrevatnet: 58°45'N. 5°33'E. (Rogaland) Norway
	×	3.11.68	Cahirciveen: 51°57'N. 10°13'W. (Kerry)
058297	pull.	16.6.67	Skagen: 57°44'N. 10°36'E. (Jutland) Denmark
	×	15.4.69	Clifden: 53°29'N. 10°01'W. (Galway)

H.	(age?)	21.5.67	Uthörn/Sylt: 55°02'N. 8°26'E. (Schleswig-Holstein) Germany
80171074	×	c.10.10.68	Douglas: 54°09'N. 4°29'W., Isle of Man

Turnstone *Arenaria interpres* (3: 25)

Hki.	pull.	7.7.69	Norrskär: 63°14'N. 20°37'E. (Vaasa) Finland
AT007052	v	7.9.69	near Sutton Bridge: 52°44'N. 0°10'E. (Lincoln)
Hki.	pull.	1.7.66	near Uusikaupunki: 60°48'N. 21°04'E. (Turku ja Pori) Finland
A284499	v	9.5.70	Heacham: 52°55'N. 0°30'E. (Norfolk)

The only previous recovery here of one ringed as a chick had originated in Norway.

Jack Snipe *Lymnocyptes minimus* (1: 7)

C.	f.g.	27.9.68	Amager: 55°33'N. 12°36'E. (Sjaelland) Denmark
8594632	+	19.1.69	Wenagh: 52°52'N. 8°12'W. (Tipperary)

Common Sandpiper *Tringa hypoleucos* (1: 2)

B.	f.g.	9.5.69	Beerse: 51°19'N. 4°52'E. (Antwerpen) Belgium
5V77277	v	17.8.69	Bradwell-on-Sea: 51°44'N. 0°54'E. (Essex)

Redshank *Tringa totanus* (5: 33)

Rk.	pull.	14.6.66	Árnes: 65°00'N. 19°15'W. (Skagafjardar) Iceland
614911	×	22.9.69	Avonmouth: 51°31'N. 2°42'W. (Gloucester)
Rk.	pull.	6.7.69	Lake Myvatn: 65°37'N. 17°02'W. (Sudur Thingeyjar) Iceland
617511	+	c.12.12.69	Granton: 55°59'N. 3°14'W. (Midlothian)
Rk.	pull.	19.6.69	Lambavatn: 65°30'N. 24°07'W. (Bardastrandar) Iceland
718659	×	3.1.70	Ballywalter: 54°33'N. 5°30'W. (Down)
A.	ad.	10.9.64	Vlieland: 53°16'N. 4°59'E. (Frisian Islands) Netherlands
2022281	×	3.5.70	Low Hauxley: 55°19'N. 1°33'W. (Northumberland)

Spotted Redshank *Tringa erythropus* (1: 2)

A.	ad.	10.9.64	Vlieland, Netherlands
2022268	×	1.1.69	North Cotes: 53°30'N. 0°01'E. (Lincoln)

Bar-tailed Godwit *Limosa lapponica* (2: 15)

C.	juv.	12.9.56	Amager: 55°35'N. 12°35'E. (Sjaelland) Denmark
583906	+	(5.1.64)	Grimsby: 53°35'N. 0°05'W. (Lincoln)
C.	ad.	4.5.60	Amager, Denmark
589154	×	6.9.64	Holy Island: 55°41'N. 1°48'W. (Northumberland)

Sanderling *Calidris alba* (2: 11)

Stav.	f.g.	19.9.66	Revtangen: 58°45'N. 5°30'E. (Rogaland) Norway
868173	×	10.1.67	Great Yarmouth: 52°40'N. 1°45'E. (Norfolk)
Stav.	f.g.	19.9.66	Revtangen, Norway
868178	v	17.5.69	Heacham: 52°55'N. 0°30'E. (Norfolk)

Dunlin *Calidris alpina* (99: 699)

Rk.	ad.	24.5.60	Midnes: 64°04'N. 22°43'W. (Gullbringu) Iceland
810729	v	15.5.69	Middleton: 54°00'N. 2°54'W. (Lancashire)
Stav.	f.g.	5.8.67	Vadsøya: 70°04'N. 29°45'E. (Finnmark) Norway
883327	v	5.9.70	Bradwell-on-Sea: 51°44'N. 0°54'E. (Essex)
Stav.	1st W.	9.8.69	Vadsøya, Norway
886485	v	6.10.69	Kemsley Marsh: 51°23'N. 0°43'E. (Kent)



PLATE 73. Above, Herring Gull *Larus argentatus* with chick at nest on an aircraft hangar, Helston, Cornwall, 1970 (pages 478, 485) (photo: RNAS Cudrose). Below, two adult and four young Kittiwakes *Rissa tridactyla* on warehouse window-ledge, North Shields, Northumberland, July 1970 (pages 480, 486) (photo: J. C. Coulson)





PLATE 74. Part of a colony of Kittiwakes *Rissa tridactyla* on a flour mill about ten miles up the River Tyne at Gateshead, Co. Durham, July 1970. This species first nested at Gateshead in 1962 and across the river at Newcastle three years later; all other sites have been coastal (pages 480, 486) (photos: J. C. Coulson)





PLATE 75. The oldest surviving colony of Kittiwakes *Rissa tridactyla* on man-made structures, dating from 1934, at Dunbar, East Lothian, May 1971. Several dozen nests are shown here on the warehouse; the rest lie across the harbour on a low cliff partly covered by an old stone wall (pages 479, 487) (photos: J. C. Coulson)





PLATE 76. Swift *Apus apus* flying up to nest with throat pouch greatly swollen by large ball of insects, Radnor, July 1956 (pages 501-503) (photo: H. Morrey Salmon)

PLATE 77. Top, part of an assembly of 100,000 Manx Shearwaters *Puffinus puffinus* waiting for darkness off Skokholm before coming to land, June 1933. Centre, Great Northern Diver *Gavia immer* just starting to moult, Glamorgan, March 1929. Bottom, winter Dunlin *Calidris alpina*, Glamorgan, November 1923 (photos: H. Morrey Salmon)





PLATE 78. Male Greenland Wheatear *Oenanthe oenanthe leucorhoa* on spring passage, Glamorgan, May 1936. Below, female Montagu's Harrier *Circus pygargus* at nest with half-grown nestlings in down, Pembrokeshire, July 1935 (photos: H. Morrey Salmon)





PLATE 79. Male Red-backed Shrike *Lanius collurio*, Glamorgan, June 1920. Below, Nightjar *Caprimulgus europaeus* lengthways on a branch, Glamorgan, July 1913, and Corn Bunting *Emberiza calandra*, Merioneth, June 1914 (photos: H. Morrey Salmon)





PLATE 80. Curlews *Numenius arquata* at night, Radnor, August 1956. Below, Colonel H. Morrey Salmon (on right) presenting his history of the Red Kites in Wales to the R.S.P.B. President, Robert Dougall (page 503) (photo: Keystone Press Agency)



Dunlin from Iceland have been recovered in Britain and Ireland; and the two Norway equal the most northerly origin of foreign-ringed ones found here (*Brit. Birds*, 63: 249, for another from Vadsøya).

Philomachus pugnax (1: 4)

	f.g.♂	17.9.69	Rørvik: 62°33'N. 6°06'E. (Møre og Romsdal) Norway
04	×	3.1.70	Skinflats: 56°02'N. 3°45'W. (Stirling)

Great Skua *Stercorarius skua* (2: 6)

	pull.	26.7.60	Saksun: 62°15'N. 7°10'W. (Streymoy) Faeroe Islands
01	/?	30.3.64	Portmadoc: 52°55'N. 4°08'W. (Caernarvon)
	pull.	4.7.65	Svinaskora: 62°16'N. 7°13'W. (Streymoy) Faeroe Islands
81	×	27.8.65	Heysham: 54°02'N. 2°54'W. (Lancashire)

Ring-billed Gull *Larus argentatus* (10: 105)

	pull.	5.7.64	Kylmäkari: 60°25'N. 27°13'E. (Kymi) Finland
88	×	(4.4.69)	Aldeburgh: 52°09'N. 1°35'E. (Suffolk)
	pull.	9.6.68	Dragsfjärd: 60°02'N. 22°14'E. (Turku ja Pori) Finland
88	×	early 4.69	Kilham: 54°04'N. 0°23'W. (York)

are the first ringed in the Baltic area to be recovered here. Other recoveries 1969-70 had originated in Nordland and Finnmark in north Norway (five), Murmansk (two) and the Channel Islands (one).

Common Gull *Larus canus* (89: 923)

	pull.	28.6.67	Kandalaksha Reserve: 67°02'N. 32°35'E. (Murmansk) U.S.S.R.
88	×	2.3.69	Isle of Sheppey: 51°26'N. 0°49'E. (Kent)
	pull.	24.6.69	Kandalaksha Reserve, U.S.S.R.
21	×	mid-3.70	Ipswich: 52°04'N. 1°10'E. (Suffolk)
	pull.	21.6.49	Graswarder: 54°23'N. 11°00'E. (Schleswig-Holstein) Germany
	×	23.3.69	Winterton-on-Sea: 52°43'N. 1°42'E. (Norfolk)

are few recoveries here of Common Gulls from the Soviet Union (excluding Baltic States). The one of German origin is given in view of its longevity, at 20 years.

Black-headed Gull *Larus ridibundus* (405: 2,658)

	pull.	16.6.68	Skipalón: 65°47'N. 18°12'W. (Eyjafjardar) Iceland
	×	c.12.8.69	Seilebost: 57°52'N. 6°55'W., Harris, Outer Hebrides
	pull.	17.6.69	Skipalón, Iceland
	+	(18.3.70)	Dingwall: 57°35'N. 4°26'W. (Ross)
	pull.	18.6.69	Bessastadir: 64°06'N. 22°00'W. (Gullbringu) Iceland
	×	(22.12.69)	Lossiemouth: 57°43'N. 3°18'W. (Moray)

are still rather few recoveries here of Black-headed Gulls from Iceland.

Red-throated Diver *Rissa tridactyla* (6: 44)

	juv.	7.7.67	Seven Islands: 68°49'N. 37°20'E. (Murmansk) U.S.S.R.
7	+	25.2.69	off Outer Hebrides: 57°57'N. 8°00'W.

Other five had originated in Norway, including one from Nord-Varanger (Finnmark) found in Ayrshire.

Common Tern *Sterna hirundo* (4: 34)

<i>Hki.</i>	pull.	1.7.69	Ylöjärvi: 61°35'N. 23°43'E. (Häme) Finland
A363090	v	16.8.69	Dungeness: 50°55'N. 0°59'E. (Kent)
<i>Stav.</i>	pull.	13.7.70	near Os: 60°11'N. 5°26'E. (Hordaland) Norway
7123118	×	18.8.80	Kirkton Manor: 55°38'N. 3°14'W. (Peebles)
<i>H.</i>	pull.	6.6.62	Krakow See: 53°29'N. 12°17'E. (Mecklenburg) Germany
7380347	v	29.8.69	Dungeness (Kent)
<i>H.</i>	ad.	17.6.60	Insel Scharhörn: 53°57'N. 8°26'E. (Niedersachsen) Germany
7323976	×	18.8.70	Heacham: 52°55'N. 0°30'E. (Norfolk)

7123118 is only the second from Norway to be recovered here.

Arctic Tern *Sterna paradisaea* (7: 27)

<i>Stav.</i>	pull.	24.7.70	Fjørtoft: 62°42'N. 6°26'E. (Møre og Romsdal) Norway
7110130	×	(13.9.70)	Darlington: 54°33'N. 1°33'W. (Durham)
<i>C.</i>	ad.	10.5.58	Saltholm: 55°38'N. 12°46'E. Denmark
823682	×	8.8.64	St Andrews: 56°20'N. 2°48'W. (Fife)
<i>C.</i>	ad.	16.5.63	Saltholm, Denmark
8016428	v	18.5.67	Saltholm, Denmark
	×	22.4.68	Liverpool: 53°25'N. 2°55'W. (Lancashire)
<i>C.</i>	pull.	3.6.67	Æbelø: 55°37'N. 10°11'E. (Fyn) Denmark
8519834	v	29.7.67	Montrose: 56°43'N. 2°29'W. (Angus)
<i>C.</i>	pull.	19.6.66	Amager: 55°35'N. 12°35'E. (Sjælland) Denmark
8555130	×	20.8.67	Boldon Colliery: 54°57'N. 1°27'W. (Durham)
<i>C.</i>	pull.	23.7.65	Mikladali: 62°20'N. 6°45'W. (Kallsoy) Faeroe Islands
8512197	×	10.9.65	Bath: 51°23'N. 2°22'W. (Somerset)
<i>H.</i>	pull.	26.6.70	Hallig Oland: 54°40'N. 8°42'E. (Schleswig-Holstein) Germany
7251871	× (<i>wires</i>)	23.8.70	Broomley: 56°43'N. 2°31'W., Montrose (Angus)

7110130 is the first from Norway to be found here.

Sandwich Tern *Sterna sandvicensis* (1: 20)

<i>C.</i>	pull.	27.6.59	Nordre Rønner: 57°22'N. 10°56'E., Kattegat, Denmark
725074	×	27.7.69	Farne Islands: 55°37'N. 1°37'W. (Northumberland)

Razorbill *Alca torda* (2: 7)

<i>M.</i>	pull.	10.7.61	Onega Bay: 64°30'N. 36°00'E., Karelian A.S.S.R.
E597395	×	23.3.69	near Embleton: 55°29'N. 1°35'W. (Northumberland)
<i>Stav.</i>	pull.	2.7.69	Runde: 62°25'N. 5°38'E. (Møre og Romsdal) Norway
543732	×	(26.1.70)	Arklow: 52°48'N. 6°10'W. (Wicklow)

These are both from the breeding range of the northern race *A. t. torda*.

Guillemot *Uria aalge* (2: 24)

<i>C.</i>	f.g.	1.7.68	Vidøy: 62°20'N. 6°30'W. Faeroe Islands
504911	× (<i>oil</i>)	15.3.69	Chevington Burn: 55°16'N. 1°39'W. (Northumberland)
<i>H.</i>	pull.	10.7.66	Heligoland: 54°11'N. 7°55'E. Germany
3019537	×	31.1.69	Bacton: 52°52'N. 1°28'E. (Norfolk)

504911 is the first recovery here of one ringed in the Faeroe Islands, where the population is sometimes subspecifically distinguished as *U. a. spiloptera*.

Fin Fratercula arctica (1: 8)

	ad.	23.7.68	So-Fugloy: 67°04'N. 13°47'E. (Nordland) Norway
179	×	23.2.69	North Berwick: 56°04'N. 2°44'W. (East Lothian)

Fugloy is well within the breeding range of the low arctic form *F. a. arctica*.

Woodpigeon Columba palumbus (1: 6)

	pull.	22.5.69	Markelo: 52°14'N. 6°30'E. (Overijssel) Netherlands
0801	+	9.2.70	Cork City: 51°54'N. 8°28'W.

For R. F. Ruttledge (1966, *Ireland's Birds*) considered that there was regular winter immigration of this species into Ireland. In addition to the above, one in Denmark was recovered in Co. Leix in February 1934, but it has yet to be established that Continental Woodpigeons normally winter in Ireland.

Pallared Dove Streptopelia decaocto (6: 24)

	f.g.	15.1.65	Huizen: 52°18'N. 5°14'E. (Noord Holland) Netherlands
494	×	27.9.70	Market Harborough: 52°29'N. 0°55'W. (Leicester)
	f.g.	15.1.66	Tilburg: 51°34'N. 5°07'E. (Noord Brabant) Netherlands
969	×	0.9.69	Ellesmere Port: 53°17'N. 2°54'W. (Cheshire)
	f.g.	30.10.67	Knokke-sur-Mer: 51°22'N. 3°22'E. (West Flanders) Belgium
873	v	5.7.70	Ainsdale: 53°37'N. 3°03'W. (Lancashire)
	juv.	19.10.68	Knokke-sur-Mer, Belgium
203	v	1.6.69	Seaford: 50°46'N. 0°06'E. (Sussex)
	f.g.	1.11.69	Knokke-sur-Mer, Belgium
588	+	10.5.70	Heckington: 52°59'N. 0°18'W. (Lincoln)
	f.g.♀	10.1.68	Leuven: 50°53'N. 4°42'E. (Brabant) Belgium
194	×	22.9.69	Little Crosby: 53°31'N. 3°05'W. (Lancashire)

Cuckoo Cuculus canorus (1: 2)

	juv.	4.8.67	Texel: 53°06'N. 4°48'E. (Frisian Islands) Netherlands
518	×	13.7.69	Sleaford: 53°00'N. 0°24'W. (Lincoln)

Long-eared Owl Asio otus (1: 15)

	f.g.	1.5.66	Heligoland: 54°11'N. 7°55'E. Germany
447	×	14.12.68	Margate: 51°24'N. 1°24'E. (Kent)

Short-eared Owl Asio flammeus (1: 6)

	pull.	14.6.66	near Sideby: 62°03'N. 21°25'E. (Vaasa) Finland
755	×	22.4.69	High Halstow: 51°27'N. 0°34'E. (Kent)

This is the third Finnish-ringed nestling to be recovered here; the other three other foreign-ringed recoveries had originated in Iceland, Norway and north Germany.

Alpine Swift Apus melba (1: 1)

	pull.	26.7.69	Solothurn: 47°13'N. 7°32'E. Switzerland
88	×	25.9.69	St Agnes: 49°53'N. 6°21'W., Isles of Scilly

This is the first recovery in Britain and Ireland, and is especially noteworthy for post-fledging dispersal north-west; the bird was found dead below a disused house, which it had probably struck.

Rook *Corvus frugilegus* (1: 48)

<i>Hki.</i>	pull.	8.6.70	Ventälä: 63°00'N. 22°19'E. (Vaasa) Finland
<i>H51766</i>	+	28.10.70	Dedham: 51°58'N. 1°00'E. (Essex)

This is the first from Finland to be found here, but there had been previous recoveries originating in Russia, Latvia and Lithuania.

Jackdaw *Corvus monedula* (1: 13)

<i>A.</i>	pull.	2.6.69	Texel: 53°04'N. 4°45'E. (Frisian Islands) Netherlands
<i>3107801</i>	×	18.4.70	Womenswold: 51°13'N. 1°11'E. (Kent)

Song Thrush *Turdus philomelos* (10: 71)

<i>Stav.</i>	f.g.	9.8.68	Nordfjordeid: 61°54'N. 6°00'E. (Sogn og Fjordane) Norway
<i>774989</i>	×	26.10.68	Portarlington: 53°10'N. 7°11'W. (Leix)

This had the most northerly origin of those recovered here in 1969-70.

Redstart *Phoenicurus phoenicurus* (2: 9)

<i>He.</i>	f.g.	13.10.69	Serrahn: 53°20'N. 13°14'E. (Neubrandenburg) Germany
<i>90305389</i>	v♀	25.10.69	Hartlepool: 54°42'N. 1°11'W. (Durham)
<i>A.</i>	juv.♀	26.8.69	Schiermonnikoog: 53°29'N. 6°12'E. (Frisian Islands) Netherlands
<i>S225048</i>	v	8.5.70	Fair Isle: 59°32'N. 1°37'W. (Shetland)

The easterly origin of 90305389 is especially noteworthy.

Reed Warbler *Acrocephalus scirpaceus* (2: 8)

<i>P.</i>	ad.	7.9.69	near Agadir: 30°27'N. 9°40'W. Morocco
<i>1272075</i>	v	11.5.70	Beachy Head: 50°44'N. 0°16'E. (Sussex)
<i>P.</i>	ad.	18.5.68	Bénouville: 49°15'N. 0°17'W. (Calvados) France
<i>929894</i>	v	27.7.70	Silverdale: 54°10'N. 2°49'W. (Lancashire)

Sedge Warbler *Acrocephalus schoenobaenus* (5: 13)

<i>BTO.</i>	f.g.	4.4.70	Xaghra: 36°03'N. 14°17'E. (Gozo) Malta
<i>HX94693</i>	v	28.4.70	Little Hallingbury: 51°50'N. 0°10'E. (Essex)

This recovery was most unexpected; ringing in Britain and Ireland has produced no corresponding evidence of south-easterly migration.

Garden Warbler *Sylvia borin* (2: 8)

<i>A.</i>	f.g.	17.8.69	near Zandvoort: 52°21'N. 4°32'E. (Noord Holland) Netherlands
<i>S400577</i>	v	30.9.69	Skokholm: 51°42'N. 5°16'W. (Pembroke)
<i>B.</i>	juv.	30.8.69	Liedekerke: 50°52'N. 4°05'E. (Brabant) Belgium
<i>8V82716</i>	v	17.9.69	Bardsey Island: 52°46'N. 4°48'W. (Caernarvon)

These both show atypical onward movements in a westerly direction.

Blackcap *Sylvia atricapilla* (2: 10)

<i>P.</i>	f.g.♂	14.1.70	Ain Sebaa: 33°40'N. 7°33'W. Morocco
<i>1272228</i>	v	3.5.70	Spurn Point: 53°35'N. 0°06'E. (York)

Lesser Whitethroat *Sylvia curruca* (1: 2)

	f.g.	3.9.69	Radolfzell: 47°44'N. 8°58'E. (Südbaden) Germany
19990	v	10.5.70	Hornsea Mere: 53°55'N. 0°10'W. (York)

Its movement accords well with the known south-east/north-west migration pattern of the species.

Yellow Warbler *Phylloscopus trochilus* (6: 13)

	juv.	24.8.69	Landsjön: 57°52'N. 14°19'E. (Jönköping) Sweden
133	×	9.5.70	off Dover: c.51°10'N. 1°25'E. (Kent)
	ad.	5.5.69	Saltholm: 55°38'N. 12°46'E. Denmark
701	×	16.5.70	Pakefield: 52°27'N. 1°43'E. (Suffolk)

These two are selected for publication as they originated north of the recovery localities.

Bliffchaff *Phylloscopus collybita* (1: 5)

	pull.	3.6.69	Wassenaar: 52°08'N. 4°24'E. (Zuid Holland) Netherlands
4433	v	13.5.70	Skokholm: 51°42'N. 5°16'W. (Pembroke)

Secret *Regulus ignicapillus* (1: 2)

	f.g.♂	27.4.70	Duinbergen: 51°21'N. 3°16'E. (West Flanders) Belgium
37	v	18.10.70	Crowlas: 50°09'N. 5°27'W. (Cornwall)

The only previous foreign-ringed recovery (controlled in Suffolk in November 1983) had likewise originated in Belgium.

Red Flycatcher *Ficedula hypoleuca* (4: 9)

	1st W.	10.9.70	Lågskär: 59°50'N. 19°56'E. (Åland) Finland
1313	v	24.9.70	Spurn Point: 53°35'N. 0°06'E. (York)
	1st W.♀	19.8.70	Revtangen: 58°46'N. 5°31'E. (Rogaland) Norway
992	v	22.8.70	Isle of May: 56°11'N. 2°33'W. (Fife)
	juv.♂	22.8.67	Mellum: 53°43'N. 8°09'E. (East Frisian Islands) Germany
842	×	15.5.70	Morston: 52°57'N. 0°59'E. (Norfolk)
	ad.♀	7.9.69	Heligoland: 54°11'N. 7°55'E. Germany
838	v	8.9.69	Spurn Point: 53°35'N. 0°06'E. (York)

Blackcap *Prunella modularis* (1: 4)

	f.g.	2.4.66	Spiekeroog: 53°46'N. 7°44'E. (East Frisian Islands) Germany
966	v	27.4.69	Fair Isle: 59°32'N. 1°37'W. (Shetland)

It is accepted that there is a regular small-scale spring passage of Continental blackcaps *P. m. modularis* through the northern isles of Scotland. The three previous foreign-ringed recoveries had originated in northern France (Nord), the Netherlands (Texel) and Germany (Heligoland), and two of them (in Suffolk and Isle of Man) were noteworthy for being in January, suggesting they had been overwintering.

 Meadow Pipit *Anthus pratensis* (1: 5)

	f.g.	14.9.68	Kennemerduinen: 52°25'N. 4°34'E. (Noord Holland) Netherlands
457	v(sick)	1.5.69	Bedlington: 55°08'N. 1°35'W. (Northumberland)

Pied/White Wagtail *Motacilla alba* (1: 12)

B.	f.g.	11.8.69	Waasmunster: 51°06'N. 4°05'E. (East Flanders) Belgium
A377698	×	30.4.70	Little Barford: 52°12'N. 0°17'W. (Bedford)

Great Grey Shrike *Lanius excubitor* (1: 1)

Stav.	juv.	11.10.68	Jøssinghamn: 58°19'N. 6°21'E. (Rogaland) Norway
7112084	×	28.3.70	Uttoxeter: 52°54'N. 1°52'W. (Stafford)

This is the first foreign-ringed recovery here. It had been ringed on autumn passage; Rogaland is south of the breeding range in Norway.

Waxwing *Bombycilla garrulus* (2: 7)

Hki.	f.g.	25.10.70	Alppila: 60°12'N. 24°56'E. (Uusimaa) Finland
A336644	×	12.11.70	Stranraer: 54°54'N. 5°02'W. (Wigtown)

Hki.	f.g.	10.10.70	Signilskär: 60°12'N. 19°20'E. (Åland) Finland
A370823	v	14.11.70	Cupar: 56°19'N. 3°01'W. (Fife)

It will be recalled that there was a major irruption in Britain (especially Scotland) in the 1970/71 winter (see 'Recent reports' in *Brit. Birds*, 64: 47, 92, 240, 292, 335). These two recoveries, like the five in previous years, had been ringed as migrants in October.

Siskin *Carduelis spinus* (4: 21)

Al.	f.g.♂	5.10.67	Rybatschi: 55°11'N. 20°49'E. (Kaliningrad) U.S.S.R.
S345806	×	(26.3.69)	Addlestone: 51°22'N. 0°31'W. (Surrey)

He	juv.♀	4.10.66	Aschersleben: 51°46'N. 11°27'E. (Halle) Germany
80118365	v	15.3.69	Weybridge: 51°22'N. 0°28'W. (Surrey)

H.	ad.♂	6.11.69	Salzgitter-Meerta: 52°04'N. 10°21'E. (Braunschweig) Germany
0701603	v	12.3.70	Weybridge (Surrey)

B.	f.g.♀	27.10.67	Schoten: 51°15'N. 4°30'E. (Antwerpen) Belgium
A149390	v	23.3.69	Weybridge (Surrey)

Chaffinch *Fringilla coelebs* (60: 342)

M.	f.g.♂	7.10.67	Rybatschi: 55°11'N. 20°49'E. (Kaliningrad) U.S.S.R.
S366304	×	12.3.70	Woodley: 51°27'N. 0°55'W. (Berkshire)

A.	ad.♀	27.8.67	't Soerel: 52°21'N. 5°53'E. (Gelderland) Netherlands
S162648	v	21.10.68	Spurn Point: 53°35'N. 0°06'E. (York)
	v(nesting)	15.6.70	't Soerel, Netherlands

The one from Russia had the most easterly origin of those recovered here in 1969-70.

Brambling *Fringilla montifringilla* (9: 47)

Hki.	f.g.♂	24.3.68	Lågskär: 59°50'N. 19°56'E. (Åland) Finland
K420776	×	9.3.69	Tealby: 53°23'N. 0°14'W. (Lincoln)

Stav.	juv.	8.9.68	Kaldholelva: 62°22'N. 5°58'E. (Møre og Romsdal) Norway
9173084	v♀	2.1.70	Swanmore: 50°56'N. 1°11'W. (Hampshire)

These two had the most northerly origins of foreign-ringed Bramblings recovered here in 1969-70.

Sparrow *Passer montanus* (1: 6)

f.g.	17.9.67	Cap Gris Nez: 50°52'N. 1°35'E. (Pas de Calais) France
v	8.3.70	Littlebourne: 51°18'N. 1°09'E. (Kent)
v	11.3.70	Littlebourne,

Hudson, British Trust for Ornithology, Beech Grove, Tring, Hertfordshire

British bird-photographers

114 H. Morrey Salmon

Plates 76-80

Colonel H. Morrey Salmon, in his late seventies but still going strong, must now rank as the father of British bird-photography. His interest in birds began with a small collection of eggs when he was still a junior at school and he has kept notes of his observations ever since 1903. In 1908 he acquired his first camera, a quarter-plate folding model fitted with a Rapid Rectilinear lens, to which he added an extending back to allow a closer approach to his subject. His first photographs were of the nest of a Dipper *Cinclus cinclus* and, shortly afterwards, he made the climb necessary to secure a picture of the nest and eggs of a Rook *Corvus frugilegus*. That same year he met the pioneer of bird-photography, Richard Kearton, who greatly stimulated his interest and fired his ambition to photograph the birds themselves at their nests and not just the latter alone. The following April he took his first such photograph, of a Lapwing *Vanellus vanellus*, by using an electrical shutter release which he himself had designed and which he fired from a distance. A few years later he met R. B. Lodge, brother of the famous bird artist George E. Lodge, and adopted his methods, especially in the use of long-focus lenses. At this period quite a number of photographers were using half-plate cameras, so Morrey Salmon graduated to one of these and at the same time began to evolve his own style which was then looked upon as unorthodox. For instance, when photographing ground-nesting birds, he would aim to include the horizon by using a very low viewpoint in order to show how the bird was related to its habitat. It was with this equipment that he took a photograph of a Nightjar *Caprimulgus europaeus* perched lengthways along the branch of a tree (plate 79b), still a unique achievement.

In 1911 Morrey Salmon met G. C. S. Ingram, another keen ornithologist and photographer, and thus began a remarkable partnership in Welsh ornithology. For the next 50 years they worked together in the

field and during that time they produced a whole series of Welsh county avifaunas. In 1934, too, they wrote and illustrated *Birds in Britain Today*, a book full of careful observations and valuable information. Geoffrey Ingram suffered from poor health and failing eyesight from the 1950's but by the time of his death earlier this year he and Morrey Salmon were still close friends, as they had been for 60 years.

Morrey Salmon joined the Zoological Photographic Club in 1912; he has been a consistent contributor to its portfolios ever since and was President from 1934 to 1936. As enlargers became steadily more efficient he reverted to quarter-plate, this time turning to a reflex camera to which he could fit either of two Ross Telecentric lenses (17-inch or 13-inch) or a Ross Xpres 7½-inch: all three were compatible with the same 'between-lens' shutter. He remained faithful to this equipment for the next 40 years.

In the 1920's, quite unlike most bird-photographers, he continued to use lenses of the longest practicable focal length and pioneered their use for photography away from the nest. The male Red-backed Shrike *Lanius collurio* taken in 1920 (plate 79a), the Dunlin *Calidris alpina* in 1923 (plate 77c) and the Great Northern Diver *Gavia immer* in 1929 (plate 77b) are typical of his work of this period. Up to that time nearly all bird-photography had been done at the nest because the photographer could then focus on a spot to which the bird would be sure to return. But Morrey Salmon was fascinated by the challenge of photographing migrants and other birds away from the nest, where there was normally no pre-arranged spot on which he could focus. With his reflex camera and long telephoto lenses he managed to stalk near enough to some of them and thus began a vogue more and more in evidence today. The Greenland Wheatear *Oenanthe oenanthe leucorhoa* taken in 1936 (plate 78a) is an especially fine example as well as a great achievement: it is difficult enough to approach this small bird closely and it must have been even more difficult to take such a good photograph with the cumbersome equipment of that period. Another outstanding achievement, dating from 1933, was the mass of Manx Shearwaters *Puffinus puffinus* taken just after sunset as they assembled in thousands a mile or two offshore, waiting for darkness before coming into land (plate 77a); it was a real feat to photograph these birds in poor light with a heavy camera and long lens which had to be held steady in a moving boat.

Morrey Salmon pioneered other developments in photography. In 1924 he was the first to use photographs as a means of censusing large colonies of seabirds, such as the Gannets *Sula bassana* on Grassholm. In the late 1920's he began to use flash to portray nocturnal species: in 1933 he must have been the first to photograph Manx Shearwaters and Storm Petrels *Hydrobates pelagicus* by night at their nest burrows, using flash powder synchronised to fire when the camera shutter was wide

open. In 1949-50 he obtained his first electronic flash outfit, designing and making his own synchronisation gear. In 1956, with the co-operation of Arthur Brook, he secured a unique series of photographs of Swifts *Apus apus* flying to their nests with throat pouches greatly distended with food for their young (plate 76 and *Brit. Birds*, 55: plates 10-17), as well as some remarkable shots of a nocturnal roost of Curlews *Numenius arquata* (plate 80a), one of the very few occasions when these birds have been photographed in a flock at night.

Early in 1959 he made his first visit to East Africa, taking a 35 mm camera with interchangeable lenses. At that time he began to turn to colour photography. Since then he has travelled a great deal—to the Far East, Canada, Cyprus and Spain, as well as to both East and West Africa—always accompanied by his wife who shares his keen interest in all his pursuits.

Colonel Morrey Salmon distinguished himself on active service during both World Wars, being awarded the Military Cross with Bar and appointed a Commander of the Order of the British Empire. He is a member of many organisations and has served on various councils and committees, giving freely of his time to further the protection of birds and the conservation of nature. As recently as September of this year the Royal Society for the Protection of Birds awarded him its Gold Medal for services to bird protection, especially in Wales: this was presented to him by the Society's President, Robert Dougall. It was typical of Morrey Salmon to reciprocate by handing over to the Society in return one of the two copies of his carefully compiled history of the Red Kite *Milvus milvus* in Wales.

ERIC HOSKING

Notes

Sabine's Gull hawking flying insects inland In a recent editorial comment concerning the feeding habits of Sabine's Gulls *Larus sabini* (*Brit. Birds*, 64: 76-77), several methods were described and the birds were said to be very versatile in collecting food on their breeding grounds. One method not mentioned was the hawking of flying insects. On 6th September 1970, P. Andrew, R. Hemmings, J. B. O. Rossetti, R. J. Senior and I spent 30 minutes watching a storm-driven adult Sabine's Gull at Chew Valley Lake, Somerset. Throughout that time it was feeding with large numbers of Black-headed Gulls *L. ridibundus* which were hawking flying insects over and around Herriots Mill Pool, at the southern end of the lake. The Sabine's Gull caught

the insects in the same manner as the Black-headed Gulls, at heights of 20 to 100 feet, usually over the fields surrounding the pool; only once did we see it actually land on the water, and then briefly. The weather was bright, sunny and fairly warm, with little cloud and a light to moderate westerly wind.

It is interesting that a bird which must have spent most of its life at sea should so readily feed in this way on a locally abundant (though short-lived) food supply at an inland locality. It seemed to be in good condition and in excellent plumage. It was not seen on subsequent dates.

K. E. VINICOMBE

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Terns hawking flying ants For most of the afternoon and evening of 30th July 1971 I noticed 200 to 300 Black-headed Gulls *Larus ridibundus* catching flying ants over the houses at Meols, Cheshire. At about 19.30 hours, hearing their calls among those of the gulls, I picked out two terns—probably Common Terns *Sterna hirundo*, but I could not be sure—hawking the flying ants in the same way. It was the first really warm day with no cooling sea-breezes for some time.

ELSPETH BARTLETT

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Carrion Crow hawking flying insects On 28th July 1971 I was watching about 40 Black-headed Gulls *Larus ridibundus* hawking insects over marshland near Swansea, Glamorgan. A Carrion Crow *Corvus corone* joined them and for about 15 minutes behaved in a similar manner, twisting and momentarily hovering, presumably in an attempt to catch the insects. As this activity was taking place 60 to 100 feet up, I was unable to identify the prey. The weather was calm and sunny, with a shade temperature of 76°F.

D. M. HANFORD

404 Birchgrove Road, Swansea, Glamorgan

A great variety of birds will hawk on the wing for insects, being attracted particularly to flights of ants and termites and swarming midges: even Kestrels *Falco tinnunculus* and Black Kites *Milvus migrans*, for example, commonly catch flying ants on the wing. In all three cases above, the behaviour of a flock of Black-headed Gulls seems to have provided the initial attraction. EDS

Sand Martins nesting in heap of pond ash On 12th July 1971, while visiting an industrial site at Kemsley, Sittingbourne, Kent, I noticed that Sand Martins *Riparia riparia* had established a small colony in a large heap of dried pond ash about 74 feet long, 45 feet wide and ten feet high. I counted about ten nest holes and watched several birds flying in and out, in spite of the presence of workmen and

machinery near-by. The ash dust was extremely fine, and I was surprised that the holes had not collapsed.

RONALD HAYNES

Watermill House, Loose, Maidstone, Kent

Mr Haynes enclosed two photographs of the colony and a sample of the ash. We showed these and the above note to R. A. O. Hickling who has made a special study of this species and he commented: 'I have no record of Sand Martins excavating in this material, but it causes no surprise. They regularly breed in temporary heaps of fine material which has consolidated sufficiently to allow excavation. Thus in my neighbourhood of Leicestershire the species breeds in spoil heaps of granite dust near the crushing plant at granite quarries. Sand Martins also often build in spoil heaps of sand and earth, and *The Handbook* (2: 240) records compressed sawdust. . . . I have one record of birds excavating in a pile of sand on a motorway construction site within an hour of the heap being opened up for use.' EDs

Unusual display of Mistle Thrush On 26th January 1971, a mild wet day following 18 days of similar weather, I watched two Mistle Thrushes *Turdus viscivorus* in my garden at Godalming, Surrey, behaving in a way that I had not observed before. One stood still in the normal upright stance while the other began to hop slowly towards it from a distance of about 15 yards. The latter bird bowed so that its body was more or less horizontal, puffed out its breast and flank feathers, lowered its head and raised and slightly fanned its tail. It also fluffed up the feathers around its cloacal region. Every seven to ten hops the thrush stopped, bowed, and deliberately turned round so that its cloaca was towards the stationary bird. It then puffed out its breast feathers even more, so that the spots stood out quite startlingly, and trembled the feathers around the cloaca. I could not see how this was done, but the trembling movements were rapid and very noticeable. The displaying thrush continued to approach the other in an arc, rather than in a straight line, until it was about two yards distant. It then turned and hopped slowly away in the same manner for about five yards followed at about a yard by the second bird, which previously had remained motionless. A Song Thrush *T. philomelos* then hopped between the pair and was threatened by this second bird. Very abruptly both Mistle Thrushes flew off; I did not see whether coition took place, and was unable to decide which bird was the male and which was the female.

MONICA F. WHITE

Skerries, Ramsden Road, Godalming, Surrey

Both Dr D. W. Snow and Rev P. H. T. Hartley, to whom we showed this note, commented that they had seen no record of such behaviour in Mistle Thrushes. EDs

Reviews

Eagles, Hawks and Falcons of the World. By Leslie Brown and Dean Amadon. Hamlyn (for Country Life), Feltham, Middlesex, 1968. Two volumes in slip case: 945 pages including 165 bird plates (most in colour), one egg plate (in colour), 15 underwing plates, 94 maps and 33 other text-figures. £15.75.

As long ago as 1924-36 H. K. Swann published his *Monograph on the Birds of Prey* and then in 1964 M. L. Grossman and J. Hamlet followed with their *Birds of Prey of the World* (reviewed in *Brit. Birds*, 58: 193-195). Thus the present book is the third in line, but it breaks much new ground and largely complements the 1964 one: the main concept of that was the visual impact of its photographs, whereas Mr Brown and Dr Amadon have made their text the all-important part; they have also excluded the owls.

The first 150 pages of the first volume, forming part 1, are devoted to an Introduction and 18 chapters on Classification and distribution, Physical attributes and senses, Plumage and moult, The daily cycle, Flight, Migration, Hunting methods and speed, Food consumption and the rôle of birds of prey as predators, Territory, Display, Nests and nest-building, Eggs and incubation, Development of the young, Care of the young, The post-fledging period, Breeding success and productivity, Longevity, mortality and enemies, and Hawks and Man. These have had to be greatly condensed and, as a result, some seem a little inadequate. I was disappointed in the chapters dealing with territory, nests and migration (particularly the last, which has received much attention in recent years) and in the section on sexual dimorphism. Nevertheless, there is an astonishing amount of accurate and clearly presented information here and, taken as a whole, these chapters provide an unrivalled survey of basic knowledge about birds of prey.

Part 2 opens with chapters on Field identification, and Nomenclature and taxonomy, followed by a Specific List of the 287 species of diurnal birds of prey recognised by the authors. These comprise seven New World vultures, one osprey, 31 kites and honey buzzards, ten fish eagles, 15 Old World vultures, twelve snake eagles and hawks, 13 harrier hawks and harriers, 53 goshawks and sparrowhawks, 49 buzzards, four harpy eagles, 30 true eagles, one secretary bird, 16 caracaras and aberrant falcons, and 45 falconets and true falcons. I would have preferred to see *Aquila nipalensis*, *Circaetus beaudouini* and *Falco pelegrinoides* treated as distinct species from *A. rapax*, *C. gallicus* and *F. peregrinus*, but these are matters of opinion and, as one would expect with Dr Amadon involved, there is little to quarrel with in the general classification. Birds of prey come in all shapes and sizes, more

so than the species of any other order, ranging from the tiny falconets that weigh as little as 40 gm (under 1½ ounces) to the huge California Condor with a weight of up to 14,070 gm (31 lb) and a wing span of up to 9½ feet; the males also vary from slightly larger to far smaller than the females. Thus they present outstanding opportunities for studies of adaptive radiation and convergence, but this aspect receives scant discussion.

Most of the rest of volume 1 (240 pages) and the majority of volume 2 (412 pages) are taken up with the detailed treatments of the 287 species, the individual accounts varying from half a page to as many as ten in the cases of well-studied birds. After a few lines on the characters of the genus, they give sections on range, description (including subspecies and useful measurements and weights), field characters, voice, general habits, food, breeding habits, and important references. Apart from the last, which often consist of only one or two titles (or none at all), it is difficult to understand where some of the information is taken from. One can be sure that much comes from the personal knowledge of these two distinguished experts, which is refreshing in a reference work of this kind, but those who want to follow up previous publications will find it difficult to do so.

Each species is illustrated on at least one of the 165 plates and some on two or even three or four. Almost all are in colour and they are by eight different artists, Guy Coheleach, Don R. Eckelberry, Albert Earl Gilbert, J. C. Harrison, C. E. Talbot Kelly, Roger Tory Peterson, David Reid-Henry and Lloyd Sandford, whose names will be sufficient to vouch for the high standard of accuracy. Each is bleed off all round and the one to eight birds on it are identified by keyed outlines on the facing page. This method, which involves the eye in travelling from plate to key to caption, is rather tedious, though it has the merit of keeping the plate uncluttered by lettering. The style of the plates varies greatly, not just between different artists, but in the matter of presentation: some are of field-guide simplicity, while others have detailed backgrounds with the birds shown in supposedly lifelike circumstances. While this adds variety, it does not make for ease of comparison. At the same time the reproduction is disappointing in that many plates have a rather flat and even fuzzy appearance (the specimen in the publicity leaflet was much better than the corresponding plate in the book).

The remaining parts are 15 pages of underwing drawings, 94 distribution maps, a supplementary bibliography of six pages, and an index in two parts. The underwing drawings (grouped by continents) are disappointing, chiefly in the shapes but to some extent also in the patterns: they will act as an aide-memoire to those familiar with birds of prey, but are of limited use as an introduction to flight identification. The maps, on the other hand, though rather roughly drawn to a

variety of projections, are useful: by different shadings and some cunning juxtapositioning of the various continents, they manage to show the ranges not only of all but 17 of the species but also of the subspecies.

The general tabling of contents and indexing are not good: the lists of chapters, illustrations, tables and underwing plates are surprisingly duplicated at the beginnings of both volumes, but the complete list of species (with plate and map numbers) appears only in the middle of volume 1, and the index to both volumes only at the end of the second. Species are indexed under the generic name with the English vernacular in brackets, and a cross-reference under the English name irritatingly indexed by the first word. The maps are indexed, but not the plates or the underwing patterns.

Most of these and my other criticisms come within the sphere or advice of the publishers. There are many misprints, which I understand were outside the control of the authors (and a list of corrections may be obtained from Dr Amadon at the American Museum of Natural History, New York). The printing is of a high standard, but in an unnecessarily large type; the paper used is of such thickness that the two volumes together in their case equal almost exactly the maximum weight of a Lammergeier. How many potential buyers would have preferred something less lavish, less expensive and more manageable with better plate reproduction and an improved system of contents and indexing? For the authors I have little but praise and this remarkable compilation of a very high standard is essential, even at £15.75, to anyone interested in birds of prey or concerned with zoo-geography or conservation on a global basis, as well as to all ornithological bibliophiles. I hope that this late review will atone by convincing those who have delayed buying it hitherto.

I. J. FERGUSON-LEES

Ecological Isolation in Birds. By David Lack. Blackwell, Oxford, 1971. xi + 404 pages; 58 text-figures. £4.25.

In a natural world governed largely by competition and survival of the fittest, how do so many similar species survive? The answer seems to be that they differ in ecology even though they are sometimes very alike in morphology and appearance. Each has its own niche, to which it is uniquely adapted; it enjoys 'ecological isolation'. Put in another way, no two species with identical requirements can live together. This is not to deny that food and other resources are shared to some extent, especially when in abundant supply.

All this is plausible, but to provide proof from the complex world of nature is not easy. The considerable body of evidence, both direct and circumstantial, which has accumulated is summarised in this book by Dr Lack. Much of it is the result of his own efforts: his first contribution to the subject, aptly called 'Habitat selection in birds', appeared

as long ago as 1933, and there are 16 later titles. His book *Darwin's Finches* (1947) is a classic study of feeding diversity in an otherwise homogeneous group of insular species; while the long-term study of tits carried out at Wytham Wood, Oxford, under his supervision provides the most important single source of quantitative data on the questions involved. The book contains a detailed analysis of these and other examples of species interaction. Further details, measurements and tables are given in a lengthy series of appendices.

Ecological isolation in birds is generally effected by differences in food, habitat or range. Of course, if two species are totally isolated by range, they do not need to differ in ecology. But the emphasis here is upon the numerous cases in which a species gives way to a closely allied one as we pass from region to region or from lower to higher altitudes.

In a book that summarises instances from many sources, there are sure to be a few debatable ones. Thus on page 133 we read: 'Three species of hawks in the genus *Accipiter* coexist in eastern North America . . . and in each of them the female is larger than the male, so that six forms of similar shape but different size hunt for prey in a similar way in the same area . . . Hence these three species form an excellent example of ecological differentiation through body-size and size of prey.' But H. Meng found that the medium-sized Cooper's Hawk *A. cooperii* does not tolerate the small Sharp-shinned Hawk *A. striatus* in its breeding and hunting range. I suspect the same would be true of Cooper's vis-à-vis the largest of the three, the Goshawk *A. gentilis*. It may be no coincidence that in recent years, as the Goshawk has become more common as a breeding species farther south in America, Cooper's Hawk has greatly decreased in that part of its range. In any event the two never overlapped to any great extent, and likewise the Sharp-shinned and Cooper's tend to occupy different climatic zones. Moreover, the larger size of female birds of prey is, I think, a result of sexual, not ecological, selection. There is also the question of where these three hawks evolved (Goshawk in Eurasia? Cooper's Hawk in South America?) and the possibly greater effect of competition with unrelated species (Goshawk with Great Horned Owl, for example). In other words, the situation as presented is grossly oversimplified, though this is the fault not of the author but of his sources.

The book is well produced and the drawings, by Robert Gillmor, are useful and attractive. There are relatively few misprints. To mention one or two, on page 133 read 'Sharp-shinned Hawk' rather than 'Broad-winged Hawk' (twice); on the same page 'Goshaek' offends the eye. On page 245, 'sign' should be 'size'; on page 263, I presume the first of the two species of terns mentioned has a longer, thinner (not thicker) bill than the other.

The evidence carefully marshalled in this volume seems to me to

establish beyond reasonable doubt the validity of the views presented. For the professional it will provide a lucid review of a subject of great importance which impinges upon many aspects of ecology. The amateur naturalist or non-specialist will find after reading it that his own field observations become more satisfying and relevant. DEAN AMADON

Letters

The late James Fisher's papers Several naturalists have asked me what has been the fate of the working notes and other papers used by my father, the late James Fisher. I hope that the following summary may be useful to naturalists who may wish to have access to any of these papers.

Material concerning the Rook has been sent to the British Trust for Ornithology for safe keeping. That concerning seabirds, including the Fulmar, has been passed to the Seabird Group. When the results of Operation Seafarer have been published, it too will be lodged with the B.T.O. In the last few years of his life, J.F. was collating existing information on avian palaeontology. His entire formidable filing system on the subject has been permanently loaned to the British Museum (Natural History), and is in the charge of Dr C. J. O. Harrison, now at Tring. Most of J.F.'s work on conservation and the environment was performed in his capacity of Deputy Chairman of the Countryside Commission: his papers on these subjects have therefore been left with or passed to the commission. All the bird diaries and records of J.F.'s uncle, Arnold W. Boyd, who died in 1959, have been given to the Liverpool City Museums.

The family is keeping all the original manuscripts of J.F.'s articles, books, broadcasts, and so on, as well as his large library of books and offprints, though a number of the latter have been lent to the editorial committee of *Birds of the Western Palearctic* and some may be sold to the Edward Grey Institute.

CRISPIN FISHER

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Pelagic birds and marine predators May I pose a question for any of your readers who might be prepared to suggest an answer? All pelagic birds, from albatrosses (Diomedidae) to phalaropes (Phalaropodidae), and many other aquatic birds as well, necessarily rest and sleep on the water. Beneath the surface are hidden various predators, from barracuda *Sphyraena* to killer whales *Orcinus*. What means do seabirds have, if any, for coping with the danger these underwater predators represent?

LOUIS J. HALLE

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Golden Eagle numbers in Scotland In my recent paper on 'The Golden Eagle survey in Scotland in 1964-68' (*Brit. Birds*, 64: 49-56), I briefly discussed the possible size of the total population (page 54). I am grateful to C. E. Palmar for since pointing out to me that his estimated figure was for 1958, not 1968; moreover, it was not 213 known pairs, as I stated, but 231, with an estimated minimum of 250 when remaining areas (those less well surveyed) were also considered. His possible maximum for the whole of Scotland was about 300 pairs. Mr Palmar's figures therefore agree with those of Dr Adam Watson, and I apologise to them both if I gave a different impression.

M. J. EVERETT

Royal Society for the Protection of Birds, The Lodge, Sandy, Bedfordshire

News and comment *Robert Hudson*

New R.S.P.B. reserve in Orkney The Royal Society for the Protection of Birds has recently acquired its first reserve in Orkney: the Dale of Cottascarth on the main island. The Dale is already scheduled by the Nature Conservancy as a Site of Special Scientific Interest because of its importance to botanists. The area was chosen by the R.S.P.B. because it holds a variety of characteristic Orkney habitats; breeding birds include Hen Harrier, Merlin and Short-eared Owl.

The Dale of Cottascarth Reserve, consisting of 335 acres, is a substantial one by British standards. Yet one cannot help envying the size of wilderness areas in some large countries: a national park established this year in the taiga around Lake Baikal, U.S.S.R., is stated to cover 25 million acres.

Aldabra development Ever since, late in 1967, the Indian Ocean atoll of Aldabra was given a reprieve from the threat of destruction through being made a military base, a natural sciences research programme has been under way there, under the auspices of the Royal Society. Continuity is now assured, for the Royal Society has taken out a lease on the atoll, expiring in 1985 but with an option on a further 10 years; a donation of £5,000 by Christopher Cadbury provided most of the funds for this.

A reprint of 'Bewick' One of the best-known books by early English ornithologists is Thomas Bewick's two-volume *A History of British Birds*, first published in 1797. This work is valued by collectors on account of the numerous charming wood engravings (of which technique Bewick was an acknowledged master), and copies of it now fetch high prices on the antiquarian market. Bewick was a Northumberland farmer's son, a self-taught artist, and it is fitting that a reprint of *A History of British Birds* should be issued by a Northumberland firm: volume 1 has been published in facsimile (price £3.50) by Frank Graham, of Newcastle upon Tyne, and it is understood that volume 2 is in preparation. Wood engraving is largely a lost art now, no longer being an essential part of mass book production. Bewick was engraver as well as artist, a unique combination. There is nothing lifeless about his figures, whether bird portraits or amusing vignettes used as 'tail pieces': through the very difficult technique of 'lowering the block' by taking off minute shavings, he achieved realistic portrayals of plumage or skin texture in which he has had few equals and probably no superiors. A copy of Bewick's *A History of British Birds*, original or reprint, should be on the shelves of all who are interested in bird art.

Attempted reintroduction of Great Bustards An earlier 'News and comment' (*Brit. Birds*, 63: 435) referred to plans for the attempted reintroduction of Great Bustards to Salisbury Plain, Wiltshire, by keeping pinioned birds in a huge open enclosure in the hope that they would breed; any young raised would be free to leave the pen and (hopefully) establish themselves on the Plain. The four-acre pen, enclosed by a fox-proof fence ten feet high, was duly constructed on scrubland near the Chemical Defence Establishment at Porton, the site having been leased to the Great Bustard Trust Fund by the Army. One male and four female bustards (the species is polygamous) were liberated into it on 18th September. All five are thought to be first-year birds and, since the species does not breed until three or four years old, this is of necessity a long-term project. To avoid undue disturbance, the only visitors allowed in the pen will be those who are feeding or otherwise tending the birds. We wish success to this ambitious and expensive venture.

Birds in London's Royal Parks We have received the booklet *Bird Life in the Royal Parks 1969-1970*, the biennial Report of the Committee on Bird Sanctuaries in the Royal Parks. With one exception (Osborne House, Isle of Wight), all these parks are in the London area; without them the Central London avifauna would be impoverished indeed. Intensive watching in the Royal Parks over many years has resulted in the collection of continuous (and perhaps unique) series of records of bird life in relatively small areas of special character in and on the edge of a great city (see, for example, S. Cramp and A. D. Tomlins, *Brit. Birds*, 59: 209-233). Breeding species of the Inner Royal Parks during 1969-70 included Tufted Duck, Pochard, Stock Dove, Tawny Owl, Great Spotted Woodpecker (probably), Magpie, Coal Tit, Treecreeper, Blackcap, Willow Warbler, Spotted Flycatcher and Bullfinch. In the outer parks (especially Hampton Court, Richmond Park and Kew Gardens) the breeding avifauna is more diverse. During these two years, 90-100 species each (including casual visitors) were recorded from Kensington Gardens/Hyde Park, Hampstead Heath, Richmond Park, Bushy Park and Osterley Park. This 22-page report should interest birdwatchers residing in or commuting to the Metropolis, though doubtless many will wince to see Dunnock and Hedge Sparrow listed as separate species on page 21. It is published by H. M. Stationery Office, price 22½p.

David Wolfe Murray The brief obituary of Captain Wolfe Murray, better known as 'Fish-Hawk', in 'News and comment' (*Brit. Birds*, 63: 351) referred to his pioneer observations of birds in the North Sea during 1928-31. Subsequently, Mrs Wolfe Murray has most kindly presented a photocopy of Fish-Hawk's North Sea log to the British Trust for Ornithology so that the information is readily available to interested ornithologists.

Recent reports *P. F. Bonham*

These are largely unchecked reports, not authenticated records

This covers August 1971, to which all dates refer unless otherwise stated. Dull, changeable, showery weather during the first week led into an unusually wet and windy period from 9th to 14th which, with a depression moving east over southern Britain, culminated in a north-easterly gale bringing spectacular seabird movements in the Tyne-Tees area (but not, apparently, further south). The next four days were much calmer and drier; then during 19th-25th another unsettled spell, with an anticyclone forming over Scandinavia and a depression in the southern North Sea, produced a series of small falls in overcast conditions on the east coast. The wind finally veered from east to south-west during 26th-27th.

SEABIRDS

Four **Sooty Shearwaters** *Puffinus griseus* heading north off St Mary's Island (Northumberland) on 13th heralded the main movement next day. Then, in 10½ hours' watching at Hartlepool (Co. Durham), the following totals were recorded: one **Storm Petrel** *Hydrobates pelagicus*, 133 **Manx Shearwaters** *P. puffinus*, at least two **Balearic Shearwaters** *P. p. mauretanicus*, 44 **Sooty Shearwaters**, 685 **Fulmars** *Fulmarus glacialis*, 142 **Gannets** *Sula bassana*, 317 **Arctic Skuas** *Stercorarius parasiticus*, 20 **Great Skuas** *S. skua* and two **Pomarinus** *S. pomarinus*. Most of the skuas were flying south, but passage of the other species was almost entirely north. Other counts of **Sooty Shearwaters** on 14th included 24 in 10½ hours at Whitburn (Co. Durham), and in Northumberland 15 in only half an hour at Cresswell, 40 in two hours at Annstead and as many as 116 in 4½ hours at Hauxley, all but two flying north. On 15th passage of Sooties was down to two or three per hour at three points on the coast (for example, twelve in six hours at Whitburn). All three skuas continued to be noted, and an adult **Long-tailed Skua** *S. longicaudus* was seen at South Gare (Yorkshire), though this and an earlier one at Whitburn on 3rd may have been about since July (see *Brit. Birds*, 64: 471). A **Frigatebird** *Fregata sp* was reported heading north at Whitburn on 18th.

The following weekend saw a resumption of seabird passage in a fresh ENE wind. On 21st a **Great Shearwater** *Puffinus gravis* passed north at St Mary's. Totals of **Sooty Shearwaters** at Whitburn were 14 in nine hours on 21st, 23 in 6½ hours on 22nd, one on 23rd and three on 25th, all heading north. Over the weekend 21st-22nd, 16 **Arctic** and ten **Great Skuas** were noted at Whitburn; St Mary's recorded 166 **Arctic** and 15 **Great Skuas**, no doubt largely the same birds moving north. **Pomarine Skuas** were also conspicuous, 22 being counted at Hartlepool and six at St Mary's on the Sunday (with smaller numbers at other localities and on other dates). Lastly, an immature **Long-tailed** flew south at St Mary's on 24th.

Sooty Shearwaters were reported from several other areas, the highest counts being 23 off St Ives (Cornwall) on 10th and 60 on 19th, twelve off North Uist (Outer Hebrides) on 20th and 111 in three hours off North Ronaldsay (Orkney) on 28th. Other North Ronaldsay totals were nine on 27th, 58 in 2½ hours on 29th and 15 on 31st, all moving north-west. At Sandwich Bay (Kent) three **Balearic Shearwaters** and one **Sooty** flew south on 5th; Spurn (Yorkshire) recorded nine **Sooties** together, four on 14th-15th; and we have an undated report of two **Cory's Shearwaters** *Calonectris diomedea* seen from a boat six miles north of St Ives. On 31st two **Long-tailed Skuas** were seen in Orkney and an immature appeared at Covehithe (Suffolk), remaining in the area until 2nd or 3rd September.

HERONS TO CRAKES

Two reports of immature **Purple Herons** *Ardea purpurea*, in the Medway estuary (Kent) on 6th and flying north at Lowestoft (Suffolk) on 8th, may have referred to the same individual; a third was seen at Farlington (Hampshire) on 30th. Similarly, **Spoonbill** *Platalea leucorodia* at Manningtree (Essex) from 11th to 15th may have come from the Medway estuary where one was present from 6th to 9th. Early winter ducks included a **Goldeneye** *Bucephala clangula* at Teesmouth on 7th-8th and a **Long-tailed Duck** *Clangula hyemalis* at Hauxley on 31st.

Most of the dozen or so **Ospreys** *Pandion haliaetus* reported were concentrated in the last week and included one heading south-east out to sea at Sandwich Bay on 28th. **Honey Buzzards** *Pernis apivorus* appeared on Fair Isle (Shetland) on 6th, at Wisbech sewage farm (Lincolnshire/Norfolk) on 7th, at Ogston Reservoir (Derbyshire) on 27th and at Walberswick (Suffolk) on 31st; on a rather rarer note, a female **Red-footed Falcon** *Falco resertiinus* was seen at Pitsford Reservoir (Northamptonshire) on 26th and a **Goshawk** *Accipiter gentilis* at Yate Rocks (Gloucestershire) on 30th. An immature **Black Kite** *Milvus migrans* reported at Longstone Edge (Derbyshire) from 2nd to 15th and a **Red Kite** *M. milvus* near Stratford Bridge,

Hordley (Oxfordshire) on 9th seem more likely to have been of captive origin. Another unusual raptor in Derbyshire was an immature **Montagu's Harrier** *Circus pygargus* at Ladybower Reservoir on 13th. **Spotted Crakes** *Porzana porzana* were reported from five widely scattered counties (and Guernsey), mainly during 22nd-31st.

WADERS

Ten **Pectoral Sandpipers** *Calidris melanotos* were reported in August: singles at Wisbech sewage farm from 15th to 28th, at Frodsham (Cheshire) in the third week, at Stithians Reservoir (Cornwall) from 22nd, at Teesmouth and at Wilden, Kidderminster (Worcestershire) from 29th, and at Bough Beech (Kent) from 30th; and two on Lundy (Devon) on 17th and on Tresco (Isles of Scilly) from 30th. Other Nearctic waders, likewise in chronological order, were a **White-rumped Sandpiper** *C. fuscicollis* at Wisbech sewage farm from 7th to 19th and it or another at King's Lynn (Norfolk) on 8th and 12th, a **Least Sandpiper** *C. minutilla* at Cannock Reservoir (Staffordshire) from 9th to 11th, a **dowitcher** *Limnodromus* sp at Gibraltar Point (Lincolnshire) on 10th, a **Lesser Yellowlegs** *Tringa flavipes* at Barrow-in-Furness (Lancashire) on 20th, a probable **Lesser Golden Plover** *Pluvialis dominica* on North Uist on 28th and a **Wilson's Phalarope** *Phalaropus tricolor* on St Mary's (Isles of Scilly) from 29th.

Rare Palearctic waders included a **Terek Sandpiper** *Tringa terek* at Scaling Dam Reservoir (Yorkshire) on 4th, a **Broad-billed Sandpiper** *Limicola falcinellus* at Teesmouth on 21st or 22nd, a **Black-winged Stilt** *Himantopus himantopus* near Bradwell (Essex) on 7th—there was also one a few miles north at Fingringhoe on 3rd August 1970 (*Brit. Birds*, 64: 353)—and a **pratincole** *Glareola* sp at Cemlyn (Anglesey) about the end of the month. We have also recently heard of a **Sharptailed Sandpiper** *Calidris acuminata* on Ramsey Island (Pembrokeshire) on 18th.

There was a very heavy passage of **Curlew Sandpipers** *Calidris ferruginea* during the first ten days of August: 35, all adults, at Teesmouth on 1st, 50 at Cliffe (Kent) on 6th and peaks of about 60 in the Medway estuary, 60 at Breydon Water (Norfolk/Suffolk) and 150 at Wisbech sewage farm on 8th. **Little Stints** *C. minuta* were comparatively scarce, and the only double-figure count to hand is of 17 in the Medway estuary on 8th. (It is interesting that the peak period for Curlew Sandpipers and Little Stints during 6th-10th also included three species of American waders well away from the west coast, as listed above: see the discussion of records of this type in *Brit. Birds*, 64: 93-103.) Odds and ends included single **Kentish Plovers** *Charadrius alexandrinus* at Sandwich Bay on 19th and 28th; a total of eleven **Temminck's Stints** *Calidris temminckii* in five eastern counties and Cheshire, mainly up to 9th and from 21st; **Red-necked Phalaropes** *Phalaropus lobatus* at Lodmoor (Dorset) on 14th-15th and at Minsmere (Suffolk) and Cley (Norfolk) on 21st; and the usual scattering of migrant **Dotterel** *Eudromias morinellus* and **Avocets** *Recurvirostra avosetta*. No **Grey Phalaropes** *P. fulicarius* were reported in August, but it is hard to believe that none was seen. **Jack Snipe** *Lymnocyptes minimus* at Hornsea (Yorkshire) on 15th, at Stodmarsh (Kent) on 17th, at Skinflats (Stirlingshire) on 26th and at Yate Rocks on 30th were the first of the autumn.

GULLS AND TERNS

In July, following unconfirmed reports of a **Slender-billed Gull** *Larus genei* in Norfolk, an adult was discovered at Dungeness (Kent) on 21st, remaining until 1st August (*Brit. Birds*, 64: 472). Meanwhile, one had been reported at Bexhill-on-Sea (Sussex) on 31st July. In August, an adult appeared at Minsmere on 15th, then what was presumed to be the July individual was rediscovered at Dungeness on 31st: it was seen daily until 6th September, disappeared for five days and was sighted finally on 12th. This series of reports was comparable with the records of Sooty Tern *Sterna fuscata* in Suffolk, Norfolk and Northumberland in June and July 1966 (*Brit. Birds*, 60: 322). There was the usual scattering of **Glaucous Gulls** *L. hyperboreus* and **Mediterranean Gulls** *L. melanocephalus* on the east coast; **Sabine's Gulls**

sabini were reported in Lincolnshire and Cornwall (two each), at Minsmere and at Teesmouth (the last remaining from July).

The heaviest movements of **Little Gulls** *L. minutus* and **Black Terns** *C. blidionas* were at the beginning of the month and from 21st onwards. The largest gatherings of **Little Gulls** were reported from Kilconquhar Loch (Fife)—42 on 3rd, increasing to about 90 by 15th. A **Black Tern** at North Ronaldsay on 27th was unusually far north. At Teesmouth up to 2,500 **Common Terns** *Sterna hirundo* were reported feeding on sprats in early August (see also *Brit. Birds*, 64: 471), while further north a feeding flock of 25 **Roseate Terns** *S. dougallii* at South Shields (Co. Durham) on 30th was also thought to have been attracted by the same abundant food supply. No fewer than eleven **White-winged Black Terns** *C. leucopterus* were noted: at Abberton Reservoir (Essex) on 10th-11th, at Titchfield Haven (Hampshire) on 18th, at Dungeness on 20th, at Rye Harbour (Sussex) on 23rd, at Thrapston gravel pit (Northamptonshire) from 24th to 30th, at Cheddar Reservoir (Somerset) on 26th, at Holme, Holkham, Cley and Waxham (all Norfolk) on 28th and at Tatton (Cheshire) undated). A **Caspian Tern** *Hydroprogne tsebegrava* at Frampton (Gloucestershire) on 28th and **Gull-billed Terns** *Gelochelidon nilotica* at Sandwich Bay on 21st, at Pagham (Sussex) on 23rd (two) and at Blakeney Point (Norfolk) on 29th completed the picture.

SCANDINAVIAN AND EASTERN MIGRANTS

Reports of the scarcer Scandinavian drift-migrants were exceedingly few before 19th: an adult male **Red-backed Shrike** *Lanius collurio* at Colt Crag (Northumberland) in early August, an **Icterine Warbler** *Hippolais icterina* at Dungeness on 12th and three **Wrynecks** *Jynx torquilla* widely scattered. Then on 19th two **Icterines** at Wells, two **Barred Warblers** *Sylvia nisoria* on Fair Isle and one at Spurn were the first signs of an arrival; next day **Barred Warblers** were also reported at Hauxley, Blakeney Point and Dungeness. On 21st a small fall affected counties mainly from Norfolk southwards: single **Wrynecks** appeared at Spurn, Donna Nook (Lincolnshire), Wells, Dungeness and even Guernsey; **Icterines** at Sheringham (Norfolk) and Sandwich Bay (two); a **Wood Warbler** *Phylloscopus sibilatrix* at Holme; and **Barred Warblers** on Fair Isle (a new one) and at Wells in addition to at least five at Blakeney Point, where there was also a **Red-backed Shrike** and, for good measure, a **Greenish Warbler** *P. trochiloides*, the first reported in 1971. It was Fair Isle's turn on 22nd, with eight or more **Barred Warblers** and a **Scarlet Rosefinch** *Carpodacus erythrinus*, plus a newly-arrived **Great Spotted Woodpecker** *Dendrocopos major*, but single **Barreds** were also found on North Ronaldsay and at Paston Cliffs (Norfolk), one **Icterine** at Stiffkey (Norfolk), **Wrynecks** at various places, and **Bluethroats** *Luscinia svecica* at Dungeness and Topsham (Devon). A **Bonelli's Warbler** *P. bonelli* at Wells and two **Tawny Pipits** *Anthus campestris* at Dungeness on 22nd were possibly associated with this influx from the east. Peaks of commoner migrants on that date included 120 **Wheatears** *Oenanthe oenanthe* and 45 **Whinchats** *Saxicola rubetra* at Dungeness and 47 **Pied Flycatchers** *Ficedula hypoleuca* at Sandwich Bay. On 23rd the main arrival was in north-east England, with some in East Anglia and Kent; on 24th Spurn recorded a large fall, totals on that day including six **Wrynecks**, 50 **Wheatears**, eight **Icterine**, seven **Barred** and a **Wood Warbler**, 300 **Pied Flycatchers** and six **Red-backed Shrikes**. At last Donna Nook and Gibraltar Point had something other than the occasional **Wryneck**—**Icterine** and **Barred** at Gibraltar Point, two **Icterines**, **Barred** and four **Red-backed Shrikes** at Donna Nook, all on 24th. The only real rarity that might have arrived from the east during those two days was a **Great Reed Warbler** *Acrocephalus arundinaceus* at Dungeness on 23rd, but there was a good scattering of lesser species (though apparently only three **Bluethroats**, widely spaced at Hartlepool, Cley and Tresco).

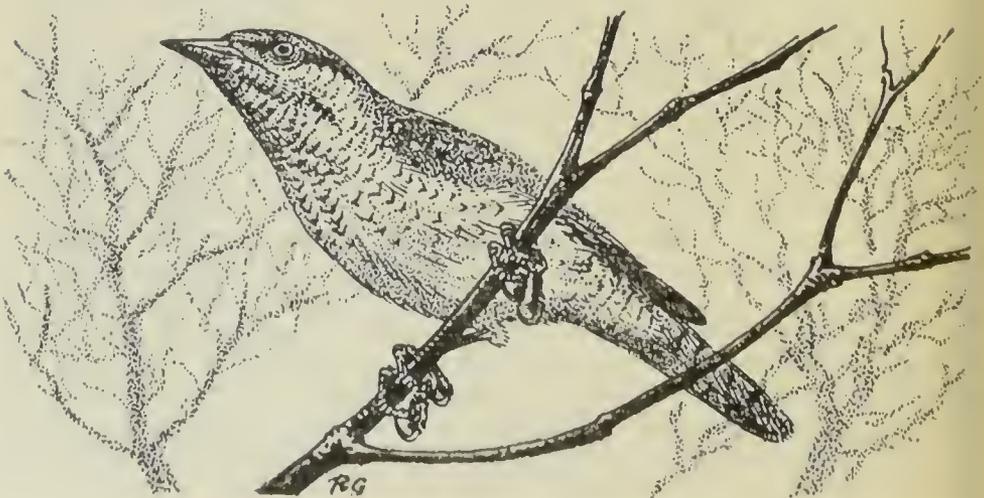
Events quietened after this, though **Wrynecks**, **Icterine** and **Barred Warblers** and **Red-backed Shrikes** continued to appear in small numbers. (Seven **Wrynecks** were

counted at Holme on 27th, though it is unlikely that more than one or two of these were recent arrivals.) Rarer species included one or two **Red-breasted Flycatchers** *Ficedula parva* in Norfolk during 28th-29th, a **Tawny Pipit** at Shellness (Kent) on both of those dates, two **Ortolan Buntings** *Emberiza hortulana* at Donna Nook on 25th and one on 26th, and the first of a series of **Yellow-breasted Buntings** *E. aureola* on Fair Isle on 31st. **Aquatic Warblers** *Acrocephalus paludicola* trapped at Farlington on 22nd and at Slapton (Devon) on 28th were the only ones that came to our notice, though this species seems to be under-reported from some localities. There were also reports of seven **Nutcrackers** *Nucifraga caryocatactes*—five near Eddleston (Peeblesshire) and two at Tunbridge Wells (Kent)—on 28th, a **White's Thrush** *Zootera dauma* at Yoxall (Staffordshire) on 28th; and a **Red-throated Pipit** *Anthus cervinus* in Shetland (undated). A **Tawny Pipit** at Trevone (Cornwall) on 7th, **Ortolan Buntings** on Lundy (Devon) on 8th and at Brean (Somerset) on 18th and a **Bluethroat** trapped at Blagdon Reservoir (also Somerset) on 29th seem rather likely to have originated from the south.

SOUTHERN SPECIES AND WINTER VISITORS

It has been an exceptionally poor year for **Alpine Swifts** *Apus melba*, especially after the record number in 1970 (*Brit. Birds*, 64: 356-357): one at Dungeness on 1st August is the only reliable report in 1971 to have reached us so far. A **Golden Oriole** *Oriolus oriolus* remained at Wisbech sewage farm from 7th to 14th or 15th. **Melodious Warblers** *Hippolais polyglotta* occurred in Cornwall at Porthgwarra on 14th and Nancledra on 17th (two), and in Suffolk at Orford from 30th to 2nd September. The only other southern visitors reported were an immature **Woodchat Shrike** *Lanius senator* on Lundy on 17th, a **Subalpine Warbler** *Sylvia cantillans* at Sumburgh (Shetland) and a **Hoopoe** *Upupa epops* at Andreas (Isle of Man) (the last two undated).

At least 20 **Fieldfares** *Turdus pilaris* were seen near Portree (Isle of Skye) on the early date of 23rd, while ones and twos were reported from the east coast and the Midlands (plus one on the Calf of Man) from 19th, obviously associated with the drift-migrants already mentioned, as were three **Twites** *Acanthis flavirostris* at Sandwich Bay on 22nd. A **Waxwing** *Bombycilla garrulus* at Collingham (Nottinghamshire) on 18th-19th was probably a sick or injured individual remaining from the invasion of last winter, or one that had been kept in captivity, and the very early date and inland locality of a **Snow Bunting** *Plectrophenax nivalis* at Gildersome, Leeds (Yorkshire) on 13th raises the possibility of its having originated from the Scottish breeding population rather than from abroad, or of being an escape.



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R. A. Richardson kindly provided the drawings of White-billed Diver (page 527) and Herring Gull (page 536) and Robert R. Greenhalf that of Chiffchaff and Yellow-browed Warbler (page 559)

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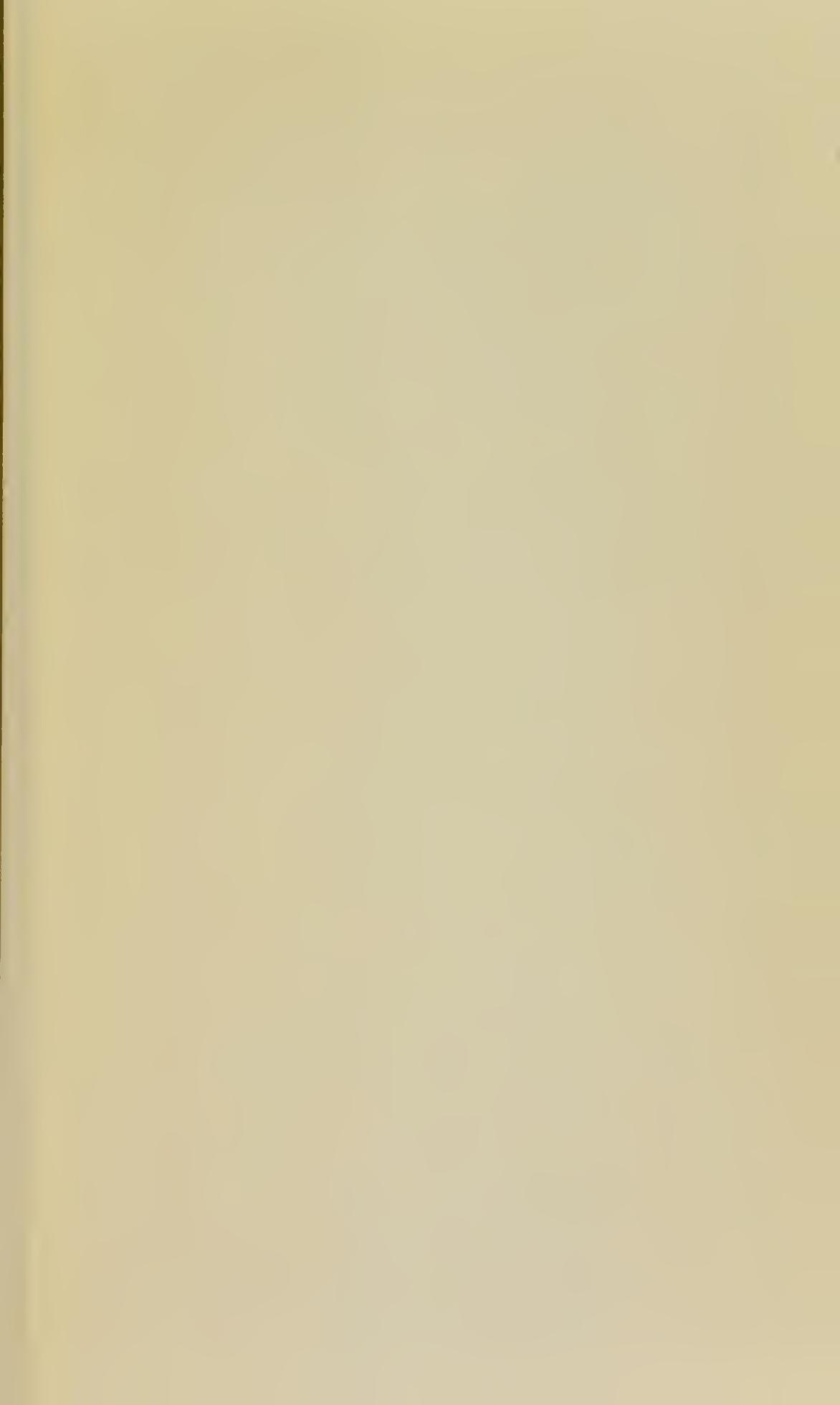
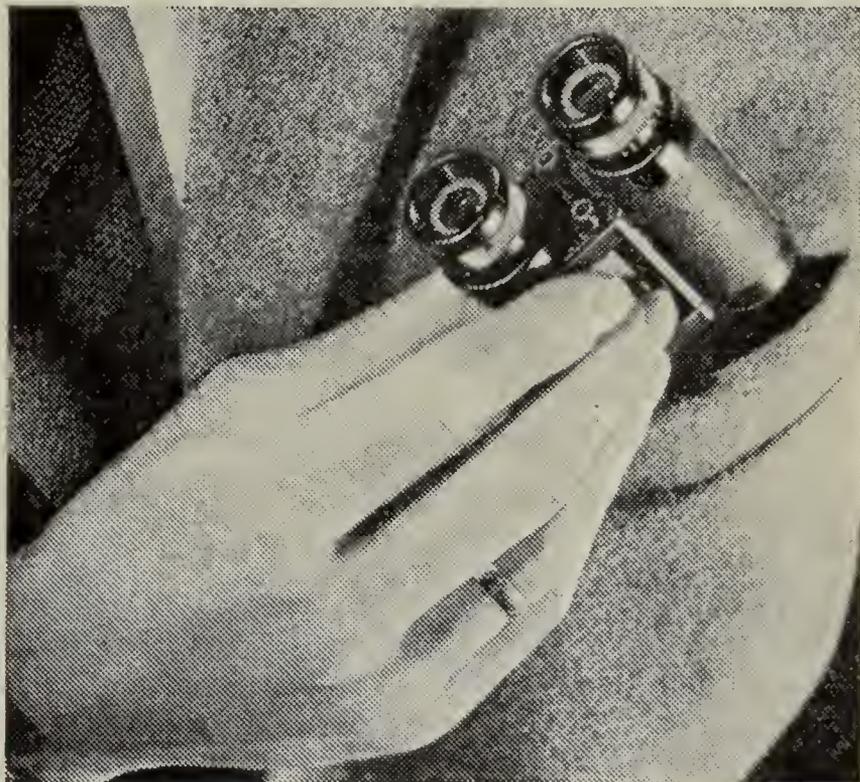




PLATE III. White-billed Diver *Gavia adamsii*, Alaska, June 1970 (photo: Bryan L. Sage); below, Great Northern Diver *G. immer*, Iceland, June 1961 (photo: Hermann Schlenker). White-billed differs in its whitish-yellow bill (greyer at base) with straight culmen and angled lower mandible, purple-glossed head, fewer and coarser vertical white lines on the throat and sides of the neck, and larger spots over the upperparts



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British Birds

Editorial

Egg-collectors in the 1970's

This year has seen disturbing signs of a revival of illegal egg-collecting in Britain. Besides the assault on the eyrie of the famous Ospreys *Pandion haliaetus* at Loch Garten, the Royal Society for the Protection of Birds has reported the robbing of at least five nests of Golden Eagles *Aquila chrysaetos* in the Scottish Highlands and of three nests of Kites *Milvus milvus* in Wales. There are other indications that a group of new and younger collectors may be at work, though it is not clear whether they are acting on their own account or for the purpose of selling the eggs. Fifty years ago bitter arguments raged over the effects of egg-collecting on our rarer species, but the steady change in public opinion on the ethics of egg-collecting, resulting in a great tightening of legal restrictions, has led most to assume that any threat from this cause had become minor compared with the dangers from habitat destruction, pesticides or illegal slaughter. Where once many ornithologists were also egg-collectors, the undoubted field skills the pursuit required are now used in other ways, from the Nest Records Scheme of the British Trust for Ornithology to identification, photography and ringing. Moreover, the senior oological body, the Jourdain Society, has taken a firm stand against illegal collecting and in 1968 expelled two members who had been convicted of robbing Golden Eagles. The events of last summer have, however, destroyed any complacency.

The reasons for this recrudescence are obscure. It has been suggested by some that the prohibition (with certain minor exceptions) of egg-collecting in this country has served to dam the natural wish of a minority to collect eggs and that, after some years of frustration, this is now breaking forth. Under the Protection of Birds Act 1954, licences may be granted by the Home Secretary to take eggs for scientific and educational purposes. Most serious studies of breeding

biology can be made without taking eggs, and indeed the past major contributions by oologists to ornithology, which are considerable, have not depended on the contents of their cabinets. Few recent research projects, contemplated or proposed by oologists, which would have involved the taking of eggs, have come within the terms of the Act. Indeed, those concerned have so far failed to seize the valuable opportunity to establish whether the decline in the thickness of egg shells of certain predatory species, now firmly linked with organochlorine contamination, has occurred in other groups of birds in Britain. It is, however, argued by some that, just as the present legislation allows licences to be granted, subject to proper safeguards, for aviculture and falconry, there should be provision for legitimate oologists to collect limited numbers of eggs where there is no risk to the survival of the species concerned. It may be wondered whether public and Parliamentary opinion would favour such a step, in view of the fact that the 1967 Act repealed the 1954 provision for the taking of eggs of certain common species, but it is for the proponents of such an idea to put it to the test.

Such an amendment, though it might relieve some of the frustration of law-abiding oologists, would not touch the present problem, which is largely concerned with rare species. Many collectors, whether of stamps, coins or paintings, place a higher value on rarity than on serious study. This was the special danger with egg-collecting in the past. It was never a factor leading to the decline of the commoner species, but when, for other reasons, a species had fallen to a dangerous level, the collectors, of skins as well as eggs, struck with special and sometimes decisive force. The targets in 1971 were our larger birds of prey. Some of these have been the main sufferers from the persistent pesticides and, since the use of the organochlorines has been increasingly restricted, Britain has become the first country in the world which can claim some recovery in the numbers and fertility of its breeding predators. There are even some signs of attempts at range expansion, as with the Golden Eagles in the Lake District. It is intolerable that this slight recovery of such magnificent birds, at risk almost everywhere they occur, should be threatened, whether by illegal shooting, nest destruction, pole traps or egg-collecting. The R.S.P.B. has this year begun a vigorous campaign against the evil of the pole trap, and birdwatchers can do much to assist the Society's efforts in this and other directions to stamp out the present widespread and unlawful destruction of predators.

A study of White-billed Divers in arctic Alaska

Bryan L. Sage

Plates IIIa and 81-84

The breeding range of the White-billed Diver (or Yellow-billed Loon) *Gavia adamsii* lies almost entirely north of the Arctic Circle in the tundra climatic zone. This is certainly the rarest of the five species of divers recognised by Vaurie (1965), all of which breed in the northern Holarctic. The only two areas where it may be said to be fairly common are north-east Siberia (Dementiev 1951) and arctic Canada (Snyder 1957). The majority of its breeding localities are in the treeless tundra, but in both the U.S.S.R. and Canada it has been known to nest occasionally in the taiga zone.

Certain workers, notably Dementiev, have treated this species and the Great Northern Diver (or Common Loon) *G. immer* as conspecific. The summer ranges of the two forms are largely allopatric, but there are small areas of overlap. In western Alaska the White-billed breeds sparingly to just south of the Arctic Circle on the extremity of the Seward Peninsula at latitude 66°N (Bailey 1948) and the Great Northern is a scarce but probably regular nester as far north as the Anaktuvuk Pass area at latitude 68°N (Irving 1960). It seems likely that in this region there are differences in the choice of habitat, but I have been unable to locate any detailed data on this point. In north-west Canada, where there is also some overlap of breeding range, the Great Northern occupies mainly forested zones and has been recorded on only a few isolated occasions in the treeless tundra inhabited by the White-billed (Snyder 1957, Ross D. James *in litt.*).

Because of its rarity and the remoteness of its breeding areas, the White-billed Diver has been but little studied and few photographs have been taken at the nest. This illustrated paper discusses the results of observations made in arctic Alaska during 1969-70 and to a lesser extent in 1971. The study area was part of the Arctic (North) Slope between the Canning River to the east, the Colville River to the west, the Arctic Ocean to the north, and the Brooks Range of mountains to the south (roughly between longitudes 152° and 146°W and latitudes 68° and 70°N). The periods spent there were July to October 1969, April to July 1970, and June and July 1971.

It is known that the White-billed Divers reach their breeding grounds in arctic Alaska and Canada by migrating northwards along the shores of the Bering Sea, past Point Barrow, and thence eastwards along the arctic coast. Until the ice breaks on the rivers and later on the tundra lakes, they remain on open leads offshore. In 1970 the

first one I saw inland was flushed from a river some 8 km from the arctic coast on 6th June, and on 9th June there were two on another river some 64 km inland; at this time most of the tundra lakes in that area were still frozen over.

BREEDING HABITAT

According to Bailey (1948), this is a bird of large tundra lagoons, usually nesting back from the coast in rather inaccessible places. Earlier the same observer had described the summer habitat as little lakes and shallow ponds (Bailey 1943), but in that case he was referring to the southern limit of the species' range in Alaska, where it may be forced to utilise less typical habitats owing to the presence in the same area of Great Northern Divers. In arctic Canada, Snyder found that the White-billed's habitat was essentially low-rimmed, freshwater tundra lakes and rivers. In the U.S.S.R., Dementiev noted that it nested on lakes in coastal parts of the tundra, but also in the mountains in north-east Siberia (*vide* Professor L. A. Portenko). It may also be noted that Palmer (1962) stated, 'Perhaps rarely breeds close to coast.'

In the area that I studied in Alaska I found no evidence of breeding on rivers, nor nearer to the Arctic Ocean than about 110 km. There is no shortage of lakes and pools which, on some parts of the Arctic Slope, comprise up to 80% of the surface area. As many of these larger, low-rimmed lakes were not occupied by White-billed Divers in the breeding season, it is clear that size alone is not a significant factor in habitat selection. Nor, apparently, is the presence of food in the breeding lake, since long foraging trips seem to be a normal feature of this species' behaviour. In terms of the physiography of arctic Alaska as defined by Wahrhaftig (1965), the two breeding lakes that I studied lie in the Arctic Foothills Division.

Site A (plate 82b)

A lake of approximately 43 ha (106 acres) in the Sagavanirktok River valley area about 117 km south of the arctic coast at an altitude of 225 metres (about 148°40'W, 69°20'N). Sited on undulating tundra of tussocks of cottongrass *Eriophorum vaginatum*, the depth of this lake varied from a few centimetres in the shallows to a maximum of about 3 metres. The emergent marginal vegetation, where it existed, consisted of a grass *Arctophila fulva* and buckbean *Menyanthes trifoliata*, backed by a zone of cottongrass *E. angustifolium* and marsh marigold *Caltha palustris*. It was not possible to measure the pH, but the grass *A. fulva* had an abundance of reddish pigment, as it does when growing in water of pH 6-7. Despite intensive sampling, the only species of fish found was the Nine-spined Stickleback *Pungitius pungitius*. Immediately adjacent to the north-west corner of the lake was a

smaller one, the two being connected by a narrow channel. A much larger lake was situated 150 metres or so to the west, and others of varying size within 1-2 km to the east and south.

Site B (plate 82a)

A morainal lake of approximately 18 ha (45 acres) in the Ribdon River valley (a major tributary of the Sagavanirktok River) about 174 km south of the arctic coast at an altitude of 425 metres (148°34'W, 68°45'N.) The maximum depth was under 3 metres and emergent marginal vegetation was almost non-existent, the *Eriophorum* tussock tundra and dwarf willow *Salix* scrub running right to the lake edge. At intervals round the perimeter were small stony beaches. It was not possible to net this lake, but some small fish were certainly present. A number of other lakes of similar and smaller size were within a radius of 3 km.

NEST AND EGGS

At site A no search was made for the nest in 1969, as the pair already had young afloat when I arrived. In 1970 the nest was located on the west side of the lake on 4th July: it consisted of a shallow cup in the tundra lined with stems of cottongrass and *Arctophila fulva*, and was less than 30 cm from the water; it appeared much used and I assumed that the eggs had been taken by some predator, possibly a fox. In 1971 the nest was found in precisely the same spot on 5th July: two broken eggs were lying near-by, clearly the work of a predator.

At site B the nest was found on 28th June 1970: it too consisted of a shallow cup in the mossy tundra, lined with cottongrass and some small willow stems, and was within 30 cm of the water. It contained the complete clutch of two eggs (plate 84b), which were dissimilar in both shape and ground colour, one being darker and more elongated. The sometimes dissimilar shape and colour of the eggs was referred to by Bent (1919), who mentioned a clutch taken at Point Hope, Alaska, in 1916, in which the colour of one egg was 'Saccardo's umber' and the other 'snuff brown'.

At neither site did the lake contain any isolated hummocks or islands that might have been preferred for nesting; one or two other lakes within a radius of 3 km did have such islands, but were not occupied by White-billed Divers. In neither case had there been any attempt by the birds to form a mound of mud or heaped vegetation, or to cut and overturn turfs as mentioned both by Snyder and by Palmer (1962).

So far as I am aware, the incubation period is still not known. With the short arctic summer there is, of course, no opportunity for second broods and not even a replacement clutch was laid at site A in 1970. The shortness of the season is further illustrated by events

at site A in 1971: the ice was late in melting this year and even on 24th June, by which time the lake was clear, an aerial check failed to reveal any White-billed Divers. Yet by 5th July, when I visited the lake and found the pair present, the nest had been built and the eggs laid and predated. Assuming that these were laid in late June or very early in July, an incubation period of 29-30 days (as in the Great Northern) would give a hatching date at the end of July or early August; if the fledging period is about 45 days (again as in the Great Northern), the young would not have fledged until mid-September. In comparison, a pair of Red-throated Divers *G. stellata* nesting farther north, only 1-2 km from the coast, had a full clutch by the third week of June. The eggs were taken by a predator towards the end of the month, but by 5th July a new nest had been built on the opposite side of the pool and a replacement clutch of two eggs laid.

BEHAVIOUR AT THE NEST

In my experience this is an exceedingly wary species when nesting. It was impossible to approach the breeding lakes without being seen either by the incubating diver or by the one off duty out on the water. In the latter case no alarm calls appeared to be used, but the bird would sink very low in the water and swim agitatedly back and forth. These visual indications of alarm were sufficient to alert the sitting bird, which would then slip into the water, dive and reappear well out towards the middle of the lake. I suggest that, in selecting lakes on which to breed, these divers take account of visibility over the surrounding area.

On the first occasion that I approached site B in 1970, both divers were first noted in the centre of the lake. I sat on the bank for nearly three-quarters of an hour, during which time they seemed completely indifferent and gave no indication of the presence of the nest and eggs that I later discovered only 3 metres from where I had been sitting. The desultory behaviour indulged in by this pair included head-scratching, rolling on one side in order to preen the underparts, and wing flapping with the body raised high out of the water. On one occasion they faced each other and one submerged its head and raised both wings almost vertically above its back; this evoked no apparent response from the other. Occasionally both would swim side by side, travelling slowly with their heads submerged. This behaviour is common to other divers, such as the Great Northern, and is apparently a means of locating food before diving for it. I never saw this action followed by a dive, but this may simply have been because no fish were spotted.

On 29th June I erected a rudimentary hide about 7.5 metres from the nest and was later left in this by my companion. Both birds made several approaches, swimming slowly from the centre of the lake to a

point about 70 metres from the nest and only 6 metres out from the bank. An hour and ten minutes elapsed, however, before one continued the slow approach (while the other hung back), finally diving when about 10 metres away and surfacing within 1-2 metres of the nest, body low in the water and looking carefully around before coming on to the eggs, only to leave again at the click of the camera shutter. On this and subsequent occasions the bird usually turned the eggs before settling to incubate. When incubating, it invariably sat facing the water (plates IIIa and 83) and remained quite alert, periodically stretching up its head and neck to look carefully around. It frequently leant over to pick up stems and other material lying within reach and placed these on the rim of the nest. When undisturbed, this species will incubate for long periods without relief and I recorded one sitting for at least eight hours.

BEHAVIOUR WITH YOUNG

A pair with two young were studied at site A from 23rd July to 4th August 1969. The young were fairly well grown and diving well, remaining submerged for up to two minutes. At no time did I see them being fed by the adults. I estimated their age at two weeks, possibly a day or two more; assuming that the incubation period is 29-30 days (as in the Great Northern), this would mean that the eggs were laid in the first half of June, very soon after the break-up of the winter ice.

Each adult had charge of one young, but in fact all four birds were together for most of the time. I did not see the young riding on the backs of the adults. Unless disturbed, they stayed for the most part round the lake edge, particularly just a metre or two off the *Arctophila fulva* beds; they swam out towards the centre of the lake only if alarmed. At no time were both adults away from the young simultaneously. For extensive periods at this stage there was frequently no apparent trace of the divers on the lake, and at such times they were to be found resting in the fairly dense cover provided by the marginal growth of *A. fulva*.

On the evening of 2nd August I set out in an inflatable rubber dinghy to obtain some photographs and manoeuvred both adults and young into a corner of the lake with no great difficulty. When I tried to repeat this performance on the following day, however, their reaction was quite different: upon my arrival at the lake edge all four swam to the far side, where the young were left concealed in the dense *A. fulva* while the adults split up and moved to opposite ends of the lake, from which position they occasionally called with a tremulous high-pitched note. Plate 84a, taken on 2nd August, shows the alarm reactions of one of the adults (that on the left), believed from its behaviour to be the male, which were noted on this and one

or two other occasions: the neck was swollen until noticeably thick, and the crown feathers were raised to form a definite peak just forward of the eyes. My presence on or by the lake never resulted in any marked form of demonstration or distraction display, such as splash-diving, as recorded for the Great Northern Diver.

FEEDING BEHAVIOUR

The pair with young at site A during July and August 1969 showed a fairly consistent pattern of feeding behaviour. Feeding activity was most intense in the early mornings, up to about 09.00 hours, and again in the late afternoons and early evenings. Observation from a helicopter established that these particular adults flew to lakes up to 5 km away in order to feed, though both were never absent from the nesting lake at the same time. Presumably these other lakes held more fish: certainly Grayling *Thymallus arcticus* were present in some and, as pointed out earlier, the breeding lake apparently contained only Nine-spined Stickleback. The pair with a nest but no eggs at site A in July 1970 exhibited much the same pattern of feeding flights to the other lakes in the early mornings and again in the evenings.

The behaviour of the pair with eggs at site B in June 1970 was also somewhat similar. The periods of time spent away feeding by one or other were often quite long. On 29th June, for instance, one was absent from at least 20.30 until 21.55 hours. The following morning one was away from at least 08.30 until 11.00 hours. Being on foot, I had no means of checking the distances covered by this pair to reach their feeding sites.

In connection with the question of how far these divers will fly to feed, it is of interest that on 2nd July 1970, while camped by a lake in another river valley between sites A and B, I saw a single White-billed Diver appear at 19.30 hours. A previous search of the lakes within a wide radius of this particular one had failed to reveal the presence of this species, so obviously this solitary visitor had come quite some way. The distances from the camp to sites A and B were 32 km and 37 km. Dementiev referred to foraging trips to the sea, presumably by birds breeding in fairly close proximity to the coast. There is a record of one flying approximately 8 km with fish for its young (Bee 1958).

DURATION OF DIVES

On 4th July 1970 I watched one of the pair at site A from 15.30 to 16.00 hours. During this period it dived on eight occasions and remained submerged for 65, 62, 62, 67, 65, 66, 65 and 68 seconds, an average of 65 seconds. It was, however, making only desultory attempts at feeding. Dives by individuals on other lakes in the course of serious feeding sometimes lasted as long as 90 seconds and occasionally

more, although the averages still worked out at 62-65 seconds. There seem to be no previous published records of diving times by this species, but for the Great Northern 40 dives timed by Palmer (1949) varied from 8.5 to 60 seconds and the average observed by Olson and Marshall (1952) was 43 seconds.

GENERAL BEHAVIOUR

A few points are worth mentioning regarding the behaviour of the pair that had apparently lost their eggs at site A in July 1970. These two birds spent much time on separate but adjacent lakes, but sooner or later one always flew across to join the other. Their meeting ceremony seemed similar to that described by Palmer (1962) for the Great Northern Diver: both would stretch their heads and necks upwards, and rise in the water with arched wings until standing almost breast to breast. This would be followed by a series of short dives in unison, interspersed by bouts in which each moved its head backwards and forwards several times or rapidly dipped its bill in the water, the birds now being side by side. This pair still had a close attachment to the empty nest: on several occasions both swam towards it and one, presumably the female, would go right up to the bank and look at it.

At site A in July and August 1969 one of the pair with young was occasionally seen with a third and presumably unmated individual during its feeding excursions to another lake. This latter must have come from some distance as no other White-billed Divers were known for several kilometres in any direction; at no time, however, did it come to the lake occupied by the breeding pair. It is known that breeding and non-breeding Great Northern Divers will associate freely to feed and rest when away from their territories.

While I was watching the pair at site A on 5th July 1971, two additional White-billed Divers suddenly landed on the lake. The two pairs swam towards each other and then began a series of simultaneous dives that lasted for four or five minutes. Subsequently all four were swimming about in a compact group. Possibly the second pair were non-breeders or had also lost their eggs.

RELATIONS WITH OTHER SPECIES

The only other divers breeding in the immediate vicinity of sites A and B were Black-throated *G. arctica*, the most numerous species of this family on the inland sections of the Arctic Slope. Pairs of Black-throated were present on most of the surrounding lakes, but they never landed on those occupied by the breeding pairs of the larger species. When foraging, however, the White-billed often visited lakes occupied by Black-throated and the latter were not seen to show any aggression. On the other hand, I did not see a White-billed

approach the close vicinity of a Black-throated's nest, in which circumstances the reactions would doubtless be different.

The dominant rôle of the White-billed was clearly demonstrated in 1969. A large lake adjacent to site A did not hold any breeding divers, but was frequently visited by both Black-throated and White-billed for resting or feeding. If the former were present when a White-billed arrived, they would retreat as far as possible from where it landed. The larger species generally reacted very aggressively to any Black-throated that approached within 50 metres or so and would nearly always drive them off. The presence of such diving ducks as Long-tailed Ducks *Clangula hyemalis*, Scaup *Aythya marila* or White-winged (Velvet) Scoters *Melanitta fusca deglandi* did not seem to provoke any aggressive reactions from the White-billed Divers.

POST-BREEDING DISPERSAL

Post-breeding dispersal was studied during the summer and autumn of 1969. The tundra lakes and pools, and the rivers, were clear of ice until the third week of September. Then, however, all but a few lakes were extensively frozen over and some of the rivers had marginal ice along their subsidiary channels.

At site A one of the adults and both young left in late August, but the other adult remained until the lake began to freeze over on 20th September. On 16th September single adults were seen on two other lakes some way to the north, an adult and one juvenile on a third lake, and a pair with one juvenile on a fourth lake. None of these lakes had been occupied by White-billed Divers during the breeding season. A few days later single adults were noted on the main channel of the Sagavanirktok River, and odd individuals continued to be seen on this and other rivers until they too froze over in late October. In the case of Great Northern Divers, it is known that as the breeding season progresses only one parent remains with the young; it seems that this also applies to the present species in most cases.

My observations suggest that some adult White-billed Divers may leave the nesting lakes during August, while others stay on the lakes until forced to leave by the onset of the freeze. At this point they move either to still unfrozen lakes or to the rivers, where they remain until they too freeze. The post-breeding dispersal in the area of my studies was evidently northwards towards the coast from the inland breeding lakes, as would be expected from the known migration pattern.

According to Dementiev, White-billed Divers are monogamous and the pairs apparently permanent. On the basis of the evidence discussed above, the pairs break up at the end of the breeding season when dispersal takes place. Also, on the basis of my observations in spring 1970, most White-billed Divers are alone when they first appear at

the time of the spring thaw. I consider it highly likely, however, that the same individuals return to each lake to breed. Certainly there is little doubt in my mind that the pair at site A in 1970 were the same two birds that had nested there the previous year.

ACKNOWLEDGEMENTS

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SUMMARY

Results of studies on the habitat, breeding biology and behaviour of the White-billed Diver *Gavia adamsii* in arctic Alaska in 1969-71 are presented, and comparisons made with the Great Northern Diver *G. immer*. There is a limited degree of overlap in the breeding range of these two divers in north-west Alaska, but there appears to be segregation by habitat. Factors governing habitat selection by the White-billed are not clear; the presence of fish in the nesting lake is evidently not essential, nor is the existence of islands as nesting sites. Behaviour at the nest and with young is discussed. Feeding flights over considerable distances seem to be a normal feature. The duration of dives was up to more than 90 seconds, but the averages were 62-65 seconds. The White-billed is aggressive towards the Black-throated Diver *G. arctica*, but not to diving ducks. The pattern of post-breeding dispersal is also discussed.



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Cannibalism in Herring Gulls

Jasper Parsons

Plates 85-87

INTRODUCTION

The Herring Gull *Larus argentatus* is a notorious killer during the breeding season. Young chicks are repeatedly struck on the head or often gripped by the neck and worried until dead (plate 85a). Usually, these chicks have trespassed into neighbouring territories, and the strong territorial aggression of the adults may cause a considerable pre-fledging mortality. Chicks may also be eaten, however, by other Herring Gulls and even by their own parents (Moreau 1923, Paynter 1949, Goethe 1956). Few observers who have visited Herring Gull colonies have failed to record such instances of cannibalism. Nevertheless, no quantitative study of this habit appears to have been made. This paper presents an account of the extent and possible effects of cannibalism within a colony breeding on the Isle of May, Fife. On that island the species has increased progressively and spectacularly from a solitary pair in 1907 to over 14,000 pairs in 1968. This investigation was part of a wider study of the breeding biology of that large population during 1966-69.

METHODS

Nests and eggs in selected subcolonies were marked and numbered, and the chicks marked or ringed at hatching. It was therefore possible to differentiate between first-, second- and third-hatched chicks in any brood, and also to know the dates of hatching and the positions of the nests from which the individual chicks came. The rings regurgitated by cannibal gulls gave information concerning the numbers and identity of the chicks that were eaten. A detailed study of cannibalism was carried out during 1968 in a subcolony of 903 nests on a part of the Isle of May called North Ness. Of the 1,722 chicks that hatched in this area, 1,415 were ringed immediately and their fate followed through to fledging. Only four pairs of Great Black-backed Gulls *L. marinus* were nesting on the entire island, and their predation on Herring Gull chicks on the North Ness subcolony was negligible.

MORTALITY DUE TO CANNIBALS

As has already been mentioned, chick mortality caused by adult Herring Gulls may be divided into two main categories. Firstly, chicks may wander into other territories and subsequently be killed. Then they usually lie dead and untouched except for the original fatal wounds around the head (plate 85b). Some of these corpses, however, and others that have died of disease or exposure, may be eaten by adults or even by larger chicks. The motivation here is merely the scavenging nature of gulls, and the remains of the chicks are normally found in the vicinity of their own nest sites. Secondly, and the main subject of this paper, chicks may be eaten by cannibals that act as predators. These are adult Herring Gulls which leave their own nest sites specifically in search of live chicks as a food source. Chicks are taken from the nest sites, and may be swallowed in flight or carried to the nest of the cannibal before being eaten (plates 86a-87a). Around this nest may be found the regurgitated remains of chicks and rings (plate 87b).

A large proportion of chicks are attacked or eaten by other Herring Gulls. Of samples of 226 and 376 chicks found dead on the island in

Table 1. Fate of 1,415 young Herring Gulls *Larus argentatus* ringed at hatching on North Ness, Isle of May, in 1968

	Number of chicks	Proportion of total
Known to have fledged	609	43.0%
Eaten by cannibals	329	23.3%
Dead with head scars	47	3.3%
Dead but no visible injury	256	18.1%
Not accounted for	174	12.3%

1967 and 1968, as many as 56% and 59% respectively were partially or wholly eaten, or appeared to have died from head wounds. On some occasions these injuries may have been inflicted after death. Of the 1,415 chicks ringed on North Ness in 1968, however, cannibal Herring Gulls ate 329 or 23% (table 1). This represents a major proportion of the pre-fledging mortality, and yet just over half of these chicks (167) were eaten by only four cannibals. Thus, each cannibal was killing 2.5% of the chicks that hatched in the subcolony, and similar figures were noted for individual cannibals in other subcolonies in both 1967 and 1968. For these gulls, chicks were the major food item. The density of such cannibals in any subcolony was approximately one per 250 pairs.

Cannibals normally take young chicks as prey. For example, the mean number of days between hatching and death for 55 chicks taken and killed by cannibals was 6.7 days. In the course of their search for these chicks, cannibals ranged over distances of as much as 150 metres from their own nest sites (fig. 1). There was no possibility that the chicks had wandered by chance to the cannibal territories, especially as two of the latter were isolated by sea and steep rocks from the remainder of the subcolony. Although there was some overlap between their foraging areas, the cannibals studied were not nesting close to one another.

CANNIBALS AS PREDATORS

Predation is an important cause of chick and egg loss, and several authors have discussed the probable anti-predator function of colonial nesting and synchronised laying in seabirds (Kruuk 1964, Patterson

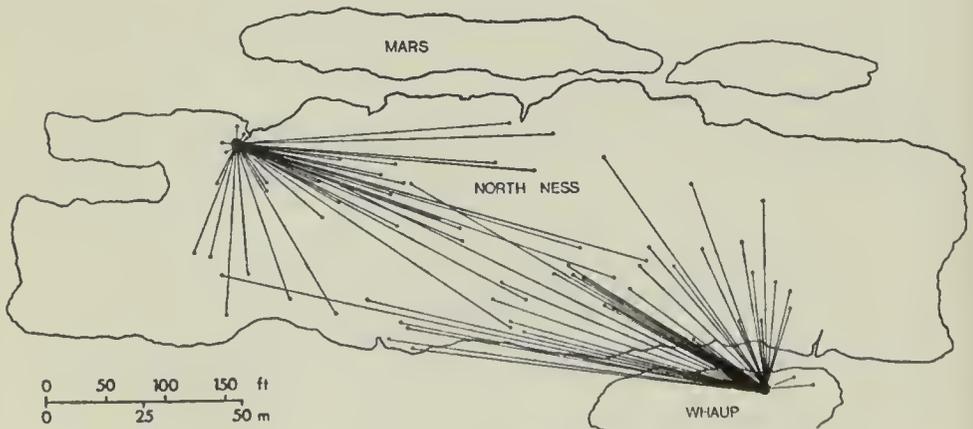


Fig. 1. Scale diagram of North Ness, Isle of May, showing the nests of two cannibal Herring Gulls *Larus argentatus* in 1968 (large black circles) and the nests from which each took chicks (small black circles). The distances flown can be measured against the scale

Table 2. Mean density of 71 nests from which chicks were taken by cannibal Herring Gulls *Larus argentatus* on North Ness, Isle of May, in 1968, compared with that of a random sample of 80 nests selected from a table of random numbers

Density is expressed as the mean number of other nests (standard error in brackets) within three different arbitrary radii of the individual ones concerned. In all three cases, the nests from which chicks were taken were, on average, at a lower density and the significance of the difference between cannibalised and random samples is shown in the last line

	RADIUS IN METRES		
	2.3	3.0	4.5
Cannibalised nests	0.84 (± 0.09)	2.07 (± 0.14)	4.80 (± 0.21)
Random sample of nests	1.12 (± 0.09)	2.74 (± 0.14)	5.39 (± 0.20)
Significance of difference	<0.05	<0.002	<0.05

1965). It was suggested that colonial nesting encourages and enhances the use of behavioural defence mechanisms against predators. The main predator of both eggs and chicks on the Isle of May is the Herring Gull itself, and it was possible to investigate whether these cannibals were selecting nests that were perhaps more isolated or in less dense areas than others.

Nest density was measured by the number of nests within a given radius of a central one. The mean density of nests from which chicks were taken by cannibals was compared with similar data for a random sample of others (the number of each nest site being obtained from a table of random numbers). The results in table 2 show that cannibals selected nests in significantly less dense areas than normal. As such, cannibalism creates a selective pressure against low density breeding, while territorial aggression selects against overcrowding. Indeed, pairs breeding at the most common density were the most successful, both in terms of hatching and fledging success, and the two factors of cannibalism and territorial aggression can explain the significantly poorer success at low and high densities ($P < 0.01$) (Parsons *in preparation*).

The incidence of cannibalism on chicks hatched third in the brood was significantly greater than on those hatched first and second (table 3). Many predators tend to take the weakest members of their prey species (Lack 1954), and it is possible that the third chick is commonly in that position (Parsons 1970). Furthermore, this chick succumbed more frequently to *kronism* (cannibalism by its parents) than either of the other two, although the samples were too small for statistical treatment: in a study of 747 nests, *kronism* occurred in 15 cases and caused the deaths of nine third-hatched chicks, compared with two first- and four second-hatched chicks. This differential mortality is typically associated with asynchronous hatching which establishes a nestling hierarchy (Lack 1954). It is possible that the

Table 3. Numbers of chicks hatched first, second or third in brood and eaten by cannibal Herring Gulls *Larus argentatus* on North Ness, Isle of May, in 1968

The significance of the difference between first and third chicks is $P < 0.05$

	Chicks ringed	Chicks eaten	Proportion eaten
First chick	611	30	4.9%
Second chick	509	27	5.3%
Third chick	295	26	8.8%

Herring Gull's asynchronous hatching, although slight, and its smaller third egg are adaptations to an unpredictable food supply, so that the brood size is adjusted to the most efficient number of chicks that can be reared in the prevailing conditions. There appears to be ample food available to the Herring Gull during the hatching period, however, and it is believed that this differential mortality is an indication of a breakdown in the behaviour between the adults and the young rather than a response to a food shortage.

Darling (1938) found that the Great Black-backed Gull and the Heron *Ardea cinerea* took a steady toll of Herring Gull chicks while they were in the down stage and suggested that, if this period were short, the percentage mortality due to predation would be comparatively less than in an extended breeding season. The general effect would be one of swamping the predators with potential prey over a short period of time. Using the data from the four cannibals on North Ness it was possible to examine whether this form of predation created a selective advantage towards a shortened breeding season.

The hatching dates of chicks killed by cannibals were recorded and so the percentage mortality from cannibalism of young hatched in different periods could be calculated (table 4). Early and late chicks suffered a significantly higher mortality from these four cannibals than those hatching in the middle of the season ($P < 0.001$). In fact,

Table 4. Seasonal variation in the numbers of chicks eaten by four cannibal Herring Gulls *Larus argentatus* on North Ness, Isle of May, in 1968

The significance of the seasonal variation is $P < 0.001$

	DATE OF HATCHING						
	Before 5 June	5-9 June	10-14 June	15-19 June	20-24 June	25-29 June	After 29 June
Chicks ringed	99	201	289	443	260	84	22
Chicks eaten	22	22	21	34	29	23	7
Proportion eaten	22.2%	11.0%	7.3%	7.7%	11.2%	27.4%	31.8%

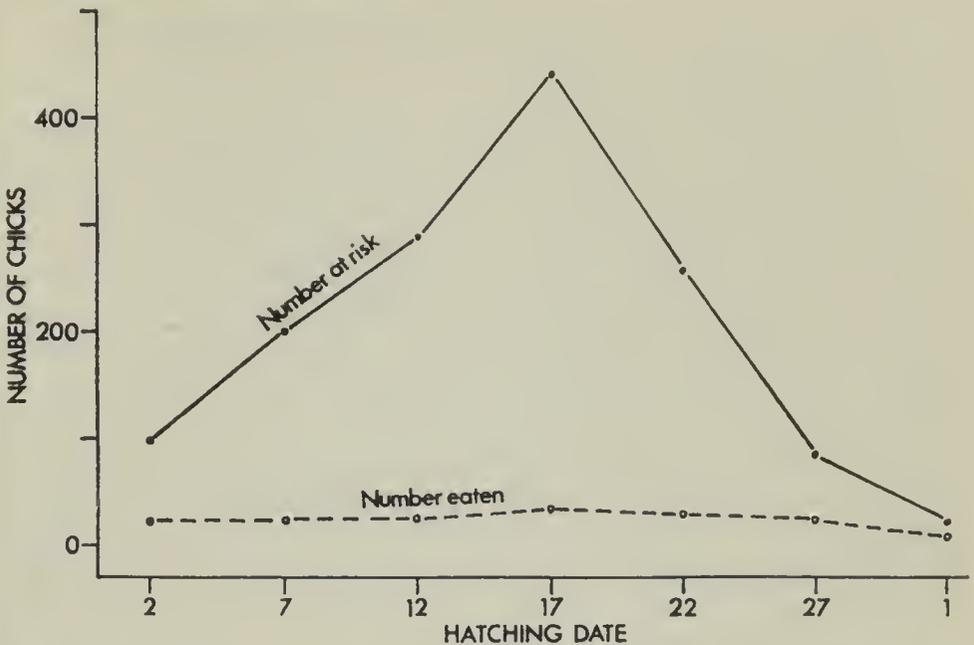


Fig. 2. Seasonal variation in the numbers of ringed chicks of Herring Gulls *Larus argentatus* at risk to predation on North Ness, Isle of May, from 2nd June to 1st July 1968, and the numbers eaten by four cannibal Herring Gulls

the cannibals took a relatively steady number of chicks throughout the season, although the numbers available changed considerably (fig. 2), and this must create a selective advantage for breeding in the middle of a well-defined period. A similar result was obtained for a single cannibal on another part of the island, known as Rona. There the chicks were ringed with different colour rings according to their date of hatching. The proportions of the colour rings regurgitated by the cannibal gave estimates of the percentage mortality for four hatching periods (table 5). Whereas in the middle of the season only

Table 5. Seasonal variation in the numbers of chicks eaten by one cannibal Herring Gull *Larus argentatus* on Rona, Isle of May, in 1968

Various colour rings were used to denote different hatching dates of the chicks. The significance of the difference between the percentage mortality of middle hatching groups and that of early and late ones taken together is $P < 0.001$

	COLOUR RING USED AND DATE OF HATCHING			
	Blue Before 9 June (early)	Yellow 9-16 June (middle)	Green 16-22 June (middle)	Black After 22 June (late)
Chicks ringed	40	104	375	113
Chicks eaten	6	3	9	8
Proportion eaten	15.0%	2.9%	2.4%	7.1%

2.4–2.9% of the chicks ringed were killed by this cannibal, significantly higher proportions of early chicks (15%) and late ones (7.1%) were taken by the same bird.

As part of a study into the effects of the season on breeding success, normal breeding was compared with nesting experimentally delayed by the removal of eggs (Parsons *in preparation*). In both control and delayed subcolonies, hatching success was correlated with nest synchronisation rather than time of laying, so that eggs laid during the peak period in any subcolony were the most successful. It is probable that egg predation by Herring Gulls themselves is mainly responsible for this relationship. Likewise, the synchronisation of nesting was the most important factor in determining the pre-fledging success in both control and delayed areas, and much of the lowered survival of early and late chicks within a group was due to cannibalism. Therefore, the Herring Gulls generate a selection against deviation from the main peak of laying, and that selection will tend to maintain the synchrony of breeding irrespective of food availability. Furthermore, late breeding did not appear to be a disadvantage providing that it applied to the group as a whole.

THE CAUSES OF CANNIBALISM

Various ideas have been advanced concerning the type of gull that becomes a cannibal, and the pressures within a population that may bring about cannibalistic behaviour. Kirkman (1937) believed that many deaths of chicks of Black-headed Gulls *L. ridibundus* were due to 'unmated rogue' individuals which had acquired the habit. Similarly, Tinbergen (1953) suggested that three- and four-year-old sub-adult Herring Gulls hanging around the colony were active predators. The cannibal gulls on the Isle of May retained the habit and ate chicks in successive years: they were not unmated or immatures and, indeed, were no less successful at breeding than the rest of the colony.

There is evidence to suggest that some cannibals find difficulty in separating the drive to feed and care for their own offspring from the urge to kill and eat the young of other Herring Gulls. One adult ate over 40 chicks while incubating a clutch of three eggs. When its own brood hatched, it continued to collect chicks and return with them to its own nest site, but failed to kill them. As a result, over a period of a week, it augmented its own brood by the addition of eight live and healthy chicks. The cannibal even fed this enlarged brood, though two of the eleven chicks (one of which was a captive and the other one of its own) died of exposure in a rain storm. Eventually, eight of the remaining nine (including the other two of its own) were eaten by the same cannibal, but the last chick, which was one of the first captives, duly fledged, having been fed almost exclusively on young Herring Gulls. In this particular case the male was the active predator,

but not enough observational results are available to rule out the possibilities that a female or both adults in a pair may eat chicks.

Cannibalism has recently received some attention in the context of population size and regulation. Paludan (1951) suggested that 'an increasing population gives less favourable feeding possibilities and therefore an increased cannibalism'. In these circumstances, cannibals merely exploit an additional source of prey, with individual selection favouring those adults able to make use of this food supply (Ashmole 1963). Alternatively, cannibalism is regarded as a density-dependent brake applied to the rate of recruitment to a population (Wynne-Edwards 1962). Brown (1967) noted that cannibalism was the main cause of chick mortality on Walney Island, Lancashire, although there was no evidence of a food shortage. This somewhat conflicting evidence was explained by the general scavenging nature of gulls and the density of available food. As such, cannibalism was regarded as 'an extension of the normal hunting of young shore-birds and ducklings'.

It is probable that, in a dense breeding colony, chicks are a more accessible and an economical or preferred source of food. Cannibalism need not then indicate a food shortage, nor need it be an adaptation to curb recruitment. Nevertheless, only four cannibals in an area containing over 900 nests were able to reduce the annual fecundity of the subcolony from a potential 0.80 chicks fledged per pair to an actual 0.67. In static conditions of adult and first-year mortality, this reduced fecundity could lower the known population increase from 13.3% per year to approximately 10% annually over a period of years. However hypothetical this may appear, it does show how any long-term increase in the relative numbers of cannibals can affect the fledging success and ultimately the rate of population change. Unfortunately, there is not enough evidence to relate cannibalism to the density of the colony, although it is obviously impossible for a gull to be a fully active cannibal in a small colony and a minimum number of pairs must be present before this habit can be fully developed.

DISCUSSION

Productivity of the Herring Gull colony on the Isle of May is reduced by cannibalism, even though the percentage of cannibals in the breeding population on the island is relatively small. Whereas many Herring Gulls suffer predation from other species, notably the Great Black-backed Gull (Harris 1964, Kadlec and Drury 1968), the gulls on the Isle of May are free from all but a pair of Carrion Crows *Corvus corone* and four pairs of Great Black-backs. Various aspects of colonial breeding, particularly nest density and synchronisation of laying, have an anti-predator function, and this function appears to be maintained even when the Herring Gull itself is the predator concerned. There is

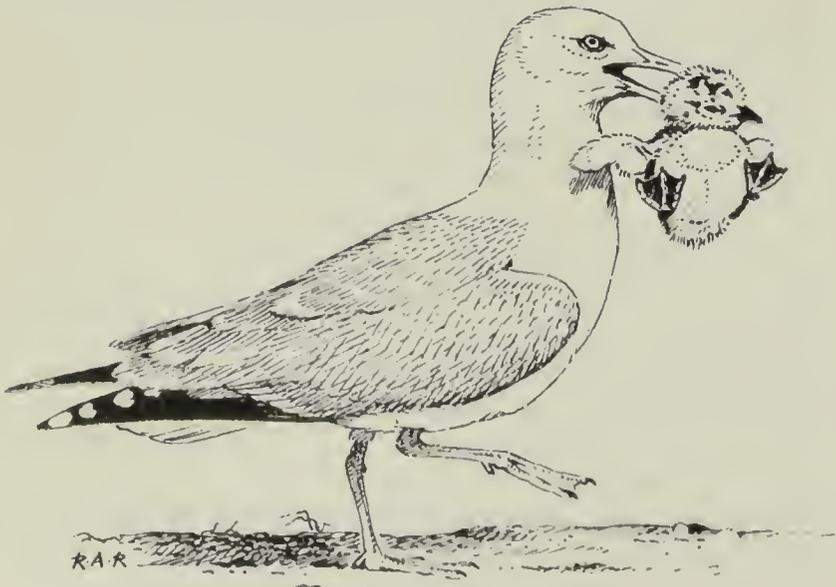
evidence to suggest that this species could breed successfully later in the summer, since delayed breeding does not appear to be particularly disadvantageous (Parsons *in preparation*). Nevertheless, the poorer breeding success suffered by early and late clutches due to egg predation and cannibalism will tend to maintain the present timing of the breeding season, even if food is not limiting. It is probable that a colony must reach a minimal size before cannibalism becomes prevalent, but even then the availability of chicks rather than a shortage of food is likely to be the factor determining the extent of cannibalism.

ACKNOWLEDGEMENTS

I should like to thank Dr J. C. Coulson, who supervised this research, for his advice and assistance and for reading this manuscript; Professor D. Barker for the facilities of the Department of Zoology, University of Durham; the Isle of May Bird Observatory Committee and the Nature Conservancy for their help; and the students and friends who assisted at various times with field work on the island. This work was supported with a Science Research Council studentship.

SUMMARY

A considerable proportion of pre-fledging mortality (23%) in a colony of Herring Gulls *Larus argentatus* on the Isle of May, Fife, was attributed to cannibals seeking chicks as a major food source. Nests situated in less dense parts of the colony were selected by these predators, and the chicks hatched third in a brood succumbed more frequently than those hatched first and second. Within any group, chicks hatching early and late suffered a significantly higher mortality than those hatching in the middle of the season. Therefore, cannibalism tends to select against isolated breeding, while also selecting for nesting synchronisation. Cannibals are probably utilising an available source of food without indicating a general food shortage, but could nevertheless reduce recruitment into the population. At a time when its own brood was hatching, one cannibal was unable to distinguish these from chicks which it had collected, indicating a conflict of behavioural drives.



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American Marsh Hawk in Norfolk

D. I. M. Wallace

Plate 88

INTRODUCTION

This is the long-delayed story of an immature ring-tailed harrier *Circus sp* that wintered in the area of Cley and Salthouse, Norfolk, from October 1957 to April 1958. Plans for the co-authorship of an earlier paper foundered and with the passage of time the task was relegated to a low priority by several of the observers concerned. A chance meeting in May 1968 between two protagonists of a definite identification for this troublesome raptor revived interest and this

paper is the outcome. It seeks to show that the harrier was an immature of the American race of the Hen Harrier *Circus cyaneus hudsonius*, called in America the Marsh Hawk.

CIRCUMSTANCES OF THE RECORD

The Cley harrier was first seen by R. A. Richardson on 26th October 1957. His initial impression was of 'a big powerful ring-tail with beautiful cinnamon-chestnut underparts . . . obviously too large and powerful for a juvenile Montagu's [*C. pygargus*]'. News of the bird and its unusual combination of characters quickly spread and observers flocked to Cley for the next five weeks. At this early stage most observers formed the opinion that it was an immature Pallid Harrier *C. macrourus*, but some regarded its bulk as incompatible with that species. On 9th November A. E. Vine suggested to me in conversation that it was a young Marsh Hawk. This possibility was discussed at a meeting of the Cambridge Bird Club on the 15th: on the following day P. A. D. Hollom, I. J. Ferguson-Lees and other experienced observers assembled at Cley to test it. Although conditions for observation were not good, A.E.V.'s theory seemed more feasible than any other. By 4th December it had gained the tentative support of P. J. Hayman and had almost completely supplanted the earlier school in general parlance. There were questionable points, however, and the argument, as well as the bird itself, continued to receive attention throughout December. Thereafter general enthusiasm waned, though R.A.R. continued to watch the harrier throughout the winter. It was last seen on 13th April 1958.

During its stay the bird inhabited the entire coastal area between Cley and Salthouse, at first hunting over the reed-beds and marshes, but later spending more time over the fields and heaths inland. In general it was a most spirited raptor, attracting mobbing by Carrion Crows *Corvus corone* (which it dealt with in no uncertain manner), a Merlin *Falco columbarius* and a Sparrowhawk *Accipiter nisus*. The only prey noted was a freshly killed full-grown Moorhen *Gallinula chloropus*.

DESCRIPTION

Between October 1957 and February 1960 I collected from various sources, but particularly through the offices of I. J. Ferguson-Lees, thousands of words describing, and several drawings illustrating, the harrier. These, together with my own notes and sketches, provided a very full record. The most detailed comments, with dates of field observations, came from H. P. Medhurst (29th October), M. J. Carter and P. R. Colston (2nd November), R.A.R. (entire period) and myself (16th November and 15th December), and a careful summary of these descriptions follows (I have found it shorter and less ambiguous to



PLATE 81. White-billed Diver *Gavia adamsii* in summer plumage, Alaska, June 1970. The straight culmen and angled lower mandible give the whitish-yellow bill an up-tilted effect. The vertical white lines on the neck are fewer and thicker than in a Great Northern *G. immer* (cf. plate 111b) (pages 519-528) (photo: Bryan L. Sage)





PLATE 83. White-billed Diver *Gavia adamsii* on nest, Alaska, June 1970. The same site as plate IIIa, but not the same bird as plate 81 (dissimilar neck markings)

PLATE 82 (*opposite*). Breeding habitats about 170 and 120 km south of the arctic coast of Alaska. Upper, site B: a morainal lake of 18 ha and less than 3 metres deep, with little marginal vegetation and small stony beaches at intervals, June 1970 (page 521). Lower, site A: a lake of 43 ha and not more than 3 metres deep, with a rich marginal vegetation of *Arctophila* grass and buckbean backed by a zone of cottongrass and marsh marigolds, July 1969 (page 520) (*photos: Bryan L. Sage*)



PLATE 84. White-billed Divers *Gavia adamsii* and one young, Alaska, August 1969: note heavier bill, peaked crown and thicker neck of presumed male on left (page 523). Below, nest and eggs, June 1970: a shallow cup within 30 cm of the water, lined with cottongrass and small willow stems (page 521) (photos: Bryan L. Sage)





PLATE 85. Results of territorial aggression among Herring Gulls *Larus argentatus*, Isle of May, June 1969. Above, well-grown chick that has wandered being attacked by adult defending its territory. Below, smaller chick showing typical head scars after being killed in such circumstances (pages 528-530) (photos: Jasper Parsons)

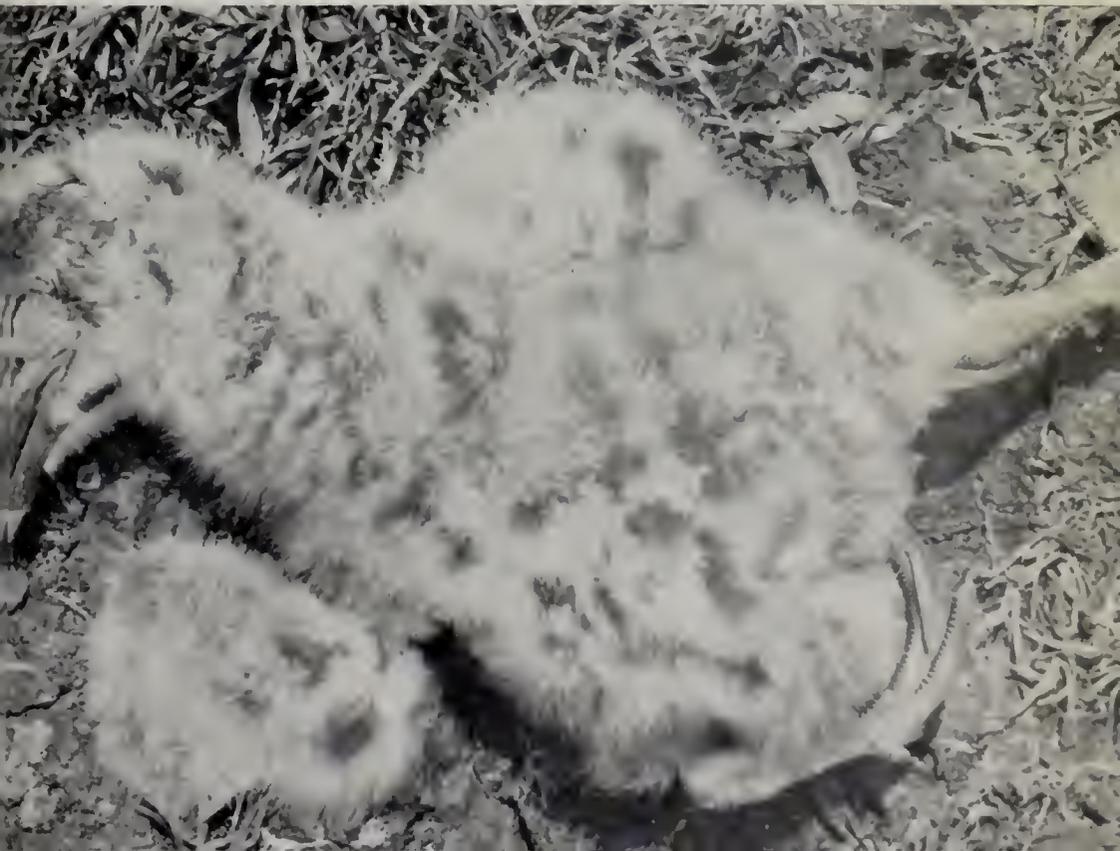




PLATE 86. Cannibal Herring Gulls *Larus argentatus* at work, Isle of May, June 1969. Above, taking chick and being challenged by the parent. Below, going back to own nest site with young chick to kill and eat it there. Cannibalism accounted for a quarter of chick mortality in this colony (pages 528-537) (photos: Jasper Parsons)





PLATE 87. Above, cannibal with chick firmly held (taken a few moments after 86b). Below, regurgitated remains of chicks eaten by cannibal, Isle of May, June 1969: regurgitated rings (here coloured plastic) showed when and from where the chicks had been taken (see fig. 1 and table 5 on pages 530, 533) (*photos: Jasper Parsons*)





PLATE 88. American Marsh Hawks *Circus cyaneus budsonius* in first-winter plumage. The perched and larger flight figures are of one that wintered at Cley, Norfolk, from October 1957 to April 1958. The smaller flight figures illustrate birds seen near New York, U.S.A., in March 1962 (pages 537-542) (sketches; D. I. M. Wallace)

use scientific names throughout, rather than the vernacular, referring to the Hen Harrier as *cyaneus* and to the American Marsh Hawk as *budsonius*). Plate 88 is based on my final drawings, controlled by all other available information.

Size and general character

At all ranges, the impression was of a 'large ring-tail'. All notes included words such as 'powerful' or 'superior-looking'. Mental comparisons with both *cyaneus* and *pygargus* were made, and it was agreed that the bird was obviously too large and powerful for juvenile *pygargus* and that its build was like that of *cyaneus*. Four of the five observers named above (all but M.J.C.) thought it at least as big as *cyaneus* and both H.P.M. and I noted that its silhouette also recalled Marsh Harrier *Circus aeruginosus*. Other points mentioned included 'ponderous wing-beats', 'powerful direct flight' and 'more dominant appearance' in comparison with *pygargus*.

Wing shape and formula

All observers were impressed by the breadth of the wings. Their notes are unanimous in comparing them in shape with those of *cyaneus* and *aeruginosus* and not with the narrower remiges of *pygargus*. R.A.R., P.R.C., M.J.C. and I all made careful observations of the wing-formula. P.R.C.'s first sketches show that the wing-tip was made up of four well-fingered primaries and this was confirmed by R.A.R. My drawings show five, the first short but usually visible and the next four clearly separated and forming the end of the wing. The tip of the sixth could also be detected, but only in exceptional circumstances at close range. M.J.C. noted the wing-formula as '2nd visible primary longest, 3rd next, 1st and 4th next, the 2nd being about half as long again as the 1st', but he did not indicate how many separated feathers he saw.

Tail length and shape

The distance from the tip of the tail to the forward edge of the rump patch was equal to that from the latter to the bill. The tail was rounded: in general it was regarded as not particularly long and rather broad compared with that of *pygargus*.

Head

Generally 'dark rusty brown' (appearing totally dark at long range), but supercilia and cheek patches paler, 'off-white' to 'buff' (obvious at closer ranges). Facial ruff or hood well developed, giving owl-like appearance at certain angles. Nape flecked white (forming an inverted horseshoe mark from behind). Chin and upper throat also dark, the whole area contrasting strongly with the underparts (*cf.* adult male Stonechat *Saxicola torquata*).

Upperparts

Mantle from neck to rump 'chocolate brown', slightly darker than head (the tone recalling female or immature *aeruginosus*) and fairly uniform (though P.R.C. noted in sunlight 'a lighter area above the shoulders' and 'some feathers elsewhere appeared to have broad buff edges'). Scapulars as mantle but 'with lighter margins'. Rump patch 'clear white' and 'very conspicuous' (H.P.M. and P.R.C. described it as 'very square-shaped and extending right across base of tail'). Wings 'generally uniform with back', but lighter edges to median and greater secondary coverts 'fairly conspicuous' (forming panel along midwing visible in flight and when perched), primary bases 'paler', 'some cross-barring on all flight feathers' at closer ranges. Tail 'light brown', but with 'central feathers darker' and with at least five bands of 'darker brown' (the basal one partly obscured).

Underparts

Generally 'rich rufous' or 'cinnamon-chestnut' and unmarked, but area immediately below hood paler rufous (sometimes showing as faint collar) with a suggestion of streaking or barring. Undertail coverts 'rufous shading to off-white' at base of tail. Wings strikingly patterned, axillaries 'rufous with a few small darkish brown streaks', coverts 'rufous with some cross-barring' and with 'well-defined dark tips' to primary coverts, secondaries 'noticeably darker' than primaries (contrast varying with light, most marked when dull) with at least three dark bands, primaries 'whitish at base darkening towards tips' and well-marked with 'seven dark brown concentric bands' (reminding M.J.C. of Goshawk *A. gentilis*). Tail 'golden-brown' or 'orange' with at least five dark bands ('orange glow' strongest in outer feathers), looking strikingly chequered when fully spread.

Soft parts

Bill dark, cere bright yellow; irides, legs and feet yellow.

IDENTIFICATION

Five species of harrier inhabit the northern hemisphere. All occur in the Palearctic, but only *cyaneus* (*budsonius*) is also found in the Nearctic. The Cley harrier was patently not *aeruginosus*, and the Pied Harrier *C. melanoleucos* of eastern Asia which winters south to Ceylon, the Malay peninsula and Borneo (Vaurie 1965), can be safely excluded on geographical grounds and plumage characters. The choice was obviously between those forms whose immatures have wholly rufous underparts, that is *pygargus*, *macrourus* and *budsonius*. Although *pygargus* rarely winters north of tropical Africa and *macrourus* regularly winters in Europe only in the south-east (Vaurie 1965, Peterson *et al.* 1966), the colour of the Cley bird's underparts led naturally to the conclusion that it was one or the other of these two species. Since observers were unanimous in rejecting *pygargus* on size grounds, the initial majority view that it was *macrourus* was understandable. It began to founder when size considerations were shown to be partly against that species too. Then the discovery that immature *budsonius* also possessed rufous underparts provided an alternative solution. The following discussion concentrates, therefore, on the distinctions between immature *macrourus* and *budsonius*, and I am grateful to P. J. Hayman and H. P. Medhurst for help in its preparation.

Size and general character

The majority of observers, three of whom had had previous experience of *cyaneus*, *pygargus*, *aeruginosus* and *macrourus*, and one of *budsonius* as well, were certain that the Cley harrier was equal in size to *cyaneus*. P.R.C., who was able to study both male and female *cyaneus* on the Isle of Sheppey, Kent, within a week of watching the Cley bird, thought it was at least as large as a male; R.A.R., H.P.M. and myself rated it as large as a female. Skin examination by P.J.H. and H.P.M. in November 1957 confirmed that *cyaneus* and *budsonius* are close in size and wing-length, both exceeding *macrourus* in the latter dimension by about 10% (and most *pygargus* by rather more). A few *macrourus* approach *budsonius* in size, but on balance the

bulk of the Cley bird was more compatible with the latter. In particular its tail appeared rather short for *macrourus*, which has a longer tail than *budsonius*.

Wing shape and formula

Skin examination confirmed also that *macrourus* and *pygargus* share relatively narrow wings. Thus the unanimous impression of broad wings in the Cley bird was incompatible with either of those species, but fitted both *cyaneus* and *budsonius*. P.J.H. prepared accurate flight diagrams of the precise wing-formulae of *macrourus* and *budsonius*: these were compared with the field evidence and again found to favour the latter.

Plumage

Following the same detailed skin examination, P.J.H. commented that juveniles of *budsonius* and *macrourus* looked practically identical at a glance, but that there were many minor differences. Features of juvenile *macrourus* compared with those of the Cley bird were as follows: colour tone of upperwings and mantle pale earth-brown, even greyish; upper secondary coverts much better marked; white rump usually oblong and more restricted; clouded, poorly marked undersides to primaries; inconspicuous barring on secondaries. Thus all these differences favoured identification as *budsonius*. Other features, such as the facial pattern and colour of the outer tail-feathers, fell in areas of overlap between the two species. One character was against *budsonius*: both P.J.H. and H.P.M. observed that, while the underparts of immatures of that form were rufous, they were usually paler than in *macrourus* and were variably (but often markedly) streaked below the head, over the upper breast and along the flanks. Since only P.R.C. and I had seen faint marks on or near those areas, and even these were limited to throat and axillaries, a major stumbling block arose. None of us could explain it away, and M.J.C. felt that a large *macrourus* remained the most economical theory after all.

Two years later, however, P.J.H. and I enlisted the aid of Dr I. C. T. Nisbet, then working in North America. Equipped with all the important details and P.J.H.'s diagram, he spent some time looking at skins of *budsonius* for us. After checking as many as 111 in one day, he commented at some length principally to the effect that 'everything [seen] on the [Cley] bird was right for *budsonius*, especially [the fact] that the breast streakings do not show on the immature in the field—I think *never*'. He added that, to his mind, 'the rufous underparts were absolutely diagnostic once you were sure that it was *cyaneus* *subsp.*' These comments seemed to clear the matter up, but the fact remained that no-one who had seen the Cley harrier had personal experience of young *budsonius*.

In 1962 I was able to rectify this while on business in New York. On 7th March I found two first-winter *budsonius* hunting over the reed-beds and marshes of Jamaica Bay. Having seen a female or immature *cyaneus* only three weeks earlier, I was able to confirm the essential similarities in size and character and, importantly, I failed utterly to see streaking on the underparts, even at 30 yards. The sketches that I made of these two *budsonius* showed an identical wing-formula and a very similar plumage pattern to those in the drawings that I and others had made of the Cley harrier.

RANGE, HABITAT, AND PLUMAGE OF ADULTS

Hudsonius has a wide breeding range in North America, from Alaska and Mackenzie across the continent to Newfoundland and south to the Gulf of Mexico. Like *cyaneus* it can withstand the rigours of hard weather and snow, commonly wintering as far north as New England and even around the Great Lakes. Its breeding habitat differs from that

of *cyaneus*, the American form having taken advantage of the absence there of *pygargus* and *aeruginosus*: thus it nests in meadows, swamps and bushy marshes. Otherwise its breeding biology is apparently similar to that of *cyaneus*. The distinctions between the adult females of the two subspecies are very slight, *hudsonius* being usually more rufous on the underparts, crown and nape; it is extremely doubtful whether they would be separable in the field. The adult male *hudsonius* is easily separated by the rufous cross-barring on its flanks and 'trousers' and the more distinct barring on its tail. (Data from Taverner 1949, Meinertzhagen 1959, Peterson 1961, Hanzák 1967 and skins.)

ASSOCIATED RECORDS

Unfortunately the Cley harrier occurred three months before rarity records became subject to assessment and reporting at national level with the setting up of the Rarities Committee, and it is therefore difficult to relate its arrival to those of other Nearctic species. It is worth noting, however, that it was shortly preceded at Cley by the fourth British Short-billed Dowitcher *Limnodromus griseus* (*Brit. Birds*, 54: 357) and by up to three Pectoral Sandpipers *Calidris melanotos* (*Norfolk Bird Report 1957*: 32). Elsewhere in Britain, September and October 1957 produced an above-average crop of transatlantic vagrants, notably the first Summer Tanager *Piranga rubra* (*Brit. Birds*, 56: 49-52).

ACKNOWLEDGEMENTS

I am very grateful to all the observers named in this paper, without whose assistance the Cley harrier would not have been so fully documented or conclusively identified. I. J. Ferguson-Lees also acted as a willing communications centre during its stay and P. J. Hayman offered his customary expertise on raptor identification: I thank them both.

SUMMARY

The identification of the strange harrier *Circus sp* that wintered at Cley and Salthouse, Norfolk, from October 1957 to April 1958, is fully discussed. The colour of its underparts indicated that it was an immature, either a Montagu's Harrier *C. pygargus* or a Pallid Harrier *C. macrourus* or the American race of the Hen Harrier *C. cyaneus hudsonius*, called in America the Marsh Hawk. Its size and build eliminated the first of these three and researches over the four years that followed finally showed that it was, in fact, the last. Brief notes on this subspecies are given.

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Notes

Interaction of Short-eared Owl, Kestrel and Hen Harrier over pipit prey I read with interest the note by T. M. Clegg and D. S. Henderson (*Brit. Birds*, 64: 317-318) on a Kestrel *Falco tinnunculus* taking prey from a Short-eared Owl *Asio flammeus*. At 09.40 hours on 21st July 1968, on a moor in south-west Scotland, I saw a Short-eared Owl about 30 to 40 feet up persistently chasing a Meadow Pipit *Anthus pratensis*. As they neared the edge of a young conifer plantation, a male Kestrel rose and also began to chase the pipit until the latter dived to the ground, followed by the owl. The Kestrel, calling shrilly, immediately dropped on to the pipit. At the same time a Hen Harrier (*Circus cyaneus*) had arrived at the scene and flew above the other two predators: while the owl rose and began fighting with the harrier, the Kestrel flew away and out of sight with the prey. All three predators breed in the area.

R. C. DICKSON

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Kestrel apparently robbing Weasel of vole D. Elliott's note (*Brit. Birds*, 64: 229) reminded me of a similar incident a few years ago. A vole ran across my lawn near Blackboys, Sussex, pursued a moment later by a Weasel *Mustela nivalis*. Both had disappeared momentarily in long grass when a Kestrel *Falco tinnunculus*, which had evidently been watching overhead, dropped into the grass and reappeared carrying the vole. The Weasel, which must have been within inches of its prey, if indeed it had not already caught it, was seen running away from the spot.

GUY MOUNTFORT

Plovers Meadow, Possingworth Park, Blackboys, Sussex

Green Woodpecker preying on young viper On 25th August 1971, in the New Forest, Hampshire, J. Miller and I found a Northern Viper (or Adder) *Vipera berus* freshly dead on a broad path through heathland. As we had approached, a Green Woodpecker *Picus viridis* had flown up from near-by and gone into cover some 70 yards away. There were ant-hills in the area and we saw no reason to link the woodpecker with the snake until we noticed several small lacerations about the latter's neck. We also saw that some of its vertebrae were dislocated, though there was no evidence that this had been done by the woodpecker, which may have come upon it already dead. The viper was a gravid female; it was further lacerated for about three inches forward from the cloaca, and one of the young had partly emerged. We helped it and six other young out: all were quite active

and were soon clear of membranes and placentae. From some 20 yards uphill, we watched the young vipers slowly disperse.

After about ten minutes we noticed a Green Woodpecker back at the original spot evidently seeking the corpse of the adult viper (which we had removed for preservation) or the young. Eventually it found one of the latter, some six or seven inches in length. Holding the young snake behind the head in the tip of its bill, the woodpecker swung it about against the shrubs and beat it on the ground very vigorously for several minutes, with short pauses during which the bird remained motionless but alert, the snake sometimes dangling from its bill (which was pointed upwards) but on other occasions lying on the ground. Perhaps aware of our proximity, the woodpecker then flew off with the limp viper. Although we stayed there for another hour, it did not return.

C. SIMMS

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Swallows nesting underground I was interested to read R. A. Frost's note (*Brit. Birds*, 64: 279-280) on an underground nest of Swallows *Hirundo rustica*. On several occasions during the past 20 years, in the country between Camborne and Penzance, Cornwall, I have seen Swallows flying to feed young in nests deep in disused mine-shafts. Often it has not been possible to see the actual nest; those I have seen have been situated on stones projecting from the sides of the shafts many feet below ground level.

A. P. RADFORD

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White Wagtail nesting in motorboat in almost daily use In June 1971 a White Wagtail *Motacilla alba alba* nested in a motorboat I use almost daily to cross Lake Geneva. I live by the lake about 6 km north of Geneva, and I keep my boat moored in the open some 100 metres from the shore, reaching it by dinghy. My office is some 4 km away on the far side of the lake and, since I come home for lunch, I usually make one or two return crossings each day, normally remaining on the other side for periods of two to three hours. The boat is 5½ metres long with a cabin, open aft, occupying the front half of the cockpit. Along each wall of the cabin is a compartment in the form of a deep, open trough; I keep these compartments full of buckets, ropes and so on.

By the middle of June I had realised, from the evidence of its droppings, that a White Wagtail was visiting the cabin when the boat was at her home moorings. On Friday the 18th, when I returned from across the lake, a White Wagtail flew out to meet me, hovered uncertainly, then flew back to the shore. I made my next return crossing on the morning of Monday the 21st, and when I came back to the

boat in the afternoon I noticed, in the tangle of ropes and gear in the starboard compartment, a well-made nest of grass with three speckled eggs warm to the touch. It was not until 14.30 hours on the following day that I next rowed out and climbed aboard, whereupon a White Wagtail flew up and banged about the windows of the cabin before finding its way out. I then discovered that the number of eggs had increased to four. Again the boat was away from its moorings for two or three hours that afternoon. On the Wednesday I did not use it at all, but, when I rowed out in the evening to check, the wagtail flew off as I approached, and this time I found five eggs.

Avoiding any unnecessary use of the boat from then on, by going to my office by car, I again rowed out the following evening, the 24th, to find five eggs as before. The wagtail left as I came close in my dinghy, and returned immediately I had begun to row away again. The same thing happened on the 25th. During the weekend 26th-27th I did not even visit the boat, but on the Monday morning the wagtail flew off when I climbed in at 08.30 hours and returned to settle on the nest at 12.30 when, having come back, I stepped into the waiting dinghy. Thereafter we changed places like two nesting birds relieving each other, the wagtail often waiting on the dinghy for me to get out when I returned from over the lake. I continued to use the boat as little as possible, however, and on 30th June I left Geneva for the summer. Some ten days after my departure I had the boat taken away to a shipyard for safe-keeping: I was told that the five eggs had still not hatched, though the wagtail had continued to brood them.

I might add that, judging by irregularities in the plumage, it seemed to be always the same bird that shared the boat with me. Another point of interest was that, swinging freely by the bow at her moorings, the boat was sometimes pointing in one direction, sometimes in another, the orientation of the nest thus changing with respect to the surroundings; evidently this did not disturb the White Wagtail, however.

LOUIS J. HALLE

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Previous notes on nests on vehicles in regular use have included Blackbirds *Turdus merula* building under the wing of a car (*Brit. Birds*, 59: 112) and on a tractor (*Brit. Birds*, 60: 53-54), and Pied Wagtails *M. a. yarrellii* building also on a car (*Brit. Birds*, 60: 486). In the case of the tractor, four nests were built in succession in exactly the same spot at the side of the engine, the first three being removed by the owner; five young fledged from the last nest despite being driven around while the tractor was in use. As in the present note, the birds did not appear to be affected by the orientation of the vehicles relative to their surroundings. EDS

Reviews

Highland Birds. By D. Nethersole-Thompson. Published for the Highlands and Islands Development Board by Collins, Glasgow, 1971. 108 pages; 80 plates, 60 in colour. £1.25.

Highland Summer. By Seton Gordon. Cassell, London, 1971. 182 pages; 10 full-page and 12 vignette line-drawings. £2.10.

A Naturalist on Speyside. By Henry Tegner. Geoffrey Bles, London, 1971. 128 pages; 36 black-and-white photographs and a pull-out map. £1.75.

These three books on the Scottish Highlands vary greatly in style and content and will appeal in different ways to anyone interested in Scottish birds and natural history.

Desmond Nethersole-Thompson has written one of the most stimulating books yet produced on birds of the Highlands and islands. Commissioned to promote birdwatching tourism in one of the great unspoiled areas of Europe, this attractive and moderately priced book will certainly arouse interest in what the Highlands can offer in the way of birds. Written with an infectious enthusiasm by an ornithologist who has probably spent more time in the field than anyone else in Scotland, the style is almost breathless. His knowledge of Highland species is unrivalled.

Although the book is ostensibly for tourist promotion, it is not just a regional guide-book. It is a stimulating work for ornithologists in general, outlining the scope for studies which could be carried out in the Highland area. He reveals how little we know of the life histories of so many of our breeding species: 'Why do corncrakes apparently survive on Canna where former large corn bunting groups are now extinct?' On the Woodcock alone, he suggests ten items requiring further investigation. The author extols the pleasures and interest in just sitting down and really watching birds as against the usual tourist activity of rushing around and ticking them off on a list. Many of the projects he advocates are more for the long-term researcher than for the itinerant birdwatching visitor with only two or three weeks at his disposal.

Well-read in the literature of the older naturalists who came north to collect and pillage during the last century, he tells of gains and losses to our avifauna and makes predictions for the future. Surprisingly, he has little to say about conservation. He does advise that if you find a new Osprey eyrie, 'I only ask you to keep your secret'—to which all Scottish landowners will say 'amen', and who would blame them. The author is an enthusiastic nest-finder. Undoubtedly the hunting instinct is strong in Man, sublimated among some ornithologists by

catching and ringing birds. There is too a great satisfaction in pitting one's fieldcraft against the Greenshank, the Wood Sandpiper, and the Siskin—'the blue riband bird'. But should we encourage every visitor to spend most of his time searching for nests, as does the author? At the site of the Spotted Crake in Sutherland, he says 'eager searchers have never found nest or chicks. Some day a daring nester will find how to defeat the bog.' Only recently, six nesters just about trampled the reedy bog flat in such an effort, to the indignation of the local crofters. The birds failed to return the next year. Owing to the pressures on some of our rarer breeding birds, the law now gives protection to Schedule 1 species from 'wilful disturbance' at the nest except under licence. Notice about the 'wilful disturbance' clause is printed in the smallest type-face in the book—on the last page. It should have been featured much more prominently in a work of this kind. Moreover, although the author steers a wise course in not divulging exact locations of rarities, he sails dangerously near the wind on several occasions.

The work is profusely illustrated with excellent colour photographs of birds and scenery. The standard is generally high, which is not surprising since the final selection was made from over 1,000 colour transparencies and 600 monochrome prints. It is a book which everyone interested in Scotland should possess.

At the age of 85, Scotland's Grand Old Man of Natural History, Seton Gordon, has produced another typically charming and beautifully-written book. This is his 25th; his first, *Birds of the Loch and Mountain*, was written over 60 years ago. (He complained to me recently that he was having difficulty in getting spare parts for his typewriter—bought second-hand in 1912!) *Highland Summer* comprises 54 essays, of which 21 cover bird subjects: five of these are on Golden Eagles. Nethersole-Thompson has said in his own book that Seton Gordon 'has probably forgotten more about golden eagles than any ever knew'. The majority of the essays are descriptive of the Highlands, their history and folklore, on which he is an authority. All his essays have a charm and sensitivity. His opening chapter is a delight. Ornithologists will read with interest his chapter on 'Ebb and flow of Highland birdlife', covered by over 50 years of study. The line illustrations, by Jeanne Cross and Stuart Harrison, are marred by a bad drawing of a Dotterel.

Henry Tegner's book is on similar lines to Seton Gordon's, and contains 27 essays, of which only four are about birds. The author knows Speyside well and writes with nostalgia of the old days in Glen More before the tourists took over. Interest would have been added if he had written about the exploits of Colonel Thornton, Edward T. Booth, and others; I was glad to see his tribute to Willie Marshall, however. There is more about mammals than birds, but nothing at all about wild flowers, a somewhat surprising omission from a book with this title. I wish some naturalists would realise the need in this

modern age for not divulging breeding locations of Ospreys and Golden Eagles. The book is illustrated with black-and-white photographs, some presumably by the author, but there are no credits.

GEORGE WATERSTON

ALSO RECEIVED

- A Bird is Born.* By E. Bosiger and J. M. Guileher. Oak Tree Press, London, 1971 (reprint). £1.25.
- A Field Guide to the Snakes of Southern Africa.* By V. F. M. FitzSimons. Collins, London, 1970. £2.10.
- Canaries in Colour.* By George Lynch. Blandford, London, 1971. £1.00.
- Die Vögel Baden-Württembergs—eine Übersicht.* By Jochen Hölzinger, Gerhard Knötzsch, Burkhard Kroymann and Karl Westermann. Ornithologische Gesellschaft in Bayern, München, West Germany, 1970. No price given.
- Die Vögel des Bodenseegebieters.* By H. Jacoby, G. Knötzsch and S. Schuster. Supplement to volume 67 of *Der Ornithologische Beobachter*, Winterthur, Switzerland, 1970. No price given.
- Die Vögelwelt der Limmattal- und Zürichseeregion.* By Walter Knopfli. Supplement to volume 68 of *Der Ornithologische Beobachter*, Winterthur, Switzerland, 1971. No price given.
- How to Raise and Train Pigeons.* By William H. Allen, Jr. Oak Tree Press, London, 1971. £1.50.
- Pet Birds.* By Cyril Rogers. Hamlyn, London, 1970. 30p.
- Pflanzen und Tiere des Burgenlandes.* By Otto Guglia and Antal Festetics. Österreichischer Bundesverlag für Unterricht Wissenschaft und Kunst, Vienna, Austria, 1969. No price given.
- Small Birds of the New Zealand Bush.* By Elaine Power. Collins, Auckland and London, 1970. £1.25.
- Also the following titles in the series 'Die Neue Brehm-Bücherei', A. Ziemsen Verlag, Wittenberg Lutherstadt, East Germany:
- Höckerschwan, Singschwan, Zwergschwan.* By Alfred Hilprecht. No. 177, 1970. 12.00 M.
- Die Seeadler.* By Wolfgang Fischer. No. 221, 1970. 9.50 M.
- Der Kranich.* By Wolfgang Makatsch. No. 229, 1970. 10.20 M.
- Die ausgestorbenen Vögel der Welt.* By Dieter Luther. No. 424, 1971. 14.80 M.
- Der Zwergtaucher.* By Helmut Bandorf. No. 430, 1971. 16.80 M.
- Spechte Fremder Länder.* By Dieter Bhume. No. 434, 1971. 12.40 M.
- Der Gartenrotschwanz.* By Heinz Menzel. No. 438, 1971. 10.00 M.
- Heidelerche und Haubenlerche.* By Rudolf Patzold. No. 440, 1971. 14.20 M.

Letters

International Ornithological Congresses In 1960 you were kind enough to allow me to expose myself in the van of some correspondence on the International Ornithological Congresses (*Brit. Birds*, 53: 583-584; 54: 80-92, 170-171). Since I gather from your recent editorial (*Brit. Birds*, 64: 1-4) that the subject is now considered topical again, I wonder if you will permit me to resume the discussion?

It has increasingly struck me as curious that, after you encouraged so much interest in the organisation of these congresses, the *Proceedings* of the last and most magnificent of those conducted in the old style, at Ithaca in 1962, were never reviewed in *British Birds*. It must have been bitterly disappointing for those who missed the travel grants distributed so lavishly throughout the world by our American hosts. Now, as one of the lucky ones, I should like to start by placing on record a proper tribute to the organisers of that congress, whose like I fear we may never see again. It included a vast and varied programme presented in agreeable, well-planned surroundings where room was found fairly for all interests and age groups. Continual hospitality was provided for participants while they remained in the country and they were unobtrusively assisted to do and see everything they wished. It was commemorated by monumental *Proceedings* giving a fair conspectus of all the best material presented, edited with endless care and patience, and forming an excellent record of the full character of the event.

Since the next congress, held at Oxford in 1966, has hardly received much dispassionate appraisal either, it may also be useful if I place on record a critical view of that as well. A gallant attempt was made to explore the possibilities of a new type of organisation, with single plenary sessions addressed by invited speakers in the mornings while the volunteered contributions were relegated to the afternoons. It was regrettable that, instead of this bold experiment being conducted at one of our pleasant new universities, specially designed for social intercourse, it was held in the most ancient and chaotic of the lot, sandwiched between a crossroads and a car factory, with mediaeval accommodation, Victorian facilities and doubtful hygiene. I did not actually attend any of the plenary sessions myself, but judging from the *Proceedings* they involved mainly stale, derivative or specialised contributions hardly worth the undivided attention of the participants throughout the mornings. Instead of the official record, I now treasure the small volume of abstracts of the original contributions by new people presented six abreast in the afternoons, labelled 'Confidential' and 'not to be quoted as a publication', which I predict will one day achieve recognition and appropriate valuation as the most important record of that congress. But of course my attitude may be influenced by the attempt made to evict me bodily from the meeting.

After this, the congress at The Hague last year was a pleasant improvement: while I found no cause to change my mind about the plenary sessions, at least most of them allowed me to lie in bed in the mornings without fearing that I was missing something important. The conference centre will be difficult to match as a focus for a well-organised meeting, even if dispersal among many hotels hardly facilitates social intercourse to the same extent as concentration of the living

quarters in a limited number of compact colleges. Too many interesting meetings still occurred simultaneously in the afternoons, but at least one is given to understand that some short official record of what was said will be published in the *Proceedings* this time. And for once nobody tried to push us around—indeed, all the officers were obviously imperilling their health in their labours to suit our convenience.

Possibly the moral to be drawn from a consideration of the last three congresses is that the middle way is the best one, and that the host nation makes the best impression by attempting to please its guests rather than by trying to exert the 'leadership' of which you seemed to approve in your recent editorial. I submit that the Americans produced a very enjoyable and successful congress by ignoring most of the suggestions put forward in the preceding correspondence, and I am not sure that we did any better by paying possibly too much attention to them. I suppose it pleases the young and innocent to see great men holding forth about ancient discoveries or modern afterthoughts in the plenary sessions, but personally I attend congresses in search of new people and ideas. I resent it extremely if I find them crowded into six-ringed circuses in the afternoons and, as a crowning insult, denied any place in the *Proceedings*. I am grateful to our Dutch hosts for relaxing the discipline and improving the service at the last congress, and suggest, if one dare suggest anything to Australians, that it is a model that deserves to be followed.

Our next hosts face some difficult problems. If I may again present

Table 1. Numbers of participants from each country represented, and of the papers read, at the last four International Ornithological Congresses (Helsinki 1958, Ithaca 1970, Oxford 1966, The Hague 1970)

The figures in brackets show the number of papers published in the *Proceedings* of the Ithaca and Oxford Congresses

	PARTICIPANTS				PAPERS			
	1958	1962	1966	1970	1958	1962	1966	1970
Canada	8	37	32	24	1	10 (7)	7 (0)	9
Denmark	12	8	14	20	3	3 (2)	2 (0)	3
Finland	60	3	7	8	4	3 (2)	2 (1)	2
France	12	5	30	32	4	2 (1)	7 (1)	4
Germany	83	38	62	75	21	18 (15)	15 (4)	14
Italy	15	5	6	8	1	3 (2)	1 (0)	1
Netherlands	22	7	26	118	—	3 (3)	3 (0)	15
Spain	16	2	4	8	2	—	—	—
Switzerland	25	1	22	13	6	2 (1)	1 (0)	4
U.K.	110	43	165	120	14	11 (8)	21 (3)	33
U.S.A.	59	404	163	102	12	71 (43)	57 (6)	53
U.S.S.R.	9	—	6	32	9	—	1 (0)	32
Others	38	62	77	77	19	27 (17)	26 (1)	42
TOTALS	511	628	633	660	98	153(104)	143(16)	212

Some increasingly unreliable statistics in a table, congresses held in the northern hemisphere clearly continue to grow and, moreover, to be dominated by a few western nations who provide a disproportionately large number of the communications and usurp the lions' share of the facilities. It is clearly time the other side of the world had their turn. Comparatively few of us will be able to get there, which will relieve the pressure; those who do not can take a well-earned rest from these four-yearly frolics, and those who do will doubtless be extremely anxious to acquire a lifetime's experience of the antipodes in a few weeks, so for them tours rather than talks may be particularly at a premium. The overexposed faces among us may still be a novelty shown under, especially if they can discover, borrow or invent something new to say, so that, all things together, the next congress should offer a useful opportunity to get out of a rut, give the northern hemisphere a rest, and make a fresh start in the south.

Alternatively, the table could suggest that the writing is on the wall for these congresses. It is always a great effort to get to them, and they are becoming increasingly overcrowded and stale here, so that we in the north are presented with an agonising decision whether to spend even more money and energy attending the same sort of thing in Australia. A congress there could provide a magnificent opportunity for a cross-fertilisation between the ideas, traditions, techniques and experience of opposite sides of the world, for a spectacular clash between different outlooks, or for an appalling fiasco if hosts and visitors discover that each reproduces to an extreme degree the others' worst qualities. After due consideration of the last round of correspondence on this topic, and the character of subsequent congresses, I now feel compelled to agree with suggestions that possibly the worst threat to their future is too much anxiety to exert leadership, educate and regiment us all, and too little attention to the quiet, laborious task of satisfying the interests and comforts of their members. I am inclined to suggest that the Americans taught us a useful but inadequately appreciated lesson, one which few people thought to mention in the last correspondence but which is most important of all—that these congresses need good hosts, with all the qualities that that implies.

W. R. P. BOURNE

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Submission of records I really must protest at the incredibly pompous and immature tone of your editorial on 'The collection and analysis of records' (*Brit. Birds*, 64: 337-338). I do not believe that I am lazier nor more selfish than others; I just find that at the end of a working day I have many things to do which seem to me of greater importance than sending in records. Secondly, I have interests in other aspects of ornithology than making detailed notes about rare birds. Thirdly,

I am just going to watch and enjoy birds without lifting a finger towards recording them, because I enjoy doing so.

I suppose if I quote those who have known, lived and drawn recreation of the spirit from birds, such as the Prophet, Keats, Shelley and many other poets, you will say that they have at least put their thoughts on paper. But if people want to watch birds and derive enjoyment from doing so, then this is an entirely unselfish and harmless pursuit; let those who wish to record rare birds do so and indulge in the suspicion and feuds which you described in your editorial. It is all very well saying that we who read books or reports should remember the efforts of those who have gone before; presumably they did it for their own enjoyment and not as a sacrifice.

If I really have committed one of the seven deadly sins by being slothful in not keeping records, may the good Lord help me. Perhaps I should make a pilgrimage to Our Lady of the Dew and record every bird in expiation of my sins.

PETER CONDER

Royal Society for the Protection of Birds, The Lodge, Sandy, Bedfordshire

Toxic agricultural chemicals in Israel Following the report in 'News and comment' on the use of chlorinated hydrocarbons in agricultural pest control in Israel (*Brit. Birds*, 64: 331), I wrote both to the Israel Tourist Board in London and to the Plant Protection Department in Tel Aviv expressing my serious concern at the apparently haphazard use of these extremely toxic substances. As a result, I have received a number of letters from both London and Tel Aviv, and my initial letter appears to have been taken very seriously. On 1st November I heard from Dr A. Shachori, Agricultural Counsellor, Embassy of Israel, who has been consistently courteous and helpful, to the effect that he had just received a letter from Uzi Paz, Chief Biologist of the Nature Reserves Authority, of which the following is a condensed translation:

'The Nature Reserves Authority is very much aware of the destruction of rapacious birds and of the use of various poisonous chemicals. The article you refer to [in the I.C.B.P. newsletter no. 22, April 1971, which was the source of the report in "News and comment"] was written by Professor H. Mendelssohn, a member of the Board of the Nature Reserves Authority, and its purpose was exactly to cause public reaction as it did in your case. This was in order to prevent the use of such poisons. I am glad to inform you that, meanwhile, a Joint Committee has been set up of the Nature Reserves Authority with the Plant Protection Division of the Ministry of Agriculture; one of the committee's first tasks was to make illegal any use of endrin, eldrin or dieldrin. We hope in this way we might solve at least some of the problems facing us.'

This is a very satisfactory conclusion to the correspondence and a demonstration of the power of your journal.

D. NEIL BROOKS

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News and comment *Robert Hudson*

Suggested county boundary changes Most British county boundaries were laid down during the 19th century or earlier; by people at large they have tended to be regarded as immutable. In England, the well-established system of local bird recording has always been based on the county system; thus considerable embarrassment will be caused to some by the Government's proposed boundary changes outlined in the Local Government Bill published on 4th November. The proposals may be varied a little during the committee stage; but clearly various county bird-watching societies will have some heart-searching about the redefinition of their boundaries, which will come into effect in 1974. No county society could relish the prospect of some of its best bird haunts being handed over to an adjacent county, as, for example, the proposed transfer of Tendring Hundred (which includes Hamford Water and The Naze) from Essex to Suffolk, or of much of Thames-side Buckinghamshire to Berkshire. The changes proposed are too numerous to list, but some other significant ones are worth mentioning. A new Humberside county is to be created from north Lincolnshire and the East Riding of Yorkshire; similarly, a new Tyneside county is to be formed from parts of Northumberland and Durham. Other new 'metropolitan counties' proposed or confirmed are Merseyside (extending north to Southport), Greater Manchester, Teesside, West Yorkshire, South Yorkshire and West Midlands. It is proposed that Worcestershire and Herefordshire should be amalgamated as Malvernshire; while a new Cumbria would consist of Cumberland, Westmorland and the Furness district of Lancashire. These changes will be no bad thing, however, if they lead to some amalgamation of local bird reports: fewer reports (each covering an enlarged area) would be more convenient for researchers to consult.

Nature Conservancy committee changes The Natural Environment Research Council has announced that Professor R. O. Buchanan, Professor A. R. Clapham and R. B. Verney have retired as Nature Conservancy members, and been replaced by Professors D. H. Valentine, A. D. Bradshaw and C. D. Pigott. With the departure of Mr Verney, the chairmanship of the Conservancy's Committee for England became vacant, and A. E. Smith (the well-known Lincolnshire conservationist) has succeeded him. Among changes in membership of the Committee for England, the most significant to ornithologists is the appointment of Stanley Cramp, who already wears many hats including the senior editorships of *British Birds* and the projected seven-volume work on the *Birds of the Western Palearctic*.

On 1st October 1971 Professor F. H. Stewart took over the chairmanship of the Natural Environment Research Council from Professor V. C. Wynne-Edwards.

1972 Irish Bird Conference We have been given advance notice that the next All-Ireland Bird Conservation Conference will be held in Wexford during 3rd-5th March 1972. This conference is being organised by the Irish Wildbird Conservancy in conjunction with the Royal Society for the Protection of Birds, and booking should be made to I.W.C., c/o Royal Irish Academy, 19 Dawson Street, Dublin 2. Speakers will include Professor G. M. Dunnet (Aberdeen University) on the sea as a bird habitat, Brian Stronach (Irish Agricultural Institute) on Snipe research, and Dr C. J. Cadbury (R.S.P.B.) on Hen Harrier studies in Orkney. Excursions will include a visit to the famous Wexford Slobs, part of which is now a National Wildfowl Refuge.

Right to sink stranded oil tankers On 1st November an Order in Council under the Oil in Navigable Waters Act 1971 was published, by which the British Government empowered itself to order the destruction of any stranded oil tanker which

posed a pollution threat to British coasts. This Order extends the Government's right of action over foreign ships outside the three-mile territorial limit, so that the Secretary for Trade and Industry will be able to usurp control from the master of any ship considered to be endangering these shores. Such action could involve total destruction of a crippled vessel or ultimate control over salvage operations. Ships which do not obey Government instructions could be fined, on summary conviction, up to £50,000. This action is in accordance with a 1969 convention of the Inter-Governmental Maritime Consultative Organisation.

Another American bird report The concept of the county (or otherwise local) bird report has hitherto been a peculiarly British and Irish one, but there are signs that it may be spreading to North America. The establishment of *California Birds* has already been reported in 'News and comment' (*Brit. Birds*, 63: 261) and we now welcome the *Southern Vancouver Island Annual Bird Report* for 1970. It is published by the Victoria Natural History Society, covers that part of British Columbia defined in its title, and is available (price 85p including postage) from Dr J. B. Tatum, 416-3187 Shelbourne Street, Victoria, B.C. In the British tradition, the bulk of the report consists of a systematic list, detailing all species observed in the area during the year, including migration dates and census results. The title page includes an apt quotation from Ralph Emerson's 'Forbearance' (1842): 'Hast thou named all the birds without a gun?'

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

Requests for information

Birds of Portugal Despite the fact that many ornithologists have visited Portugal in recent years, there is still a lack of up-to-date information for most areas on the status and distribution of even the common species. M. D. England is at present engaged in collecting such data both for detailed studies of certain areas and, with J. F. Bugalho and Dr Geoffrey Beven, for *The Birds of the Western Palearctic*, now in active preparation. If sufficient data are forthcoming, Mr England and Dr Beven plan also to prepare a book on the birds of Portugal. Any notes, lists or other information, where possible giving an indication of status (resident, migrant, breeding and so on) and numbers or relative abundance, both current and past, will be gratefully received by **M. D. England, Mashobra, Neatishead, Norwich, NOR 37Z**

Status of Reeves's Pheasant and other feral species The Records Committee of the British Ornithologists' Union has placed the feral breeding species on the British and Irish list into two categories, C and D (species which have occurred in an apparently wild state are in categories A and B) (see *Ibis*, 113: 420-423; *Brit. Birds*, 64: 429-431).

Category C consists of those which, although originally introduced by Man, have now established a regular feral breeding stock which apparently maintains itself without necessary recourse to further introduction (currently including Mandarin Duck *Aix galericulata*, Ruddy Duck *Oxyura jamaicensis*, Egyptian Goose *Alopochen aegyptiacus*, Red-legged Partridge *Alectoris rufa*, Pheasant *Phasianus colchicus*, Golden Pheasant *Chrysolophus pictus*, Lady Amherst's Pheasant *C. amherstiae* and Little Owl *Athene noctua*). Category D includes species which would otherwise appear in category C except that their feral populations may or may not be self-supporting (currently Wood Duck *Aix sponsa*, Bob-white Quail *Colinus virginianus* and Reeves's Pheasant *Syrnaticus reevesi*).

The British Trust for Ornithology's Atlas Project has provided confirmed breeding records during 1968-71 for all these species with the exception of Reeves's Pheasant, for which there are not even any records of presence, let alone proved breeding. Anyone having any information on the present or past status of Reeves's Pheasant as a feral breeding bird in Britain is asked to write to **Dr J. T. R. Sharrock, Curlew Crescent, Bedford**. Data on the other feral species (except Red-legged Partridge, Pheasant and Little Owl) will also be welcomed, particularly information on population size, dates of introduction and history of the species in specified areas.

Recent reports *P. F. Bonham*

These are largely unchecked reports, not authenticated records

The following summary deals with September 1971, to which all dates refer unless otherwise stated. The month opened and closed with an anticyclone extending from the Azores to the Baltic and low pressure to the north and north-west. The strong westerlies during 1st-4th produced a good crop of American waders, but this petered out as the high contracted and moved north and east. By 6th it was centred over the Netherlands, and fine sunny weather with light south to south-easterly winds persisted until 11th when falling pressure with some cloud and fog resulted in small falls on the east coast. New highs were forming both north and south of Britain, however, and these soon united. Generally fine dry weather with light variable winds then continued for more than a week (though the north-west and north had some rain and drizzle during 14th-17th). This was a rather dull period for migrant arrivals, but eventually a depression broke through from the west about 18th-23rd, to be followed by the rapid passage across the Atlantic of another during 24th-26th, causing a second arrival of Nearctic species, some unusual shearwater and skua records, and (indirectly) a few more migrants, vagrants and winter visitors from the north-east and east.

HEARWATERS TO CRAKES

Seabird movement was much lighter than in August (*Brit. Birds*, 64: 513), but again **Sooty Shearwaters** *Puffinus griseus* featured prominently: the highest counts we have were of 21 off St Ives (Cornwall) on 1st, 18 at North Ronaldsay (Orkney) on 2nd and 77 there in 2½ hours on 24th, 48 off Spurn (Yorkshire) on 25th and 150 north in three hours off Hauxley (Northumberland) on 26th. Nearly 30 other reports involved single-figure counts. One or two **Cory's Shearwaters** *Calonectris diomedea* were reported from each of five places in Norfolk, Yorkshire and Northumberland. Shearwaters seen on some sea crossings were as follows: over 100 **Balearic** *P. p. bauretanicus*, 50 **Sooty** and twelve **Great** *P. gravis* between Cork and Swansea (Glamorgan) on 6th; five **Cory's** and 91 **Great** with some indeterminate on the same route about a week later; and a **Sooty** and two **Greats** between Penzance and Scilly on 30th (also five of the latter on an earlier crossing). A **Leach's Petrel** *Oceanodroma leucorhoa* in a 'flat calm' at Hartlepool (Co. Durham) on 11th was followed two days later by an inland record from Chelker Reservoir (Yorkshire). Lastly, five immature **Shags** *Phalacrocorax aristotelis* at Belvide Reservoir (Staffordshire) on 12th had been blown far inland by the strong westerlies.

A series of reports of **White Storks** *Ciconia ciconia* is worth giving in full. One was seen at Guildford (Surrey) on 3rd; then three ringed immatures appeared at Downside, Bath (Somerset) on 9th, one of which survived a fall down a large chimney but was not released. Two immatures with rings, presumably those from Somerset, then stayed at Bude (Cornwall) (10th-12th), on St Mary's (Isles of Scilly) (12th-13th), at Penzance (Cornwall) (15th-16th) and finally at Newlyn near-by

(16th-18th). At both Bude and Newlyn, the rings were read through a telescope and found to be Danish, with consecutive numbers. It has been a very good year for White Storks, but of the 23 reported only 13 have so far been submitted to the Rarities Committee, and it may be that some of the others have been overlooked locally because of suspicions of captive origin, though in the circumstances most, if not all, may well have been wild. Four **Purple Herons** *Ardea purpurea* flew over Petit Pot Bay (Guernsey) on 22nd, and an unidentified **egret** was seen from a train near East Cowton (Yorkshire) on 25th. Single **Spoonbills** *Platalea leucorodia* occurred at Worthing (Sussex) on 2nd, Dungeness (Kent) on 5th and Westbere (also Kent) on 17th, possibly all the same individual.

The mild southerly weather meant late arrivals of winter wildfowl. At Loch Leven (Kinross-shire) the first geese were seven **Grey Lags** *Anser anser* from 5th; **Pink-footed Geese** *A. brachyrhynchus* increased daily from the first 75 on 18th to 800 on 23rd when there was a new arrival of some 4,000 together with a **Ross's Goose** *A. rossii* (probably escaped) that stayed into October. Ten **Whooper Swans** *Cygnus cygnus* arrived there on 24th and three **Barnacle Geese** *Branta leucopsis* and a **Pale-bellied Brent Goose** *B. bernicla brota* on 27th. Other reports included 50 of the last species heading south-west at Balranald (North Uist) on 19th, 22 **Whooper Swans** at North Ronaldsay on 23rd, and 27 **Grey Lags** over Leighton Moss (Lancashire) on 25th.

About half the 25 or so **Ospreys** *Pandion haliaetus* reported occurred during the first nine days of September, though at least two of the later ones—at Blithfield Reservoir (Staffordshire) and at Wivenhoe (Essex)—stayed into October. The first **Rough-legged Buzzards** *Buteo lagopus* of the autumn were seen near Staithes (Yorkshire) on 9th, at Gouthwaite Reservoir (also Yorkshire) on 11th and at Litton (Somerset) on 17th, and a female **Goshawk** *Accipiter gentilis* remained in the Dyfi estuary area (Cardiganshire/Merioneth) from August. There was also an adult male Goshawk at Wick Hams (Hampshire) on 30th August, coinciding with one in Gloucestershire (*Brit. Birds*, 64: 513). By far the rarest raptor reported was a male **Lesser Kestrel** *Falco naumanni* at St Ives on 7th: curiously, the last two accepted records, which were the first since 1926, were at St Ives in 1968 and not far away at Porthgwarra in 1969.

A **Crane** *Grus grus* at Blackbrook sewage farm (Staffordshire) on 16th was about the twelfth reported in 1971, but, like the White Storks, it seems that many of these have been dismissed as 'escapes'. This may well be the case, but it is desirable to assess the situation at national level and for this the full set of observations is needed: those concerned are therefore urged to submit all records of these two species. It was a good month for **Spotted Crakes** *Porzana porzana*, with at least 15 widely scattered north to Fair Isle (Shetland) where there were two.

WADERS

There were extraordinarily few migrant Palearctic waders. Three to five **Dotterel** *Eudromias morinellus* stayed on St Mary's from 11th to 20th, and up to four at Porthgwarra from 11th to 18th. Just one **Temminck's Stint** *Calidris temminckii* was reported, in the Hayle estuary (also Cornwall) on 4th. The largest flock of **Little Stints** *C. minuta* was twelve at Holme (Norfolk) on 4th, and of **Curlew Sandpipers** *C. ferruginea* ten at Minsmere (Suffolk) on 1st, and we heard of very few **Wood Sandpipers** *Tringa glareola* and **Jack Snipe** *Lymnocyptes minimus*. The expected scatter of **Avocets** *Recurvirostra avosetta* included singles at two places in Somerset and in the Tame Valley (Warwickshire). **Grey Phalaropes** *Phalaropus fulicarius* began to appear in the north and west and a **Red-necked Phalarope** *P. lobatus* remained at Havergate (Suffolk) from 26th to 30th.

Reports of Nearctic waders fell into three periods, which correspond roughly with the appropriate weather patterns: 1st-8th, 11th-19th and 24th-30th. Single **Pectoral Sandpipers** *C. melanotos* remained from August (*Brit. Birds*, 64: 514) at

Teesmouth (Co. Durham), Wilden (Worcestershire), Bough Beech (Kent) and Stithians Reservoir (Cornwall) and two on St Mary's (not Tresco, as incorrectly stated previously). New records during 1st-6th were of singles on Sark, at Perry Oaks sewage farm and Poyle gravel pits (Middlesex), Milton Regis (Kent), Minsmere, both Wisbech sewage farm (Lincolnshire/Norfolk) and Stithians Reservoir again (different birds from the August arrivals), and on North Ronaldsay; and of up to three both in Teesmouth and at Ballycotton (Co. Cork). A **Lesser Golden Plover** *Phivalis dominica* was present on Tresco from 5th to 14th, a **White-rumped Sandpiper** *C. fuscicollis* at Minsmere from 3rd to 6th, and a **Buff-breasted Sandpiper** *Frygites subruficollis* on St Mary's from 1st, with two more from 4th. A **Wilson's Phalarope** *Phalaropus tricolor* remained on St Mary's from 30th August to 7th September, and what may have been the same individual appeared at Stithians Reservoir on 8th, while another stayed at Saltholme Pools (Co. Durham) from 14th to 8th.

The next period produced only four Americans, a **Baird's Sandpiper** *C. bairdii* at Cley (Norfolk) from 16th to 10th October, and single **Lesser Yellowlegs** *Tringa flavipes* at Weir Wood Reservoir (Sussex) on 11th-12th, at North Berwick (East Lothian) on 12th and at Kingsley (Cheshire) on 19th. The last period (24th-30th) was much better: a **Lesser Yellowlegs** at Pitsford Reservoir (Northamptonshire) from 26th, still present in mid-November; a **Long-billed Dowitcher** *Limnodromus scolopaceus* at Bardney Ponds (Lincolnshire) from 28th to 10th October; **Baird's Sandpipers** at Thornham (Norfolk) on 24th and at Balranald on 27th-28th; **Buff-breasted Sandpipers** on St Mary's (new) from 27th to 9th October, on St Just airfield (Cornwall) on 27th and at Kilchoman Bay, Islay (Argyll) next day; and what was thought to have been the same **Wilson's Phalarope** at three localities in Sussex—Arlington Reservoir on 25th, Cuckmere Haven on 26th-27th and Pagham Harbour from 28th to 6th October, when it was regrettably found shot. **Pectoral Sandpipers** occurred at Bardney Ponds from 28th to 12th October, at Rainham (Essex) on 30th and in Shetland in late September; while an undated report came from the Alt estuary (Lancashire).

SKUAS, GULLS AND TERNS

There were no large coastal movements of skuas, but a very interesting series of inland records. On 25th **Arctic Skuas** *Stercorarius parasiticus* appeared at Barn Elms Reservoirs (Surrey) and Blithfield Reservoir, and **Great Skuas** *S. skua* at Blenheim and at Dorchester gravel pits (both Oxfordshire), though these were possibly one and the same. On the following day single Great Skuas were seen at Blithfield, Bartley Reservoir (Warwickshire), both Bitell and Upton Warren (Worcestershire) and Sawley Reservoir (Derbyshire), and we have an undated report of one at Oundle gravel pits (Northamptonshire). In addition, two remained at Pennington Flash (Lancashire) from 31st August to 19th September, one staying till 23rd. Some 25 **Pomarine Skuas** *S. pomarinus* were reported from a dozen coastal localities, and single **Long-tailed Skuas** *S. longicaudus* were seen in Orkney and at Tynemouth (Northumberland) on 1st, between Penzance and Scilly early in the month, off Whitburn (Northumberland) on 26th and off Brean (Somerset) on 27th.

Nearctic gulls were represented by an immature **Bonaparte's Gull** *Larus philadelphia* at Dawlish Warren (Devon) from 4th to 8th and a probable adult at Coachford Reservoir (Co. Cork) on 12th, as well as **Sabine's Gulls** *L. sabini* at Holme/Hunstanton during 13th-23rd, at St Ives on 27th and at Cley on 28th. **Little Gulls** *L. minutus* assembled in large numbers at certain localities—up to 55 at Dungeness and at Hornsea (Yorkshire), 150 in the Alt estuary and 350 at Kilconquhar Loch (Fife) where they regularly occur in such numbers, and large concentrations were also noted in October; it is difficult to discuss these, however, as many reports mentioned only maxima, often undated. **Kittiwakes** *Rissa tridactyla* appeared well inland at Pershore (Worcestershire) on 5th and at Blithfield on 8th (three), and August

reports at Grafham Water (Huntingdonshire) on 18th and at Belvide on 21st might also be mentioned.

Passage of **Black Terns** *Chlidonias niger* was very light, and it is not worth going into detail. **White-winged Black Terns** *C. leucopterus* were seen at New Brighton (Cheshire) on 1st, at Sandwich Bay (Kent) on 5th, at Slapton (Devon) during 12th-16th, at Chew Valley Lake (Somerset) on 16th and at Upton Warren on 26th. One at Arlington Reservoir on 24th August should have been added to the eleven others in that month (*Brit. Birds*, 64: 515). A **Whiskered Tern** *C. hybrida* was reported at Pennington Flash on 4th and a **Caspian Tern** *Hydroprogne tscbegrava* at Gibraltar Point (Lincolnshire) on 5th. The rarest was a **Royal Tern** *Sterna maxima* at St Ives on 2nd: the only previous records were of one long dead near Dublin in March 1954 and one at Sandwich Bay in July 1965 (*Brit. Birds*, 61: 559-561).

BEE-EATER TO BLUEBROOD

A **Bee-eater** *Merops apiaster* on Fair Isle from 30th June until late August (following reports from three localities in Shetland during 20th-29th June) was succeeded by one at Lerwick from 31st August to 6th September; others appeared at Upper Stondon (Bedfordshire) on 4th and at Midhopestones, Sheffield (Yorkshire) on 6th. There was also a flurry of **Hoopoes** *Upupa epops* then: at Winterton (Norfolk) and Walton-on-the-Naze (Essex) on 4th, at Filton (Gloucestershire) from 6th to 16th and at Brean Down on 8th; an earlier Hoopoe was present on Portsdown Hill (Hampshire) from 30th August to 2nd September. **Wrynecks** *Jynx torquilla* were most numerous during 9th-12th, with many ones and twos and up to seven on Fair Isle, three at Spurn and four at Holme. The total reported was only about 30, however, just one of them inland. Greyish 'eastern' **Short-toed Larks** *Calandrella cinerea* stayed at Gibraltar Point from 18th to 26th and on Fair Isle from 28th to 30th, and there were two of unknown origin on St Mary's on 29th-30th; an early **Shore Lark** *Eremophila alpestris* was at North Gare (Co. Durham) on 18th. The third and fourth **Red-rumped Swallows** *Hirundo daurica* of 1971 occurred at Bodymoor Heath (Warwickshire) on 19th and on Whalsay (Shetland) in late September, and a **Black-eared Wheatear** *Oenanthe hispanica* on St Agnes (Isles of Scilly) on 24th was the first since April 1970. **Fieldfares** *Turdus pilaris* continued to come in small numbers, mainly from 19th, and **Redwings** *T. iliacus* began to trickle in from 10th, the largest flock numbering 40 on Holy Island (Northumberland) on 26th. Apart from singles trapped on Guernsey on 4th and at Wick Hams on 7th, all the **Bluetheats** *Luscinia svecica* reported arrived either on 11th or during 18th-26th—on 11th at Radipole Lake (Dorset) (two) and at Minsmere, Cley, and Marsden (Co. Durham), and in the latter period four in Devon and one, on 26th, on Fair Isle. A **Nightingale** *L. megarhynchos* at Porthgwarra on 12th was rather far west.

WARBLERS, FLYCATCHERS AND PIPITS

We have been unable to obtain the date of a **Thick-billed Warbler** *Acrocephalus aedon* which was trapped and later died on Whalsay in late September—if accepted, this will be only the second record ever, the first having occurred on Fair Isle as long ago as 6th October 1955 (*Brit. Birds*, 49: 89-93). **Aquatic Warblers** *A. paludicola* were unusually numerous, mainly during mid-month: one in Scilly, five in Cornwall, two in Devon, three in Somerset, eight in Dorset, two in Hampshire and one each in Sussex, Pembrokeshire and Lincolnshire (there were also two at Wick Hams in late August). A **Great Reed Warbler** *A. arundinaceus* was trapped at Radipole Lake, but again we do not have the date, and a **Cetti's Warbler** *Cettia cetti* was caught on Sark on 21st and 28th.

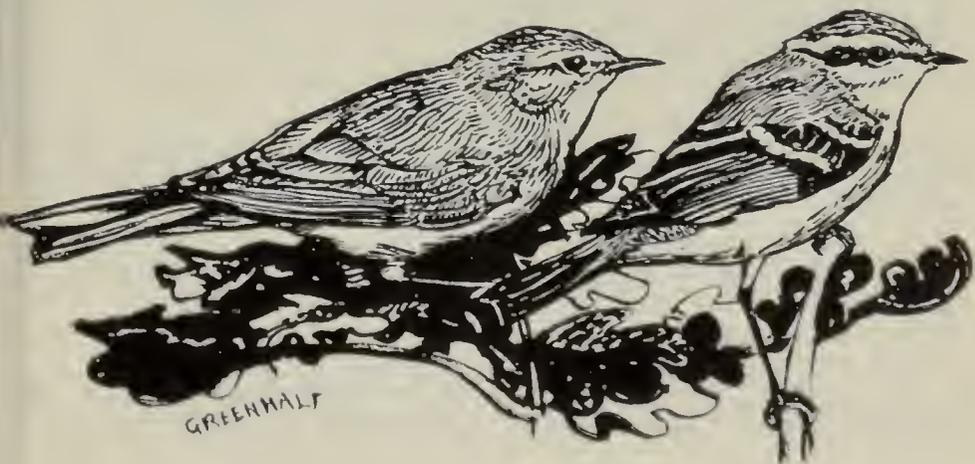
A record of a **Melodious Warbler** *Hippolais polyglotta* trapped on North Ronaldsay on 23rd-24th August was held over for checking, as this species is exceedingly rare in Scotland and the date tied up so well with the falls of Scandinavian migrants, including **Icterine Warblers** *H. icterina* (*Brit. Birds*, 64: 515), but the measurements

and wing-formula appear conclusive and to confirm the identification. **Melodious Warblers** occurred in September at Porthgwarra on 4th and Sandwich Bay on 11th; **Icterines** in Northumberland (one) and Kent (two) on 10th, in Norfolk (three) on 12th, in Scilly on 18th and again in Kent on 22nd. Like the Wrynecks and Icterine Warblers, the peak period for **Barred Warblers** *Sylvia nisoria* was just before the middle of September, when at least 15 were scattered along the east coast, from Suffolk to Orkney, as well as one at Porthgwarra on 10th (where there was another on 19th). The total for the month was 25-30. Abnormal numbers of **Blackcaps** *P. atricapilla* at Spurn from 27th included maxima of 22 on 28th and 32 on 1st October; 100 were ringed in a single week from 28th. No rare *Sylvia* warblers were reported, except a **Subalpine Warbler** *S. cantillans* which had been found at Sumburgh (Shetland) on 11th August where it stayed until 30th September. Daily totals of **Yellow-browed Warblers** *Phylloscopus inornatus* recorded on Fair Isle during 25th-28th were one, at least nine, eight and seven, and there were singles at Rife Ness on 14th, at Holkham and Winterton (both Norfolk) on 18th-19th and at South Gare (Yorkshire) on 27th. Fair Isle also recorded an **Arctic Warbler** *P. borealis* on 16th-17th, and before that a **Greenish Warbler** *P. trochiloides* had been trapped at Spurn on 8th-9th.

There were about 15 **Red-breasted Flycatchers** *Ficedula parva*, one to three each at Fair Isle and Spurn during 26th-30th but the rest distributed rather evenly through the month; an inland record from Tring (Hertfordshire) on 8th was very unusual. **Richard's Pipits** *Anthus novaeseelandiae* were well down on the 1970 figures (even taking into account the fact that this species is no longer considered by the Rarities Committee) and we heard of only five or six in September: at Holme on 9th and in Shetland, Lancashire, Glamorgan and Sussex from 20th. **Tawny Pipits** *A. campestris* were actually far more widespread, a total of 14 being reported from most coastal counties between Suffolk and the Isles of Scilly, mainly during 19th-19th, plus a very late one much farther north at Sumburgh from 29th to 3rd October, which was also (strangely) the range of dates of a **Pechora Pipit** *A. gustavi* trapped on Fair Isle, the first record for five years of this summer visitor to north Russia and Siberia.

SHRIKES TO BUNTINGS

Single **Great Grey Shrikes** *Lanius excubitor* occurred on Fair Isle and at Reculver (Kent) on 29th-30th—cf. the 17 or more in September 1970 (*Brit. Birds*, 63: 439)—and a **Lesser Grey Shrike** *L. minor* stayed at Aberlady Bay (East Lothian) from 29th August to 6th September; during that period too, quite a number of **Red-backed Shrikes** *L. collurio* were reported. Four August-September **Rose-coloured Starlings**



Sturnus roseus occurred as follows: at Bermondsey (London) on 11th August, at Wigston (Leicestershire) in August, at Sandwich on 11th September and at Porthgwarra on 19th-20th; these might have been escapes, though summer and early autumn is the time for the nomadic wanderings of this south-eastern species and the anticyclonic weather would have favoured at least the two in September. The rare buntings belonged above all to Fair Isle: four different **Yellow-breasted Buntings** *Emberiza aureola* during 31st August-22nd September, a **Rustic Bunting** *E. rustica* on 28th and a **Little Bunting** *E. pusilla* from 27th to 30th. There was, however, a **Black-headed Bunting** *E. melanocephala* at Rye Harbour (Sussex) on 8th-9th and another **Little Bunting** at Porthgwarra on 25th, as well as twelve or more **Oortolan Buntings** *E. hortulana* on the south and east coasts, including four to six at Portland on 4th. At least five or six **Scarlet Rosefinches** *Carpodacus erythrinus* were recorded in Orkney and Shetland, and a **Two-barred Crossbill** *Loxia leucoptera* appeared briefly at Holme on 26th. Finally, about 25 **Lapland Buntings** *Calcarius lapponicus* were seen, the earliest at Spurn on 12th, and including twelve on Fair Isle on 27th; **Snow Buntings** *Plectrophenax nivalis* began to arrive in very small numbers, with one inland at Holme Pierrepont (Nottinghamshire) on 15th-16th; and a few Scandinavian **Twites** *Acanthis flavirostris* and **Bramblings** *Fringilla montifringilla* trickled in from 19th.

Errata in volume 64

This list does not include obvious typographical errors, or corrections to 'Scarce migrants in Britain and Ireland during 1958-67' by Dr J. T. R. Sharrock (to be listed at the end of that series) or to the 'Report on rare birds in Great Britain in 1970' (to be given at the end of the report covering 1971) or to 'Recent reports'. See also page 511 for corrections to 'The Golden Eagle survey in Scotland in 1964-68' by M. J. Everett.

PAGE	CORRECTION
36	Lines 1-4 of Reviews, for 'DM 7.50', 'DM 10.00', 'DM 8.20' and 'DM 6.40' read '7.50 M', '10.00 M', '8.20 M' and '6.40 M'
158	Under Sparrowhawk, for '1957' read '1967'
174	Under Fieldfare, for 'Austria (1st)' read 'Austria (2nd)'
184	Under Linnet, for 'H3N0007' read 'HN30007'
193	Line 7 should read 'Evening Grosbeaks depend to a large extent upon food put out by'
217	Line 17, for '11' read '10'; line 26, for '141' read '140', and for '182' read '181'
222	Fig. 3, the height of the black column above 'MAY' should be reduced by one
276	Line 5, for 'seven' read '27'
279	Line 17, for '1965a' read '1965'
302	Line 1, for '1963' read '1953'
328	Line 33, for 'DM 13.00' read '13.00 M'

Revisions to 'List of county and regional recorders' (pages 241-244)

Huntingdonshire E. T. Lees, 14 Eaton Close, Hartford, Huntingdon

Yorkshire A. J. Wallis, 5 South Avenue, Scalby, Scarborough, Yorkshire

Caithness Mrs P. Collett, Sandyquoy, East Gills, Scrabster, Caithness

Inverness-shire (mainland more than 18 miles from Inverness) R. H. Dennis, The Old Manse, Rothiemurchus, Aviemore, Inverness-shire

Kinross-shire Miss Bridget H. Moore, Vane Farm Reserve, Kinross

Fife, Clackmannanshire, east Stirlingshire D. W. Oliver, East Coitage, Balass, Cupar, Fife

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as simply as possible, and drawn up in the form in which they are to appear in nature in block capitals and the author's address at the end. If more than one note is submitted, each note should have its own signature and address repeated.

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of the British Isles. Edinburgh and London. vol 3:

migration" on the English east coast'. *Brit. Birds*,

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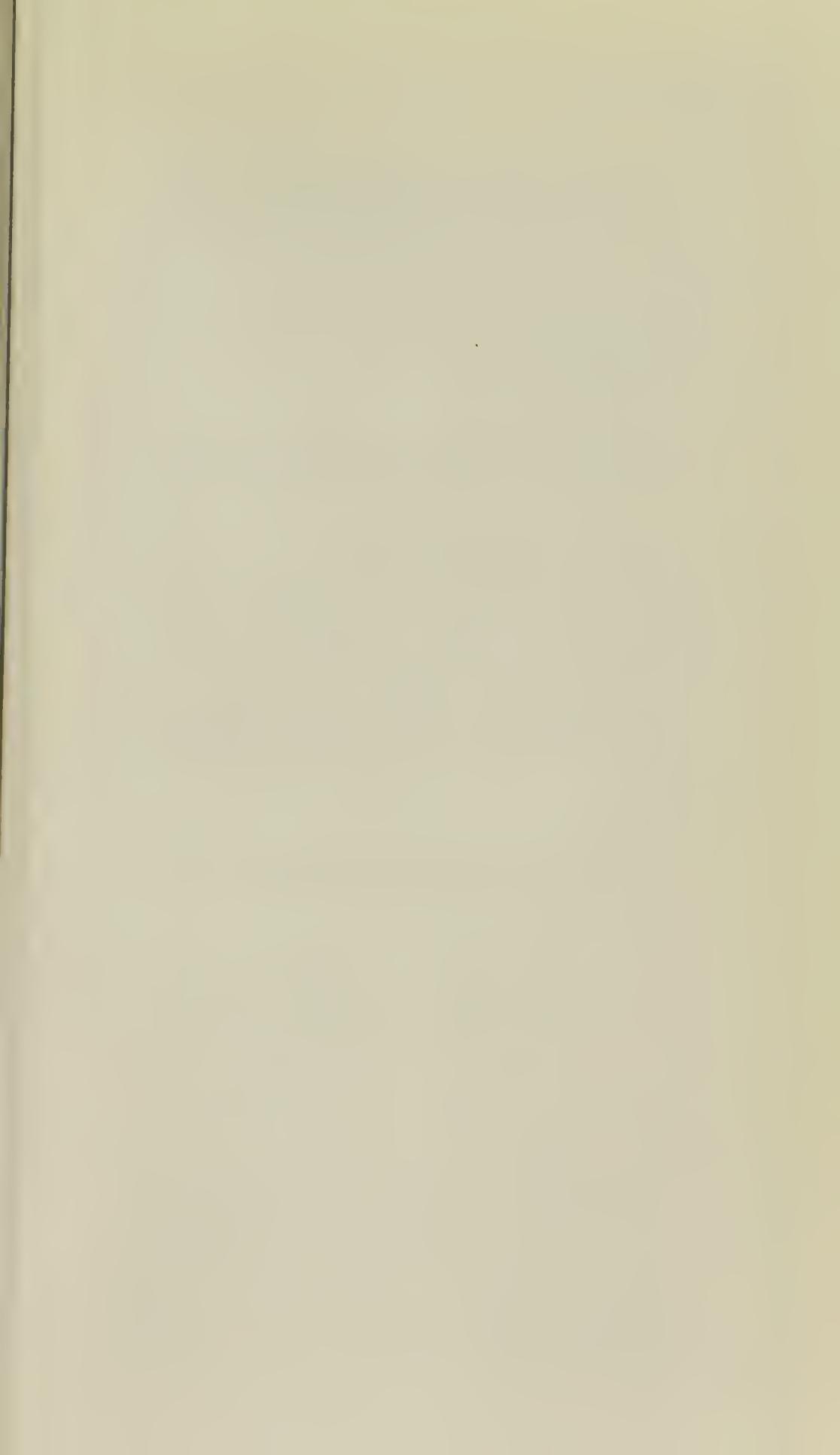
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316 Caspian Tern *Hydroprogne tsebegrava* (Robert Gillmor)
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