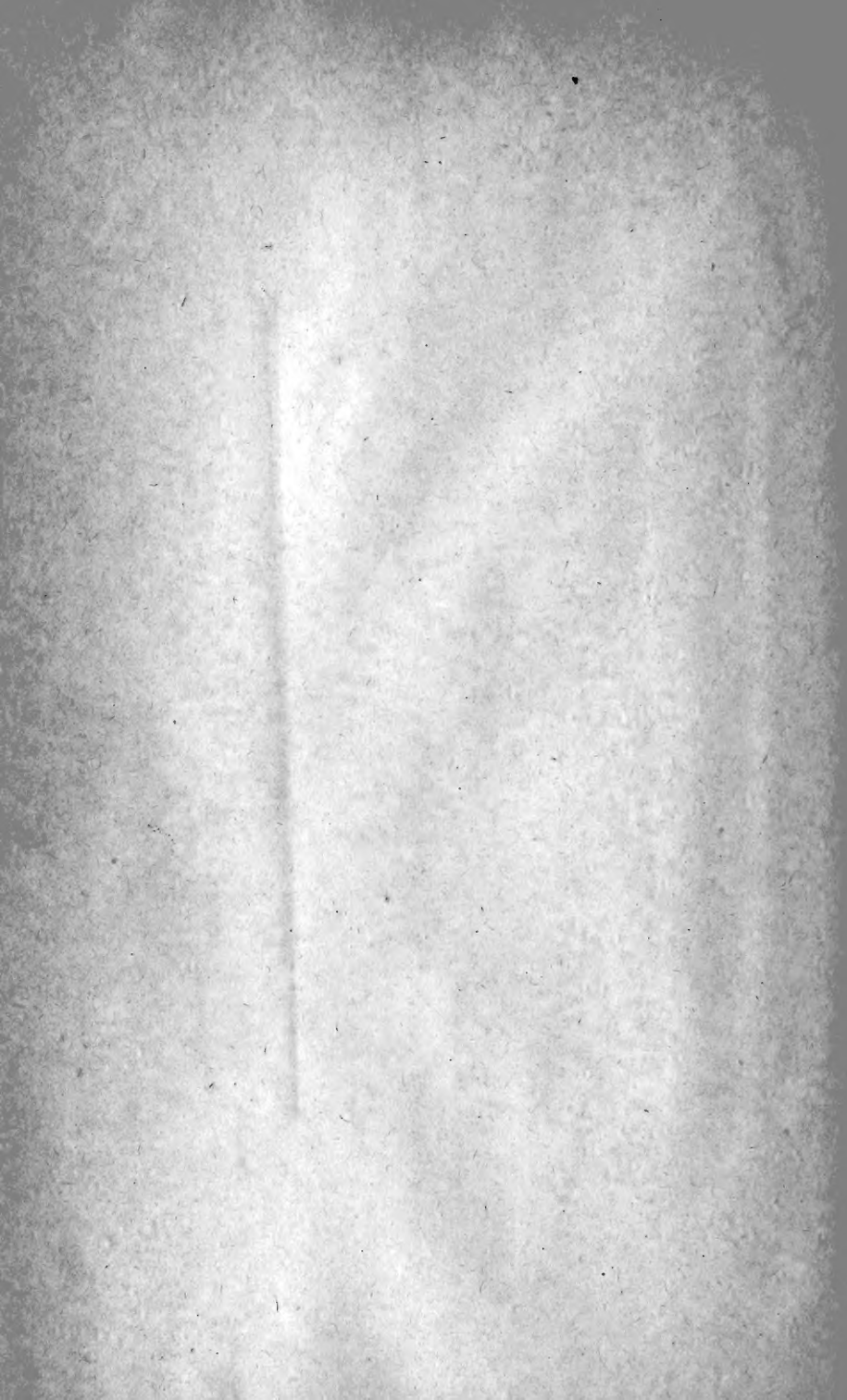




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BRITISH BIRDS

AN ILLUSTRATED MAGAZINE DEVOTED
TO THE BIRDS ON THE BRITISH LIST

EDITED BY

H. F. WITHERBY F.Z.S. M.B.O.U.

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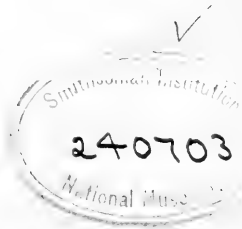
Rev. **F. C. R. JOURDAIN** M.A. M.B.O.U.

AND

NORMAN F. TICEHURST M.A. F.R.C.S. M.B.O.U.

Volume VIII.

JUNE 1914—MAY 1915.



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326 HIGH HOLBORN LONDON.

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JUNE 1,
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Vol. VIII
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"whenever the hen stopped . . . he sat down . . . and went to sleep."

THE RED-NECKED PHALAROPE.

BRITISH BIRDS

EDITED BY H. F. WITHERBY, F.Z.S., M.B.O.U.

ASSISTED BY

REV. F. C. R. JOURDAIN, M.A., M.B.O.U., AND NORMAN F.

TICEHURST, M.A., F.R.C.S., M.B.O.U.

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THE STUDY OF BIRD-NOTES.

BY

DR. HANS STADLER AND CORNEL SCHMITT.

ALTHOUGH as early as 1866 Harting furnished phrases of bird-notes in the *Birds of Middlesex*, and later again, information concerning the songs of many kinds of birds has been given us by Hartert in *Die Vögel der paläarktischen Fauna*, the study of the notes of birds has until now found few adherents in England. It seems to us as though English ornithologists have undervalued the significance of the study of voices for practical purposes, and as though such purely scientific work has found but little favour in the more practical mind of the English. In Germany, on the contrary, it has gained an increasing number of disciples from year to year, owing to Alwin Voigt, and it has grown to be a special branch of science. We never hear a doubt expressed regarding its value, or even its practical value.

Apart from the want of a musical ear or musical education in the non-scientist, there are three difficulties which make even musicians among ornithologists and naturalists hold back from a deeper study of the notes and songs of birds. Firstly, the musical pitch, which until now it has been impossible to fix in consequence of its great actual height; secondly, the non-musical sounds which, mingled with the notes, greatly influence them as a whole, and do not allow of any musical analysis or classification; thirdly, the colouring of bird-notes, which often greatly differs from that of the human voice and familiar instruments. We wish to show in a few words that these difficulties can be overcome.

1. *The musical pitch.*—To fix the keynote of birds, we have at our disposal—firstly, the human singing-voice, which reaches from the lower G of the deep bass voice, to the high C of the trained soprano: it renders us excellent service for the imitation of

deep voices of birds, such as those of the pigeons, the Eagle-Owl, the Bittern, and of the much deeper tones of many foreign species; secondly, our whistling-voice, which reaches from B flat or C natural to G or G sharp 4: it is excellently adapted to the imitation of the songs of many birds, such as those of the Blackbird, the Thrush, the Cuckoo, and the Tawny Owl; thirdly, organ-pipes from the stop Salicional, which begins where our human whistling-voice and our musical instruments cease—from G4 to D6. To ascertain the very high notes of birds we use a set of such organ-pipes*—G4, B4, C5, E5, G5, B5, C6, D6—which we carry about in a case in our pocket. As the notes of most European and foreign singing-birds range between A4 to C6, one can understand that to anybody not possessing the organ-pipes this whole field of knowledge is closed. Further the definition of the musical pitch is rendered very difficult on account of the extraordinary timbre of many bird-songs—for instance, the “dilm delm” (“zilp zalp”) of the Chiffchaff—but with the means at our disposal it is to be obtained.

But the pitch is never the most essential part of music in general, or of bird-songs in particular. When we compose a piece of music we render not only the pitch but also rhythm, intervals, time (=metric), melody, pace, loudness, phraseology. The representation of strophes and calls of birds demands the consideration of these same things, and, as we are capable of writing our musical pieces by means of notes, in the same way these international notes are not only available, but even quite sufficient for the songs of birds. For the completion of this, we want only three new signs—



for the “roller” (always wrongly called “shake”)

* To be obtained of G. F. Steinmeyer, Oettingen (Bavaria), price 10s. the set.

which is so very frequent among birds: example, the Canary.



for tones with a strong mingling of non-musical sounds ;



for sound essentially non-musical: such sounds in musical notation have always been rendered by notes, e.g. the parts for drum and kettledrum.

Further, we place, if possible, the phonetic impression under the notes—that is, the syllable-writing. This form of writing has until recently been employed with us in Germany as a method in itself, but it has proved entirely insufficient when used alone.

As the pitch of bird-voices in the same strophe can be very varied (for example, the sudden jumps of three octaves of the Great Reed-Warbler); as, further, birds do not always keep to the intervals well known to us—for example, within the limits of a minor-second they breathe three or more notes—we find it practical to employ a system of three lines, each of which answers to a fixed key of well-known bird-notes. The lowest line, C3, answers to the key of the Cuckoo; the middle, C4, to the middle key of the Canary; the upper, C6, equals the pitch of the delicate “tsi-tsi” calls of the Tits (Tit-line—“Meisenlinie”). As by far the greater number of all bird-tones range between C4 and C6, the mode of registering strophes between these lines is clear and also gives a good idea of the most likely definition of the pitch and the intervals, which so often differ entirely from those of human music; again, it permits us to estimate the whole-sounds according to their pitch and to put it into a kind of note-system. What lies between the lines C3 and C4 we generally place in the

five lines used by the musician, and employ the higher octaves—

8 

16

and even 24 

With regard to the timbre, it is as impossible to indicate this, as it is impossible to indicate it in the case of the violin or trumpet; and unfortunately it is only possible in the rarest cases to describe it by comparison with well-known musical instruments. When once the phonograph, assisted by photographic registering, can be employed scientifically in the field of ornithology, we shall hear birds sing from the apparatus with all the shades of timbre, tone, and sound, as we hear at present more or less good musical productions of our own species. Till then we must be content with the fact that the voices of different birds represent as many instruments, each of which has its specific timbre—which we are unable to define, because we are unaccustomed to it.

Three examples may show how, through our method of representation, the characteristic signs of bird-notes—rhythm, pitch, and intervals—can also be fixed to our entire satisfaction:—

The strophe of the Tawny Owl (*Strix a. aluco*), on



STROPHE OF TAWNY OWL.

account of its deep pitch, is easy to whistle. It is divided into three parts: the introduction is a long-drawn

steady sound in F, which generally falls a minor-third or a minor-second in legato (sometimes it is slurred down); this movement is followed by a pause of the remarkable duration of nearly three seconds; after the rest, comes a soft tone, only to be heard quite near, generally at the pitch of the preceding one; after a second quite short pause, the finale begins in F. It repeats the first high note—generally three times, in quavers—and then again descends in decrescendo to a third. The composition of these strophes is remarkably regular, apart from a few little variations in rhythm and intervals. The timbre is exactly that of the stopped diapason of the organ or of the okarina: especially with the latter the whole song can be rendered in a life-like manner.

Nightingale (*Luscinia m. megarhyncha*).—Three short motives—

The musical notation is presented in three strophes, labeled 1., 2., and 3. The staff is a six-line treble clef (C6) with a common time signature (C).
 Strophe 1: A series of notes on the staff, with a 'crescendo' marking above the first four notes. The notes are labeled 'e' below them. The final note is a high note with a '5' above it.
 Strophe 2: A series of notes, with a 'staccato' marking above the first four notes. The notes are labeled 'e' below them. The final note is a high note with a '5' above it.
 Strophe 3: A series of notes, with a 'staccato' marking above the first four notes. The notes are labeled 'e' below them. The final note is a high note with a '5' above it.

STROPHE OF NIGHTINGALE.

Description: The three strophes range in about the same pitch and have the characteristic and frequently-used finale of the Nightingale—a short high-note which is joined to a long melodious “roller.” The first motive contains the dreamy, sometimes often-repeated, cry of longing with its entrancing “great crescendo”; the second strophe shows, after a short staccato in semi-quavers, a descending movement in quavers, which is the characteristic of the Wood-Lark’s song; the third shows that the singer sometimes mingles impure tones, even noises like the winding of a watch, with its song.

Wren (*Troglodytes t. troglodytes*).—The strophe of this bird consists of five motives (parts): four staccato

quavers in *pp* form the introduction, the next motive is composed of two quavers repeated four times, two of which are always connected, and the first is emphasized—this is followed by the “roller,” which ends with a high tone; the second “roller” in *ff* (the climax) holding the same tone, ends with four staccato

STROPHE OF WREN.

semiquavers; the third “roller” is quite poor in tone and ends, like the second, with a high tone. This finale contains a rapidly descending decrescendo, whilst the first to third part gradually ascends from *pp* to *ff*. The highest tones in the strophe are D5 and C5, the deepest ones B4 and A4. One seldom finds a Wren which keeps the same song even for a short time: indeed it is continually changing it.

In conclusion, a word concerning the significance of the study of bird-notes. In Germany we value this study for the following reasons: firstly, its cultivation means a general increase and deepening of our knowledge about the feathered world; in particular, it increases our knowledge of the existence of possible biological kinds or races, and permits us even to-day, if only in a few cases, to judge whence migratory birds come, by observing and noting their original or imitating-song as they move—for example, Corn-Bunting (refer to *Ardea*, 1914, pp. 32-45). Then it expands immeasurably the sphere of music and the view of musicians. To the great mass of those who devote themselves to the study of birds, as lovers of ornithology and nature, it is indispensable, because we hear birds much more than we see them, and in cases of doubt we are more ready to

take up a book which will teach us, than to sacrifice the life of an animal in our thirst for knowledge. Here we have arrived at the high ethical meaning of the study of voices upon which Voigt rightly lays greater stress from edition to edition of his fundamental *Exkursionsbuch zum Studium der Vogelstimmen*. We hope that in our time, which affords great protection to birds, this study will also enable the keen collector to work along more humane and noble lines.

NOTES ON THE RED-NECKED PHALAROPE IN THE OUTER HEBRIDES.

BY

MARY G. S. BEST AND MAUD D. HAVILAND.

WE paid several visits to a long-established breeding-station of the Red-necked Phalarope (*Phalaropus hyperboreus*) whilst working in the Outer Hebrides last summer.

The Phalaropes nest on an extensive tract of marsh bordering a small loch, and lying within a mile of the open



"swimming together in a reed-grown creek."

sea. The breeding-ground is about two miles in circumference, and on account of the wetness of the season, many of the creeks and reed-beds were inaccessible.

On May 16th, Miss Haviland, with Miss E. L. Turner, visited the bog. No Phalaropes were seen, but the foggy weather prevented anything like an exhaustive search of the place.

On May 23rd Miss Turner and Miss Haviland again visited the bog, and explored all the accessible spots

thoroughly. At the south side of the loch, which is a favourite haunt of the birds, a single female Phalarope was found, and afterwards a pair, male and female, which apparently were mated and swimming together in a reed-grown creek. The birds were very tame, and paid little attention to the photographers. This was the only male bird we saw that day, and from subsequent observations, we believe that this must have been an exceptionally early couple. Later, Miss Haviland went round to the north side of the marsh, and saw three more birds, all of which were females. These birds were rather wild, and were resting under the lee of the reeds. From the relative numbers of the sexes in the birds we saw, and the early date, we consider it probable that the females arrive at this breeding-station before the males.

On June 11th we went with Miss Turner to the bog hoping to find nests. In this we were unsuccessful, but many more birds of both sexes were to be seen, some of them in pairs. In one reed-bed, they flew overhead, uttering their querulous, piping cry, which led us to hope that we might find them breeding there, especially as the owner of the bog informed us that he had in previous years seen young birds following their parents by the third week in June; but we found no sign of nests. From the birds' behaviour, it seemed as if they were still courting, and had not begun to lay, much less to incubate. We saw one party of four or five females chasing one male bird up and down the loch while he vainly tried to escape from their attentions. On the whole, it appeared that more hens than cocks were to be seen on this occasion also; but it is not easy to distinguish the sexes in flight, and a mistake might well have been made on this point.

On the south side of the loch, just where we had seen the pair of birds on our previous visit, we found a male and female in the long herbage at the water-side. Perhaps we ought to reverse the usual order and say female and

male, for the traditional dominance of the masculine sex is entirely unknown in this species. Certainly this cock bird was a most henpecked little fowl. Possibly he had been captured immediately on his arrival from the sea. At any rate, he was apparently tired out, and whenever the hen stopped, as she frequently did, to preen herself or feed, he sat down where he was, and



“ in the long herbage at the water-side.”

tucking his bill under his feathers, went to sleep. Before he had dozed for more than a minute, however, the female would peck him awake, and, calling querulously, force him to follow her while she led the way through the marsh. Now and then she flew at him and chased him about, as if losing patience. This little scene was repeated three or four times, and the birds were so confiding that we were able to photograph them in the act.

It is difficult to say how many Phalaropes breed in this bog. From what we saw, we should be inclined to put the number at anything between twenty-five and thirty-five pairs. The owner of the bog gives the

birds all the protection in his power, but unfortunately he only exercises sporting rights over part of the place, which actually belongs to the glebe land. The spot is well known to collectors, and these unfortunately not only visit it themselves, but have taught the neighbouring crofters that the eggs have a commercial value. The Phalaropes' best protection probably lies in the nature of their nesting-ground itself, for, owing to the treacherous going and the depth of the swamp, many of the reed-beds and islets are inaccessible, even by swimming.

NOTES

SEXES OF MIGRANTS.

THE lightkeeper at the Tuskar Rock, co. Wexford, Mr. Johnston, sent me twenty-four Whitethroats (*Sylvia communis*), nine Willow-Warblers (*Phylloscopus t. trochilus*), eight Sedge-Warblers (*Acrocephalus schoenobaenus*), and six Wheatears (*Enanthe æ. ænanthe*), killed by striking on April 30th, 1914, between 10.15 p.m. and midnight.

On dissection it was found that twenty of the Whitethroats were males, two females, and two doubtful. All the Sedge-Warblers were males; seven Willow-Warblers were males, one female, and one doubtful; five Wheatears were females and one male.

There were great numbers of Corn-Crakes (*Crex crex*) about the lantern; two specimens were sent.

The above statistics may be of interest to the student of the sexes of migrants.

R. M. BARRINGTON.

RARE VAGRANTS IN KENT AND SUSSEX.

I SHOULD like to put on record the following occurrences of rare vagrants in Kent and Sussex:—

BULWER'S PETREL (*Bulweria bulwerii*).—A male was shot while fluttering about a pool on the beach at Jury's Gap, Lydd, Kent, on March 16th, 1914. It was subsequently examined in the flesh by Mr. H. W. Ford-Lindsay. This is the sixth recorded British specimen.

CASPIAN PLOVER (*Charadrius asiaticus*).—A male was shot at Pevensey, Sussex, on March 30th, 1914, and examined in the flesh by Mr. H. W. Ford-Lindsay. This is, I believe, the fourth British specimen.

SOLITARY SANDPIPER (*Tringa s. solitaria*).—A female was shot at Pevensey, Sussex, on April 17th, 1914, and examined in the flesh by me on the 18th. This is the sixth recorded British specimen.

MEDITERRANEAN BLACK-HEADED GULL (*Larus melanocephalus*).—A male which was shot at Littlestone, Kent, on September 8th, 1913, was seen in the flesh by Mr. H. W. Ford-Lindsay, and examined after it was stuffed by Mr. H. F. Witherby. The primaries were in moult. This is the fourth recorded British specimen.

J. B. NICHOLS.

MUD-DAUBED EGGS OF JACKDAW.

AN article and several notes regarding mud-daubed eggs of the Jackdaw (*Colæus m. spermologus*) appeared in Volume IV., pp. 176, 214, 250. I have annually, at the end of April, visited the Craig-y-rhiw rocks, near Oswestry, for the purpose of investigating the Jackdaws' nests. Most of the nests are in the rocks or rabbit-holes, and six in holes in trees. Previous to reading the above-mentioned notes in BRITISH BIRDS, I had not paid much attention to the daubing, and considered it to be accidental. In 1910 the eggs in one of the trees were daubed and, as far as I remember, it was the only set thoroughly daubed. In 1911 the eggs in this hole were again daubed, but many other nests had eggs more or less daubed, and I came to the conclusion that it was accidentally done, and was due to the wetness of the ploughed land. In 1912 this nest was the only one I could find which contained daubed eggs out of more than twenty sets examined. It was a very dry April. In 1913, the birds had not laid in this particular nest by the end of April, and the few eggs in other nests were perfectly clean. This year (1914) I visited the nests on April 26th and found nearly all of them with five eggs each, and all the eggs were clean except those in that one nest and they were very thickly daubed, the mud on one egg of the clutch being still wet. All the eggs were fresh. This I think tends to prove that in some cases the daubing is not accidental, as the eggs found each year in this particular nest were probably all laid by the same bird. This nest is in a hollow trunk and the entrance is down a rotten limb, and the eggs are invisible from the entrance. There were two entrances near together, but in 1912 the bird stopped the lower one with sticks, which I had to remove before I could reach the eggs.

J. H. OWEN.

[It is of interest to note that the habit of egg daubing is not confined to British Jackdaws, but has also been observed on the Continent. See an article by F. Menzel in the *Ornithologische Jahrbuch*, 1909, p. 105.—F.C.R.J.]

SPARROW EJECTING EGGS FROM NEST OF
SONG-THRUSH.

FOR the last three years a Song-Thrush (*Turdus ph. clarkæi*) has built a nest and laid eggs some twenty-five feet from the ground, on the top of a ventilator just under the eaves of a house at Oswestry. Each year the eggs have been turned out, and I have put the mischief down to rats.

On this occasion the Thrushes built a new nest in the same place as the old one which we had removed. One morning, after the bird had started to sit, there was an egg on the ground under the nest, but the Thrush was sitting later in the day. The next morning, whilst I was looking from a window at the nest, which the Thrush had just left, a cock House-Sparrow approached and hopped into it. A few minutes later I went out and found two of the remaining eggs on the ground, and I think the Sparrow must have got them out somehow, as there was no egg on the ground when it went into the nest. The Thrush deserted.

J. H. OWEN

INCURSION OF WAXWINGS.*

ESSEX.—Several were seen in Dovercourt at the end of January and the beginning of February. Four were killed (W. B. Nichols).

SHROPSHIRE.—Besides those previously reported, two more Waxwings have been obtained in March and others observed on Wenlock Edge and near Bridgnorth. One of the former is dull in colour, and is probably a young bird (H. E. Forrest).

SUFFOLK.—One picked up dead at Beyton on Jan. 21st (Rev. J. G. Tuck, *Zool.*, 1914, p. 150).

SURREY.—One at Dorking on March 27th (G. Stapylton-Smith, *Field*, 4.IV.14, p. 734).

YORKSHIRE.—Two at Sleights and four or five near Sleights at the end of March (J. T. Sewell, *Nat.*, 1914, p. 160). Two at Holgate, York, about Jan. 10th (S. H. Smith, *t.c.*, p. 127).

WESTMORLAND.—Mr. Hulme Wilson also informs us that several small parties of three, four, and six birds haunted the neighbourhood of Kirkby Lonsdale and Kendal during the early part of 1914; and one of his friends while on the way to a meet saw two of these little flocks.

ABROAD.—A number of records of their appearance in France are published in the *Revue Française d'Orn.*, 1914, pp. 258-60, 276-78. A summary of occurrences in Switzerland is given in *Ornith. Monatsberichte*, 1914, pp. 58-59.

BLACKCAP IN LONDON.

ON the morning of April 22nd, 1914, I picked up in St. Martin's Court, Ludgate Hill, the dead body of an adult male Blackcap (*Sylvia a. atricapilla*): it was lying on the pavement close to the wall.

* For previous notes on this subject see Vol. VII., pp. 263, 292, 319, 344.

But for a few feathers missing from the left shoulder, which on examination disclosed a slight abrasion of the skin on that part and the lower-neck, the bird is in excellent plumage and condition. There are no indications of its having been kept in captivity, and it seems therefore reasonable to conjecture that it was struck down by some overhead obstacle whilst passing over the City.

A. A. GOODALL.

ABNORMAL SONG OF BLACKCAP.

ON May 17th, 1914, I was at Hatch Grove, Chingford, and was much astonished to hear a Blackcap (*Sylvia a. atricapilla*) uttering the "cheering" note of the Greenfinch. The bird seemed to have abandoned its usual delightful melody, as I spent several hours in the wood, and devoted most of the time to listening to this unusual song, which was kept up almost incessantly. On May 19th I again listened to this bird with the same experience. The song may be described as resembling that of the Greenfinch, but fuller and more melodious. There can be no doubt as to the identity of the bird, as I had an excellent view of it with and without binoculars.

WILLIAM E. GLEGG.

EARLY NESTING OF BLACKCAP AND CHIFFCHAFF.

I SAW a cock Blackcap (*Sylvia a. atricapilla*) sitting closely on four eggs near Bristol on April 24th. Not far from this nest was another containing two eggs, as well as a Chiffchaff's nest (*Phylloscopus c. collybita*) with one. These dates are very early and worthy of record.

D. MUNRO SMITH.

[The earliest date for a clutch of Blackcap's eggs of which I have any note, is a nest with five eggs on May 1st, 1912, in Kent (P. F. Bunyard, *Brit. Birds*, VI., p. 87). Other nests have been recorded on May 4th and 6th. The Chiffchaff seems not infrequently to nest early in Somerset, as nests with one egg have been recorded on April 25th, 1912, and April 27th, 1910, from that county (*Bull. B.O.C.*, XXXII. p. 77, and XXVIII. p. 85).—F. C. R. JOURDAIN.]

WHITETHROAT AND LESSER WHITETHROAT IN NOVEMBER.

ON November 30th, 1912, I saw a Lesser Whitethroat (*Sylvia c. curruca*) in the vicinity of Leigh-on-Sea, Essex. It was a cold day, a keen wind was blowing, and the bird looked anything but comfortable. Saunders mentions one in the *Manual* as having occurred in Scotland on November 14th,

1880. Another is reported from Herefordshire on December 15th, 1910 (*B.O.C. Migration Report*, 1911, p. 224).

On November 10th, 1913, I saw a Whitethroat (*Sylvia c. communis*). The bird flew into a tangled bush of hawthorn, brier, and bramble. It proved to be a male in excellent plumage.

A. SMITH.

[Mr. W. E. Clarke gives (*Studies in Bird-Migration*, I., p. 131), August 27th to November 9th as dates for the passage of the Whitethroat in autumn, but records for November seem very few. We have notes of one at the Flannans on November 1st, 1908, and one in the Shetlands on November 5th, 1908. Both the Whitethroat and the Lesser Whitethroat have been recorded once from Essex in December by Mr. Miller Christy (*Birds of Essex*, p. 82, and *Vict. Hist. of County of Essex*, I., p. 238)].

THRUSH INCUBATING IN TRAIN IN MOTION.

THE following interesting note appeared in the *Belfast Newsletter* for May 8th, 1914:—

An interesting incident in bird-life has recently been noted at Limavady. A Thrush was observed frequently in the vicinity of a number of carriages lying on a siding at the railway station. It was apparently engaged in nesting operations, and although the carriages ran out daily (Sundays excepted) twice to Limavady Junction and once to Londonderry, returning each evening at 4.50, later observation elicited the fact that a nest had been built underneath a first-class composite carriage, immediately over the steam-heating pipe, and contained four eggs. Notwithstanding the regular journeys the parent bird continued to care for the eggs, and much kindly interest was manifested in its doings by the railway officials, both at Londonderry and Limavady. The alteration in the train service, which came into force on the 1st May, led the mother-Thrush to experience the annoyance of "missing the train," for on her return to Londonderry Waterside Station on the evening of the 1st inst., after a foraging expedition, she found, doubtless to her intense dismay, that the train had disappeared, having left for Limavady at 4.40 instead of 4.50 under the revised time-table. The bird's predicament was observed at Londonderry, and Mr. J. Candy, station-master, telephoning to Mr. W. Conly, station-master at Limavady, reported the mishap, and jocularly observed that the Thrush would probably journey to Limavady on the axle of the next train, and to look out for it. It is not known how the bird travelled, but at a later hour the same evening it was seen at Limavady, resuming its labours on the nest. Pending the hatching of the eggs the carriage has been withdrawn from use by the sympathetic officials.

On reading the above extraordinary story, I wrote to the station-master at Limavady for confirmation and for further particulars, and I give his reply to me.

Midland Railway Co.—Northern Counties Committee,
Limavady Station, 16.5.1914.

DEAR SIR,—This is a true story. The set of carriages under one of which the nest has been built, makes three trips daily, Sundays excepted, here to Limavady Junction at 8.10 a.m. and right back to here; here to Limavady Junction at 10.20 a.m. and right back to here; here to Derry at 11.35 a.m. and return from Derry at 4.40 p.m.

The nest was only discovered on May 5th. When the man at Derry who examines all carriages was carrying out his duties the bird flew off, but resumed on the nest before the return of the train in the evening.

On the 6th inst. she again left the nest on arrival in Derry to procure food, etc., but unfortunately she missed the train that evening. The train formerly left Derry at 4.50 p.m., and I presume the change had something to do with her missing the train. However, she was here again the following morning. It got into the Press, and so many people were examining the nest and actually putting their hands into it to prove the question of eggs, that she left it for ever. . . . To prevent trespassers on the line I had to remove the nest to the office here, and of course the eggs are now lost.

Now this carriage travelled regularly (Sundays excepted) about fifty miles daily, while the nest was being built and until she forsook it, about the 9th inst.

I have many enquiries from different parts of the country, as it is really a rare occurrence.

I am, yours respectfully,

WILLIAM CONLY, *Station-master.*

I am sure very few, if any, of your readers had any idea that a bird would sit on a jolting train, and it is only a pity she was not allowed to hatch out her eggs. W. H. WORKMAN.

[There are some discrepancies between the account in the *Belfast Newsletter* and that furnished by Mr. Conly, but we presume the latter may be taken as correct. Instances of nests built on trucks and carriages in sidings are not uncommon, but it is certainly extraordinary to find a bird continuing to sit for so long under such conditions.—EDS.]

LITTLE OWL IN SHROPSHIRE.

THERE is no longer any doubt that the Little Owl (*Athene n. noctua*) has definitely extended its range into Shropshire. There have been several previous occurrences in recent years, while in April, 1914, one was trapped near Shrewsbury, and another a month later near Craven Arms.

H. E. FORREST.

GOLDENEYE BREEDING IN NESTING-BOXES IN GERMANY.

FOR many years past it has been known that the Goldeneye (*Nyroca c. clangula*) breeds freely in nesting-boxes put up

for the purpose in Finland. Herr W. Rüdiger now sends us an interesting account of the results which have attended the erection of nine nesting-boxes during the winter of 1911-12 on the banks of the Segelen See in Neumark (Brandenburg). Although both Goldeneyes and Goosanders (*Mergus merganser*) frequented the lake, the boxes were not adopted in the spring of 1912 by either species. On April 22nd, 1914, Herr Rüdiger returned to the neighbourhood and examined the boxes, with the following results. One box was untenanted; another had been taken possession of by a squirrel; two others were certainly occupied by Goldeneyes, but were not examined; three others contained clutches of eight, six, and eight eggs respectively, while the remaining two boxes had both been occupied by Goldeneyes, but in one case there was only a single deserted egg, and the other had obviously been robbed, but still contained two eggs. From the encouraging nature of these results, it seems probable that the Goldeneye might be induced to breed in some parts of Scotland where it has been observed to stay till late into the spring. Herr Rüdiger made use of an old tree riddled with holes of the Great Black Woodpecker in order to construct his boxes, cutting it into lengths and widening the openings as well as the interior. These boxes were fastened to stout pines at various heights ranging from twenty-five to about thirty feet from the ground. The nest which was robbed was, however, only about ten feet from the ground.

F. C. R. JOURDAIN.

GANNETS IN STAFFORDSHIRE AND NORTHAMPTONSHIRE.

A GANNET (*Sula bassana*) was found disabled on Ranger Hill near Cheadle, Staffordshire, on May 8th, 1914. There had been a hailstorm and rough weather the night before, but it is unusual to meet with this bird inland at this time of year. Dr. Garner says as to this species, "Occasional on the Trent and Dove." Sir Oswald Mosley mentions one killed at Yoxall on November 8th, 1853 (*Nat. Hist. of Tutbury*, p. 57). Mr. Brown in the same work (p. 110) says the Gannet has been twice killed within a few miles of Tutbury, but probably one of these is the same as the Yoxall bird. Another was shot at Grindon near Leek in 1899, and on August 4th, 1900, the Rev. F. C. R. Jourdain saw two at Clifton flying down the Dove Valley (*North Staffs. Field Club Report*, 1900-01, p. 46).

JOHN R. B. MASEFIELD.

[Mr. A. H. Sartoris, writing in the *Field* for May 16th,

1914, states that on May 8th a Gannet was picked up alive near Weekly Hall Wood, Kettering, and brought to his keeper. The bird was a male in full adult-plumage, but very thin, and died during the night. It is curious that the date of this occurrence should be exactly the same as that of the Staffordshire occurrence noted above.—EDS.]

BREEDING-ACTIONS OF THE REDSHANK.

FROM a "hide" that I had made to a nest on a marsh in Suffolk the first week in May, I was able to watch a pair of Redshanks (*Tringa totanus*) which had made their nest near by at the side of a little mound amongst the grass and kingcups.

The pair had alighted twice near the nest and had flown away again, but about noon they came back. The female ran up on one side of my "hide," the male on the other, and they met at the nest. The male stood on the top of the mound uttering a soft, continuous whistle more like a "purr" with no break in it. After ten minutes or so he went off and fed near by, leaving the female on her nest.

After laying her egg—the first—she strolled off, taking no notice of her mate. He then commenced a much shriller purring whistle, and ran quickly after her with all his body-feathers fluffed out, his tail-feathers spread, wings raised high above his back and half-furled, giving him almost the appearance of a white bird as he was running away from me.

Later in the evening the birds returned to feed close by, when the male started his run from a longer distance on the tips of his toes. He was a most lovely sight.

I did not return to my "hide" for two days, when I found that the birds had been scared away from the nest, and though I saw one of them return and look at the eggs on Tuesday, she did not stay, and they played about at the other end of the marsh, evidently looking for another nesting-site.

MARY G. S. BEST.

SABINE'S SNIPE IN MERIONETHSHIRE.

IN March, 1914, I had the pleasure of seeing in the flesh a fine specimen of "Sabine's Snipe," a melanism of the Common Snipe (*Gallinago g. gallinago*). Judging from this specimen, after comparing it with the ordinary examples of the Common Snipe, it seems almost incredible that it should be regarded merely as a melanic form and not as a distinct species. This bird was smaller and the bill and legs finer and shorter than

those of the ordinary type with which I compared it; the general colouring also tallies with that of previous examples. The bird was shot at Rûg, Corwen, Merionethshire, and was sent to Messrs. Peter Spicer & Sons of Leamington, who have kindly furnished me with particulars.

F. H. L. WHISH.

WOODCOCK EATING CORN.

COLONEL J. A. MEREDITH informs me that when shooting a small cover near Llanfechain, Montgomeryshire, on January 28th, 1914, one of the guns killed a Woodcock (*Scolopax rusticola*). It happened that at luncheon-time this bird was compared with another, and on being closely examined it was noticed that some grains of corn had apparently come out of a wound in the throat. On cutting open the neck the gullet was found to contain 50-60 grains of wheat. Two or three days before, this wood had been well fed with wheat, which explains where the bird got the corn; but that a Woodcock should eat grain, seems to me most remarkable.

J. H. OWEN.

[In the *Neuer Naumann*, IX., p. 214, it is stated that Forstrat Thirriot found grains of maize in the stomachs of two birds shot in Istria.—F.C.R.J.]

ICELAND GULL OFF THE CORNISH COAST.

It may be of interest, as a late occurrence, to mention that on April 16th, 1914, when about three miles out of Penzance, an Iceland Gull (*Larus leucopterus*), in the all-white stage of plumage, followed our boat out west for over half an hour.

H. W. ROBINSON.

REMARKABLE COINCIDENCE IN MARKING RAZORBILLS.

ON May 22nd, 1911, I marked two adult Razorbills (*Alca torda*) on the Island of Rosevere, one of the Scilly Islands, these being the only two I could capture in Scilly, one of the rings bearing the number 31310. On May 19th, 1914, I again visited the same island for the second time, and although assisted by two boatmen, could only capture one adult Razorbill, owing to the depth of the rock-holes. This was under the same rock as the one I marked there three years ago, and not only this, but the bird was also the identical specimen, for it bore upon its leg the ring-number 31310. The central "3" was worn away and the ring was almost off, as the bird had got the overlap undone and it came off

the leg quite easily, so easily that it is a wonder the bird had not got it off itself. It is indeed curious that of the hundreds if not thousands of Razorbills nesting on this island, the only one to be captured should be one of the two I marked there three years all but three days ago. I replaced the ring with one numbered 32840. H. W. ROBINSON.

SCARCE BIRDS AT THE ISLE OF MAY.—Miss E. V. Baxter and Miss L. J. Rintoul give (*Scot. Nat.*, 1914, pp. 106-111) an interesting report of the most important occurrences of birds at the Isle of May in 1913. The authors state that the mortality amongst the migrants was in excess of anything they had seen before, many Redwings, Thrushes, and Goldcrests being starved to death, while many others were too weak to fly. It is not, however, stated whether this observation refers to the spring or autumn, but presumably the latter is intended. The following are noteworthy:—

GOLDEN ORIOLE (*Oriolus o. oriolus*).—One on Sept. 13th and 14th.

SCARLET GROSBEAK (*Carpodacus e. erythrinus*).—One on Sept. 20th and 21st.

LITTLE BUNTING (*Emberiza pusilla*).—One on Oct. 8th.

LAPLAND BUNTING (*Calcarius l. lapponicus*).—One on Sept. 24th.

SHORE-LARK (*Eremophila a. flava*).—Four on Oct. 9th.

BLUE-HEADED WAGTAIL (*Motacilla f. flava*).—One on May 13th.

CONTINENTAL GOLDEN-CRESTED WREN (*Regulus r. regulus*).—Many on Sept. 30th.

RED-BREASTED FLYCATCHER (*Muscicapa p. parva*).—One on Oct. 1st.

SCANDINAVIAN CHIFFCHAFF (*Phylloscopus c. abietinus*).—One on Sept. 30th and others in October.

YELLOW-BROWED WARBLER (*Ph. s. superciliosus*).—One on Sept. 25th and three on the 30th.

LESSER WHITETHROAT (*Sylvia c. curruca*).—Seven or eight on May 4th, some May 13th and some in September.

BLACK REDSTART (*Phœnicurus o. gibraltariensis*).—One on May 5th and subsequently until May 14th one or two; one or two from Oct. 11th to 17th.

CONTINENTAL REDBREAST (*Dandalus r. rubecula*).—One on May 6th and usual numbers in September.

WRYNECK (*Jynx t. torquilla*).—One on May 13th.

SHORT-EARED OWL (*Asio f. flammeus*).—A good many visited the island and preyed upon the smaller migrants, while even Turnstones and Common Terns were found in their "larders" in tufts of grass. They were observed to chase migrants round the lighthouse at night, and it is thought that most of their captures were made in this way.

HAWFINCH IN CO. DUBLIN.—The Rev. C. W. Benson records (*Irish Nat.*, 1914, p. 104) that a male *Coccothraustes*

c. coccothraustes (a rare visitor to Ireland) was killed by flying against some canvas at Balbriggan on February 14th, 1914.

HOUSE-SPARROW IN UIST.—At the end of May, 1913, Miss E. L. Turner observed some House-Sparrows in Uist (*Scot. Nat.*, 1914, p. 31)—a fact worthy of note, as Mr. N. B. Kinnear stated (*Ann. Scot. Nat. Hist.*, 1907, p. 19) that the bird was at that time still confined to Castlebay (Barra), Tarbert (Harris), and Stornoway (Lewis).

BLUE-HEADED WAGTAIL IN YORKSHIRE.—Mr. W. Greaves records (*Nat.*, 1914, p. 160) that an adult male Blue-headed Wagtail (presumably *Motacilla flava flava*) was seen amongst Yellow Wagtails from April 17th-20th, 1914, at Mytholmroyd in the Hebden Bridge district. He himself watched it at close range on the 18th, and noted the distinguishing characters.

BLACK REDSTARTS IN NORTHUMBERLAND.—Mr. J. M. Charlton records (*Zool.*, 1914, p. 148) examples of *Phœnicurus o. gibraltariensis* at Cullercoats on December 26th, 1913, and February 10th, 1914.

LITTLE OWL IN RADNORSHIRE AND YORKSHIRE.—Mr. Heatley Noble informs us that a pair of *Athene n. noctua* were seen in Radnorshire at the beginning of April, 1914. Mr. F. Boyes writes (*Field*, 4.IV.14, p. 734) that one was shot at the end of March at Leconfield near Beverley, and that two others have been shot there. Both these notes suggest that the birds are breeding in the localities mentioned.

LITTLE OWL BREEDING IN SOMERSETSHIRE.—Mr. S. Lewis records (*Zool.*, 1914, p. 112) the breeding of the Little Owl in 1912 at Doultling near Shepton Mallet, and Mr. H. L. Popham writes (*t.c.*, p. 150) that it has nested for the last four years to his certain knowledge (and possibly longer) at Pensford, near Bristol. The bird is evidently still extending its range rapidly, and apparently in all directions from its centres of introduction.

HABITS OF THE MERLIN.—Mr. E. W. Taylor contributes an interesting article (*Nat.*, 1914, pp. 115-20), with some nice photographic illustrations, on the nesting-habits of the Merlin (*Falco r. regulus*). He has observed that the female appears to do most of the actual feeding of the young, though the cock usually does the hunting, and flying towards the hen drops the prey, which she catches with a neat swoop

before it reaches the ground. The prey is plucked before being brought to the nest, and is broken up and distributed to the young with much care and discrimination. Small birds appear to form the bulk of the food, but in one case Mr. Taylor saw the remains of a young Lapwing, while at another nest he found the following "victims": Blackbird, Song-Thrush, Ring-Ouzel, Willow-Wren, Starling, Pied Wagtail, Chaffinch, young Cuckoo, young Golden Plover, young Lapwing, Meadow-Pipit, young Grouse, young Partridge, young Woodcock, Hawfinch, Sandpiper, Snipe, and Greenfinch.

SCOTTISH HERONRIES.—Mr. H. B. Watt gives (*Scot. Nat.*, 1914, pp. 112-15) some further details regarding Heronries in Scotland. He estimates the number of existing Heronries containing four nests or more in Scotland at 190. Messrs. Ussher and Warren assign some 330 to Ireland, whilst about 200 are said to exist in England and 40 in Wales, but these latter figures are subject to revision. Altogether Mr. Watt thinks that there are not fewer than 760 nesting-places in the United Kingdom at the present time.

DISPLAY OF THE MALLARD IN RELATION TO PAIRING.—Mr. S. E. Brock contributes an interesting article on this subject to the *Scottish Naturalist* (1914, pp. 78-86). To Mr. Wormald's account of the actions (*Brit. B.*, IV., pp. 2-7) he adds a sixth, as follows:—

The forepart of the body is raised rather slowly out of the water, the head and neck being extended upwards at an abrupt angle. A characteristic head-shake frequently precedes the action.

Mr. Brock then proceeds to inquire whether there is any relation between these curious actions and the securing of mates. He sums up as follows:—

Sexual selection occurs in the Mallard. Such selection is almost certainly not "accidental." The influences governing or directing the choice of the female appear to take the form of certain stimuli provided by the display of the male, the external attributes of the male, or the cumulative effect of both.

GREBE SPREADING WINGS BEFORE DIVING.—Mr. V. Burch publishes in the *Auk* (1914, pp. 211-12, Plates XXI. and XXII.) a remarkably interesting photograph of a Holboell's Grebe (*Colymbus holboelli*) in the act of diving. It shows a dark area representing the depression in the water where the Grebe sat at the beginning of the exposure, the "ghost" of its wings fully spread out behind as it started to lunge forward, and the Grebe itself nearly submerged a full length

ahead. "It would seem to me," writes Mr. Burch, "that the wings were instantly spread and closed again as the Grebe lunged forward."

THE HABITS AND BEHAVIOUR OF THE HERRING-GULL.—Under this title Mr. R. M. Strong contributes a long and interesting article, illustrated with a number of photographic plates, to the *Auk* (1914, pp. 22-29, 178-199). The article is based on observations of both wild and captive examples of *Larus argentatus* in America, and is divided into the following sections: Social or community relationships, feeding-habits, breeding-habits, voice, reactions to stimuli, special activities, comparison of diurnal and nocturnal activities, variability and modifiability in behaviour and migration. Most of these sections are subdivided into headings, and Mr. Strong concludes with an excellent "summary." The article is too long to analyse here, but the excellent systematic arrangement will make reference to any section easy for those who desire to consult it.

MOULT OF THE MOORHEN.—Mr. C. H. B. Grant contributes an interesting article on this subject to the *Ibis* (1914, pp. 298-304), in which he shows that all the wing- and tail-feathers of the Moorhen are dropped at the same time, as is the case in Geese, Ducks, probably all the Rails, and some other birds.



REVIEWS



Field-Studies of Some Rarer British Birds. By John Walpole-Bond. pp. xii.-305. (London: Witherby & Co., 1914.) 7s. 6d. net.

MR. WALPOLE-BOND'S book is a welcome change from the dreary succession of compilations on the subject of British Birds which continues to issue from the press. It has at any rate the merit of freshness, and is the result of first-hand information, besides furnishing further proof, if any were needed, that it is possible for a man to be a keen collector, and at the same time a close and accurate observer. Such work must almost necessarily be uneven, for few men are equally conversant with the habits of all our rarer birds. Thus the chapter on the highland haunts of Eagles is little more than a record of a nesting foray, while that on the Buzzard, on the other hand, gives a very full and complete account of the economy of this fine bird.

In a brief preface Mr. Walpole-Bond utters a word of warning against dogmatism with regard to the habits of birds, and explains that his statements must be taken as applying only within the limits of personal observation. Yet, in an excellent chapter on the Peregrine, he falls into the fault referred to. "Clutches of five and even six eggs," says our author, "I have read of, but in these I place no faith whatever." There is evidence that clutches of six are occasionally met with in the British Isles, though it is not quite conclusive. (See M. A. Mathew's *Birds of Pembrokeshire*, p. 54, and the *Zoologist*, 1869, p. 1670). With regard to the five-clutch, the evidence is indisputable in the case of one taken by Mr. W. M. Congreve in South Wales and now in his possession; and the fact that it was found in the same district in which Mr. Tracy's observations were made, tends to confirm the statement of the latter. There is also a reference to the subject in Saxby's *Birds of Shetland*, p. 18. It should not be forgotten also that the North American race of the Peregrine (*F. peregrinus anatum*) also undoubtedly lays up to six eggs. Two instances will be found recorded in the *Auk*, 1906, p. 99. Similarly other large falcons have been known to exceed the limit of four: the Iceland Falcon does so occasionally, and the writer has on two occasions taken nests of the Saker Falcon with five eggs.

We regret to notice that the now discredited record of the breeding of the Dartford Warbler in Yorkshire is resuscitated by Mr. Walpole-Bond on page 2. Most of the attempts to represent birds' songs in syllabic form are so unsuccessful, that we need not be surprised that "Pit-chou" has been copied from book to book so frequently as representing the call of the Dartford Warbler. Its origin is not, however, due to invention, but to a fanciful attempt to explain a French provincial name of the species.

We cannot help thinking that Mr. Walpole-Bond lays too much stress on the discrepancies between the habits of birds as observed by him and as recorded in many works on ornithology. All field-workers are well aware that many of these books are written by men who have little or no personal acquaintance with the birds of which they write, and whose life-work has been concerned with some entirely different branch of science, such as geology, entomology, or anatomy. Under the circumstances, it is too much to expect that the compilers should be able to distinguish the chaff from the grain, and misleading and erroneous statements are repeated with wearisome iteration. Many of the details given by Mr. Walpole-Bond in the present work are of great interest and help to fill up the numerous gaps in our knowledge of the life-history of the rarer birds, especially with regard to the incubation-period and share of the sexes in brooding, though it is necessary to take the mean of a series of independent observations before we can regard these points as definitely settled.

As most of Mr. Walpole-Bond's experience of the Raven has been gained among the Welsh hills, it is rather surprising to find him writing so severely on the misdeeds of this species. There is of course no doubt that occasionally ewes in difficulties or newly-born lambs have been killed by these birds, but the main food of the Raven at the breeding-time consists of the placenta of the sheep, and in removing this he does useful service. The loss of life in these wild hills among the untended sheep is so large that the Raven is seldom at a loss for food, and it is very doubtful whether he will go out of his way to kill when braxy mutton is available. This probably also accounts for the early breeding of British Ravens, for it is a curious fact that the Spanish and Maroccan races are much later in their breeding-period, in spite of the warmer climate in which they live, and do not lay till late April and even early May.

We should be grateful to Mr. Walpole-Bond if he would tell us on what evidence he assigns the Peak as part of the breeding-range of the Pied Flycatcher. Though the dales of North Derbyshire are eminently suitable for the purpose, we have failed to find this species nesting there.

Taken as a whole, the book is full of interest to those whose greatest pleasure it is to study wild birds in the field, and the general truthfulness and accuracy of its word-pictures is at once apparent to those who, like Mr. Walpole-Bond, have spent long days among the wild moorlands and sea-cliffs of our islands.

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ECOLOGICAL RELATIONS OF BIRD-DISTRIBUTION.

BY
S. E. BROCK.

INTRODUCTORY.

THAT side of their subject which is concerned with distribution has throughout received a prominent degree of attention from ornithologists. While the resulting literature abounds in supplementary details, the methods therein employed, with rare exceptions, have been essentially faunistic. But the faunistic method is by itself admittedly inadequate if the ultimate aim in the study of local distribution is to get beyond the immediate phenomena to their causal relations. Towards this goal the local list is in point of fact but the preliminary step in a survey which, in its ideal aspect, constitutes a complete analysis of the organism in relation to its environment. If such a conception is as old as field-biology, it yet remains true that the realization of the need for a systematic approach of the subject of animal distribution from the environmental side is of but recent origin—inspired in large part by the work of the plant-ecologists.

The environmental control in distribution becomes increasingly complex, and its incidence indirect, in accordance with the stage of evolution reached by the group concerned; and, in correspondingly increasing degree, a restriction of attention to the relation between environment and physical constitution, must lead to barren results. *The distribution of birds is insufficiently accounted for by the localization entailed by structural specialization.*

FACTORS IN DISTRIBUTION.

It is sufficiently obvious that the avifauna of a given country is distributed neither accidentally nor uniformly; its dispersal is on the contrary both definite and uneven. Despite their exceptional mobility, birds are essentially local; the "universally distributed" species is at most universally distributed only within the limits of a uniform environment. In one sense, and from one aspect, the environment may be said to determine the avifauna. The localization of birds is directly related to the localization of environmental types. Since this is so, an accordant classification of the phenomena of distribution

seems to be necessary to a full illustration of the whole subject. But the term environment stands for a complex of varied and intricate factors, with differentiated reference to the fauna, and the preliminary difficulties arise in the search for the dominant or immediate agents in dispersal.

The local existence of a bird as a breeding species is dependent upon the local conjunction of certain environmental units; and distribution is uniform in proportion as these essentials are uniformly and evenly dispersed. A shortage in one direction is not balanced by superfluity in another. The specific range is necessarily contained within the region of efficient food supply; but it is of equal necessity contained within that of suitable climatic conditions, and within that of nesting-ground. A sufficiency of food and the necessary climatic conditions do not permit existence if nesting-ground is absent; an abundance of food and nesting-ground is useless if the meteorological conditions are inimicable. Where the requisite conditions are unequally distributed in space, or relatively unequal in supply, there the dispersal of a species will be correspondingly uneven, limited by the most local, or the least adequately supplied, of the essentials. In the case of many birds, an increased supply of nest-sites is alone sufficient to allow of an increase in population, which implies that the possible maximum is normally not attained through a relative shortage of nest-sites. In such instances, distributional range is co-extensive, less with food-supply, than with nest-sites. The latter is therefore so far the limiting factor in distribution. If a common limiting factor exists, and can be recognised, then on it a classification of the facts of distribution might be conveniently based. But this can hardly be looked for; a varying supply of varying needs must be expressed by a limiting agent differentiated according to species. Nevertheless, it appears probable that this differentiation is confined within relatively narrow limits.

The governing or limiting factors in bird-distribution, apparent in part through direct observation and comparison, are perhaps thrown into clearest relief in the phenomena of range-extension—which process may be graded separately in degree as it represents predominantly either (1) the colonization of new areas ecologically homogeneous with those of origin; or (2) extension of range involving adjustment to new environmental conditions.

Theoretically, extension may be due to such features as numerical increase; or to environmental change, or to removal of a barrier (objective or subjective) hitherto preventing access to the new areas; but the immediate point is less the origin, than the method and progress, of range-extension. In spreading, a species seeks preferably its natural habitat; that is to say, the colonization of new areas ecologically coincident with those of origin tends to precede the colonization of new *environments*; and the rate of increase and spread will depend less directly upon fecundity than upon the extension of the necessary environmental conditions. In this country the Tufted Duck has shown a tendency to increase more rapidly, and to spread more widely, than the Pochard; but the discrepancy between the species is probably more nearly related to an unequal supply of their respective ecological requirements, than to unequal fecundity. Environment guides and controls, even where it does not originate, increase.

Into the primitive plant and faunal associations of this country, the activities of man, as exemplified in forest destruction and cultivation, have driven an ever-widening wedge of "artificial" conditions. Notwithstanding the expulsion of the original life-forms involved in the destruction of their environmental requisites, the succeeding artificial areas have not remained barren of life. In proportion as they have extended, the vanished fauna has been succeeded (replaced, not expelled) by new groups, whose constituents have been independently derived from the surrounding and retreating primitive fauna. But adjustment to the new conditions by the colonizing species is more apparent than real, in that such areas have been populated less immediately by the more adaptive species than by those whose original and natural environment chanced to be most closely simulated by the work of man. Man-altered ground has attracted, as nesting-species, the Partridge rather than the Grouse, the Corn-Crake than the Water-Rail, the Lapwing than the Golden Plover, the Swallow and House-Martin rather than the Sand-Martin. The colonization of "artificial" ground in fact appears to illustrate rather simple range-extension than adaptation, inasmuch as the ecological conditions approximate to those of the original centres of the colonizing species. It is this relation which has been essentially the determining factor in extension to man-made territory. It will not be claimed that the

House-Martin, in using man's buildings for its nest, has displayed greater initiative than the Sand-Martin; and despite the frequency with which the case is quoted as an instance of modification of habit, it seems in point of fact questionable wherein the suggested adaptation lies. The organism is its own measure of environmental divergence. The human distinction between artificial building and natural cliff does not necessarily imply equal discrimination on the part of the House-Martin; and if to the latter there is no distinction, then there has been no true adaptation, since adaptation implies structural or functional re-adjustment.

The species frequenting cultivation fall into two groups—those which both feed and nest within its limits, and those which feed in the area but do not remain to rear their young therein. It seems clear that, broadly speaking, the barrier to full colonization in the second group has been essentially or primarily a lack of nesting-ground. If the point is obvious, it is yet not unimportant.

Of the progress and sequence of adaptation—adjustment to new environmental conditions, as distinguished from simple range-extension—little is known, since it is racial rather than individual, dependent upon the cumulative experience of successive generations.* It will vary according to species. Its possibility and progress may be expected to be in direct proportion to the degree of resemblance between old and new environments. A species will show power of adaptation to new conditions in inverse ratio to the perfection of its adjustment to the old—which latter is presumably, other things equal, a reflection of the duration of racial experience. In other words, the comparative plasticity of the generalized type (mental as physical) is conducive to relatively rapid re-adjustment.

The varying fixity and stability of the constitutional and mental characters which link a species to its environment suggest that the process of adaptation may be uneven. The complex named behaviour represents or includes a series of specific and generalized "instincts" and hereditary dispositions or tendencies—the former relatively pure and inflexible, showing the extreme of inheritance-intensity; the latter relatively variable and elastic, modifiable accordingly. Between the one extreme

* Or, if this be objected to as too metaphorical, it may be otherwise put that racial environmental experience is a necessary nurse of adaptive congenital variations; and the perfection of the adjustment will be related to the endurance of such racial experience.

of fixed and fundamental instincts, and the other of indeterminate behaviour-tendencies readily modifiable in the individual, stand certain hereditary dispositions which, while not, or scarcely, accommodative in the individual, are yet racially plastic as compared with the more rigid forms of behaviour. If this be so, then adaptation in the one class may precede it in the other. There will be a sequence of adaptation. In manner as the varied "requirements" of a species, which are the objectives of its mental constitution, govern distribution in proportion to their specialization, so functional adjustment will tend to be limited initially by the most specialized or conservative character.

It is a characteristic common to all life-forms that the activities related to reproduction display a greater stability and conservatism than the remaining life-functions—a conservatism extending to the physiological and mental connexions in direct ratio to the intimacy of their relation. The general tendency appears to be clearly exemplified in birds—in life-history, psychology, and in distribution. Birds are most local, whether in space, or in relation to habitat-type, during the breeding-season. It is no explanation—it is a re-statement of the facts, to say that the tendency is due to the fact that while the extra-breeding range may be co-extensive with the food-supply, the breeding-season necessitates the co-existence of food-supply and nesting-ground; or that the food-requirements of the young involve localization of the breeding-area. If the environmental range in the nesting-season is restricted, and the food and other requirements of the young specialized, does not this merely illustrate a relative functional specialization in relation to the central reproductive activities? The frequency with which the nesting-ground requirements act as checks to extension or increase, is essentially bound up with this tendency. *Within the species, that group of activities with narrowest environmental adjustments necessarily limits spread or increase.* If the environmental limits within which reproduction in birds is confined are narrower than those of other functional adjustments, then the former will be in proportionate degree the limiting factor in dispersal. If this suggestion is well founded, then in species with differentiated environmental range (*i.e.*, species part of whose extra breeding habitat differs in character from that of the nesting-area), the nesting-ground should on the average represent the original centre of distribution,

the more primitive environment, from which other environmental adjustments are more recent adaptations (and possible lines of racial extension), and adaptation will tend to proceed through food-adjustment to breeding-habitat adjustment.

It may be assumed that the phenomenon of racial structural history illustrated during the development of the individual, is paralleled, within limits, by functional characters, and so far as this parallelism holds good, it may be expected that a recapitulation of the racial environmental history will in some degree reach functional expression in the individual. If the individual resumes within its life-time the racial environmental history, then the nesting-environment is the more primitive. The present environmental "requisites" of the young represent the ancestral environmental "requisites" of the race. Is it permissible to go a step further and to compare the functional character which takes the form of a breeding habitat bias, with those structural vestiges which are the reflection of past history rather than adjustments to present conditions?

Outside birds, the environmental restriction ascribable to the conservatism of the breeding-habits is illustrated in terrestrial animals with aquatic larvæ; in the salmon which procures its food from the sea, but must repair to fresh water to breed; in the eel which passes its life in fresh water, but must go to the sea to lay its eggs. Is it unreasonable to assume that the Curlew which feeds on the shore outside the breeding-season, but must go to the hills to nest; the Goldcrest which is at home in deciduous woods in winter, but is practically confined to coniferous woods in summer; the Golden Plover able to derive sustenance from cultivated land, but nesting only on moors—may represent analogous, if less extreme, instances? The habitat wherein breeding is accomplished is the most primitive environment. "The key to the present lies in the past." The bird's present distribution is based on, and limited by, a breeding-habitat, the type of which is fixed by ancestral experience, modified only in subordinate degree by present conditions. As racial history determines present structure, so in like manner racial environmental relations appear in present habitat preference. In a sense the bird inherits its environment. Present power of adaptation and modification is inverse to the duration and narrowness of racial experience. Environmental stabilization leads to faunal stabilization;

the more uniform and enduring the habitat conditions, the more specialized and non-adaptable the dependent fauna. Under relatively constant and undifferentiated forest conditions evolve specialized forest-dwellers, proportionately dependent upon the existence of forests. Species with a mixed inheritance, whose racial environment has through relative fluctuation or complexity prevented specialization, thereby retain readier power of adjustment to an altered or new environment.

However indirect in control, the environmental influence in bird-distribution is so far predominant as to suggest the need for a systematic presentation of the facts from this side. That classification which most successfully arranges species in characteristic or mutually exclusive groups, is based upon the most fundamental or differentiating factors. It would be hopeless on this test to attempt a grouping of British bird-distribution purely according to climatic, or topographical, or geological aspects—or even to *food-supply*. The efficient factor-combinations in distribution, and the related species-groups, are broadly recognized in the popular divisions of woodland birds, moorland birds, aquatic, and so on. The nesting-distribution of birds is closely correlated with that of vegetation, and in minor degree, with surface geological features; and with the partial exception of the food-supply, it seems probable that the influence of the other factors is mainly indirect, effective through its action on the vegetation.

It is natural to relate the localization of many birds to the question of food-supply. Nevertheless, there are some instances of range-restriction which can hardly be assigned to this cause; and there appear to be sufficiently good reasons for believing that while the nesting-range must necessarily be contained within environmental limits which hold the necessary food-supply, it is in many instances not co-extensive with the latter; that is to say, *in such cases the food-supply is not the limiting factor in distribution*. Even in cases where it could be shown that certain species whose distribution is markedly "local," derive their food from sources equally local, the question would still remain: are these species restricted to such areas because they depend largely or mainly upon certain food-supplies thereto confined; or do they utilize the latter because they are characteristic productions of the areas preferred by the birds for other reasons? It is necessary to assume that the differentiated environmental

attachment of species is predominantly due to divergent racial environmental history. The species is essentially adapted, not to its present, but to the ancestral environment—an adaptation with which is correlated an inherited mental bias which attaches the species to the nearest present representative of such racial environment. And since the food-supply is but one unit of the complex to which the species is adapted, such food-supply tends to be sought only within the limits of that complex—*which tendency is most pronounced during the breeding-season.* To take a theoretic example. If the requisite food-supply of the Golden Plover exists alike in moor and arable ground, then the Golden Plover, in its restriction to moors during the nesting-season, illustrates the difficulty with which a species extends its breeding-range beyond its hereditary environment where a suitable food-supply exists outside such limits. Though food-supply is the basis essential, its subjective attachment to other environmental relations tends to prevent distributional range from being co-extensive (in environmental type) with the food-supply. Thus the comparative restriction of the Golden Plover to moors, of the Goldcrest to coniferous woods, of the Curlew to the uplands, is not necessarily due to a coincident restriction of food-supply.

Whatever the origin of the connexion, and whatever the present links, the close relation between vegetation-type and bird-distribution is clear; and in practice it appears that the plant-formation and plant-association of the botanist, in degree as they are contrasted in character, show proportionate contrast in their associated avifauna—which parallelism is an index to the intimacy of the connexion. Woodland avifaunas are more distinct from those of moorland than that of birch-wood is from that of pine-wood, or than that of heather-moor from that of cottongrass moor. The former are distinct in class; the latter, generically alike.

If the subject is approached from this aspect, and the question asked, not how birds are distributed, but what species are supported by the specific environment, there arises the preliminary question as to the relative faunal value of nesting and non-breeding birds. It has been argued that the home of a migrant is essentially that country which gave it birth, and in which it breeds; that a bird is only British when it is literally native or indigenous. To non-ornithologists this might appear a truism—yet it is not the accepted basis of classification. If it has its objections, it has on the other

hand the advantage of clearness and simplicity, and it avoids the admitted anomalies inevitable in the usual inclusive method of grouping. But, accepting the customary view as to the qualifications entitling a bird to a place in that palæ-arctic catalogue, the British bird-list, it is clear that the breeding species in that list are in a category apart. Reproduction is the central fact in the life-history of the species, and, in any classification of environmental relations, that habitat in which reproduction occurs, takes premier position.

A classification of environmental types is necessary before the phenomena of bird-distribution can be classified in turn. The predominant importance of the vegetation as a factor directly and indirectly governing bird-distribution suggests the efficiency and convenience of an ecological classification of the latter based preliminarily upon the plant-formations and associations of the botanist :—in addition to the geological factors which, in the form of cliff, sand-dunes, etc., exert direct influence upon distribution.

THE BIRD-ASSOCIATION.

From the objective side bird-distribution is determined in the main by such environmental agencies as vegetation, food-supply, etc. But in view of the inter-relations of species which proceed from the possession of a common habitat, the term environment must be given a wider significance. A bird's local position is influenced in varying degrees by its associates. It may be entirely dependent upon their presence ; or its numerical position may be affected by the presence of others ; or the prior existence of another species may be a barrier to colonization. The intricate inter-relations and inter-dependencies of associated species indicate the need for regarding such groups of species as units of classification. Similar considerations have led to the conception of the plant-association ; and, on similar lines, a bird-association may be defined as that group of species supported by, and associated in, an environment of specific type.

The fundamental link between the species comprising an association is the common attachment to a common environment. To this other inter-relations are necessarily subsequent and secondary. The most simple and direct relations concern competition for food, and for nesting-ground. The intensity of competition in the latter is proportionate to the degree of coincidence in nesting-habits. On the average, it will be least in unrelated species, more active in congeneric, and will reach its maximum within the single species. Population-density will be proportionate to the food-supply, or to the

supply of nesting-sites where through relative insufficiency the latter is the limiting factor in distribution. But it is probably also in some instances modified or checked through constitutional disposition as expressed in intolerance or unsociability, which mental attributes are not necessarily perfectly attuned to present conditions of existence; that is to say, an intolerant disposition, which is the reflection of keen ancestral competition, may demand present territory the dimensions of which exceed present needs—and so far it is a survival rather than a present adjustment.

It is obvious that the quantitative relation between food-supply and that of nest-sites is important in determining the form of dispersal of the association-units; and this relation is probably a leading factor in the relative sociability of breeding birds. It is open to observation that birds as a whole show most sociability outside the breeding-season. The rivalry and jealousy coincident with the seasonal effervescence of the sexual emotions are reflected in a wide-spread tendency to exclusiveness during the nesting-period. Other things equal, birds then tend to disperse themselves separately and evenly. The inclination towards sociability is in proportion to the superabundance or wide dispersal of the food-supply as contrasted with a comparative localization of nest-sites. That the genesis of the colonial habit is at least in part related to this factor is rendered the more probable by the negative evidence as to the existence of true social links and sub-division of labour within the colony. The colony is in origin probably in large part rather a forced aggregation than a true society: it is the result of compression from without rather than of attraction from within. But it is credible that a sociability so acquired may become in time independent of the environmental peculiarities which originated it.

The alteration and impoverishment of the British avifauna within historic times is no doubt essentially attributable to human interference; but great as has been the effect of direct persecution and extermination, the indirect result of man's destruction and modification of primitive ground has probably been infinitely greater. Persecution has locally exterminated individual species; environmental alteration has locally caused the disappearance of whole groups of species. The felling of a forest or the draining of a marsh is more effective than much slaughter. Our avifauna has been much modified by man—in considerable degree in its faunistic composition; profoundly in its dispersal. A reconstructed picture of its primitive aspect must be based

upon a preliminary reconstruction of the country as it existed prior to man's interference; together with analysis of the fragments of primitive ground that remain, and their associated bird-life.

From their environmental relationships, the bird-associations of this country from one point of view fall into two groups—natural and “artificial”—the former relatively clear-cut and faunistically definite, its faunal stability due to stable environmental conditions; the latter relatively nebulous and fluctuating, its characteristic instability referable in part to the inconstancy of the environment, in part to imperfect faunal adjustment. The generic association-groups, such as the “natural” ones of alpine, moor, forest, grassland, aquatic, coastal belt; or the “artificial” ones of arable land, pasture, plantation, fall respectively into sub-divisions or specific associations, the faunal relationships of which run parallel to the environmental. How far the faunal correspondence between environments of similar type is affected by dissimilarities in other conditions: that is, how far environmental influence in the narrow sense outweighs that of all other factors combined, remains to be shown; but it is clear that a birch-wood and a cottongrass moor in southern England will show greater avifaunal resemblance to their respective Scottish prototypes than to each other; which implies that environmental resemblance is more potent than climatic divergence; or, conversely, that climatic similarity is less influential than environmental contrast. Or, to take a less extreme comparison: given two similar environments with differing climatic conditions, the respective avifaunas will correspond more closely than in the comparative instance of two related but specifically distinct environments with common climatic conditions. A south of England birch-wood will show greater, if incomplete, approach in avifauna to a Scottish wood of similar type, than to a pine-wood in its own neighbourhood. Here, so far as other conditions are equal, the resemblances are due to environment, the differences to climate. But it is evident that it is soon enough to look to climatic factors for an explanation of faunal divergence when it is shown that the environments are truly homologous. In degree, as two environmental types are contrasted in character, their dependent bird-associations are distinct; in degree as they approach each other in form, so do their respective avifaunas; and this remains broadly true whether the climatic features are similar or contrasted. On the other hand, divergent climatic features do not of themselves entail

parallel faunal contrasts; nor do uniform climatic conditions necessarily involve faunal coincidence. Within British limits, environment is more effective than climate.

The strength of the connexion between the vegetation and the dependent avifauna is otherwise made clear in the close correlation between plant-succession and bird-succession. Whether in the slower successions characteristic of natural conditions, such as in the silting up of a lake through its subsequent stages of marsh and moor; or whether in the more striking, because more rapid, examples common under artificial conditions, such as the succession involved in the conversion of primitive ground to arable land, or in the growth of a plantation—a closely-linked bird-succession is alike an accompaniment. In the case of the plantation the parallelism is complete in detail: in both plant- and bird-succession the pioneer species are replaced by later immigrants, which in turn disappear, or yield the dominant position, to the "climax" species adapted to full tree-growth. By virtue of environmental bias and nesting-requirements, *it is probable that the bird-succession follows more immediately the plant-succession than that of the food-complex.*

Comparable to ecological succession, but in some ways contrasted, is the yearly sequence known as seasonal succession. It is alike in its species-succession related to change in vegetation form, contrasted in its regular recurrence, and in that the replacement of one species by another is less characteristic. Seasonal succession in birds must be held to include not only the successive immigration of migrants and seasonal residents, but also the succession of stages in the life-history of the species co-habiting a given locality—the sequence of song, of pairing, of nesting—in short, all phenomena appertaining to behaviour, since all have environmental relationship.

It might at first sight be expected that the behaviour-succession in the birds of a given association is, as a succession, in complete correlation with that of the environmental conditions; and it is clear that some such relation must exist. But to regard the accordance as necessarily complete; to assume the sequence in its present form as purely an adjustment to present conditions; is to ignore the inevitable influence of the past. Theoretically, species may be expected to have reached their present environmental limitations from different approaches, from varying (environmental) distances, and at different periods in time; and along with the coincidence involved in a common adjustment to a common environment, it is conceivable that each species

may have retained individual minor functional peculiarities, inheritances of a racial past. For example, in this country there is a distinct, though trifling, difference in nesting-period between the Song-Thrush and Blackbird within uniform environmental conditions. Is it necessary to assume that this differentiation is connected with a corresponding seasonal difference in the respective food-supplies?—or, in fact, with any effective factor under present circumstances? In absence of any evidence of present causes of present difference we must presume that the latter is related to divergence (climatic?) in the respective ancestral conditions of the species. Through selection or other moulding force an adjustment of the present nesting-period to the present seasonal conditions will evolve; but since adaptation is purely relative, different species will have reached varying adaptive stages; and so far as this is so, it is unreasonable to expect that all seasonal functional phenomena are adapted in equal and absolute relativity, and run completely parallel, to present environmental seasonal conditions.

But although present functional adjustment to present seasonal phenomena may be to some extent, and in varying degrees, modified or deflected by functional survivals of adjustment to past conditions, yet no doubt an explanation of seasonal succession must be sought in the main in present conditions of existence. Alike to illustrate the factors determining such succession, and to explain the presumably related phenomenon of variation within the species, statistical comparison is desirable. The biometrical method is applicable not less to function than to structure.

SUMMARY.

While the composition of a country's avifauna is, in one sense, directly related to the present and former configuration of land-masses, the form of its dispersal within the area is immediately attributable to the environmental control. Such being so, a systematic presentation of the facts from the environmental side is essential to a full illustration of the whole subject of geographical distribution.

The origin of the environmental bias, which is essentially the immediate link attaching the species to its present habitat, must be sought in the past environmental relations of the race; it is literally or metaphorically the expression in the individual of the sum of racial experience. As such, its present strength is related to the endurance of ancestral experience plus the relative constancy or uniformity of

the racial environment—which latter the bird may be said to inherit.

The individual species depends for its existence upon the local supply of certain environmental units; and since the conjunction of these is indispensable, dispersal and population will be directly controlled by that essential which is locally least efficient in supply; that is to say, such environmental unit will assume the position of limiting factor in distribution. But the relative limiting influence of external factors in distribution is ultimately in considerable degree referable to a corresponding functional power of adjustment in the species. There is reason to believe that the non-plasticity and conservatism of the group of activities surrounding reproduction, extend to the environmental adjustments linked with the reproductive period. But whatever the origin of the tendency, if it be in fact true that the breeding-environment is relatively specialized; that is to say, if the environmental adjustments of the reproductive group of activities are confined within relatively narrow limits—then the breeding-ground requirements will limit distribution proportionately. In cases where the habitat to which breeding is confined is in type more uniform than is the total range of the species, the former may be regarded as the more primitive environment—a conclusion also suggested by the probability that the recapitulation of racial structural history appearing in the development of the individual will be accompanied by a correlated racial environmental history reaching functional expression in the individual life-history. The sequence of environmental adjustment in the individual should illustrate approximately the sequence of adjustment in the race.

The strength of the correlation between bird-distribution and that of vegetation-type is shown by the fact that the breeding-avifaunas supported by different plant-associations are related to one another in parallel degree as are the latter. Such correspondence in distribution between birds (in the nesting-season) and vegetation is probably more complete than is that between bird-distribution and food-supply—that is to say, to take an illustration: the distribution of moorland birds at that season is not co-extensive with the food-supply beyond moorland limits, although an available food-supply (presumably) exists beyond such limits. Such environmental restriction during the nesting-season is apparently attributable to the environmental conservatism of the reproductive and related activities.

The efficient causes of separation between bird-groups in this country are less geographical than ecological ; the specific environment is the true "faunal-area." The group of species attached to a specific habitat compose an association, the units of which are primarily inter-related through the connecting-link of a common environment. The manner of dispersal within the association is affected in varying degrees by the inter-relations of the associates. Otherwise, it is ruled by the quantitative relation between food-supply and nesting-ground. A localisation of the latter, together with a relatively wide-spread or abundant food-supply, is one factor leading towards social nesting.

The aims of the bird-ecologist in this country might be in some degree summed up as : *firstly*, by working backwards from analysis of the remaining representatives of primitive ground, to reconstruct the original aspect of the avifauna ; to follow the faunal changes induced by the direct and indirect influence of man ; and to trace the genetic relation between the avifaunas of "natural" and "artificial" areas ; and *secondly*, to reach through statistical method and comparison a valuation of present structural and functional environmental links and factors.

In botany the ecological method has already justified itself. If it be sound in botany it must be equally applicable to zoology. Analysis of the environmental control is, in fact, an indispensable aid towards a full conception of the phenomena and causes of geographical distribution. That in birds the problems are exceptionally intricate should only serve to render the subject the more attractive.

RECOVERY OF MARKED BIRDS.

THE following have kindly sent in subscriptions towards the expenses of the Marking Scheme since the last acknowledgment was made: Messrs. A. W. Boyd, A. Broomfield, Miller Christy, T. A. Coward, W. Davies, A. H. Greg, Miss M. H. Greg, Major-General V. Hatton, Miss S. Mounsey Heysham, Messrs. E. W. Hendy, T. C. Hobbs, Miss M. Logan Home, Messrs. R. E. Knowles, A. Mayall, Captain W. F. Mackenzie, Mr. W. S. Medlicott, Dr. H. J. Moon, Messrs. J. H. Owen, and A. T. Wallis.

STARLING (*Sturnus v. vulgaris*).—15492, adult, marked by Mr. R. O. Blyth at Skelmorlie, Ayrshire, on Jan. 27th, 1912. Reported by Dr. Currie at the same place about May 21st, 1914.

43750, adult, marked by Mr. C. H. Braid at the Mull of Galloway Lighthouse, Wigtownshire, on Feb. 26th, 1914. Reported by Mr. M. McLean at Strathaven, Lanarkshire, at the beginning of April, 1914.

43746, adult, marked as 43750. Reported by Miss M. Loughin at Andreas, Isle of Man, on May 24th, 1914.

46005, adult, marked by Mr. T. C. Hobbs at Gosforth, Northumberland, on Oct. 26th, 1913. Reported by Mr. J. N. Fletcher at the same place on April 28th, 1914.

46859, marked as 46005 on Dec. 29th, 1913. Reported by Mr. F. H. Holford on June 7th, 1914, at the same place.

K902, nestling, marked by Dr. N. F. Ticehurst at Huntbourne, Tenterden, Kent, on May 18th, 1913. Recovered while building in barn at same place in April, 1914.

7109, adult female, marked as K902 while sitting in nesting box 57 on May 20th, 1911. Recovered sitting on eggs in same box on April 26th, 1914. This is the same bird that was caught on the nest in the same box on the following dates:—April 21st and June 6th, 1912, and May 4th, 1913 (*cf.* Vol. VI., p. 338, and Vol. VII., p. 9).

40140, adult female sitting in Box K, marked as K902 on April 27th, 1913. Recovered sitting on eggs in same box on April 26th, 1914.

5296, nestling, marked as K902 on May 24th, 1911. Recovered as an adult female sitting on eggs in Box H on April 26th, 1914.

GREENFINCH (*Chloris ch. chloris*).—R382, nestling marked by Dr. H. J. Moon at the Fylde, Lancashire, on July 2nd, 1913. Reported by Mr. J. Cardwell at Little Marton, near St. Annes-on-Sea, Lancashire, on May 10th, 1914.

MEADOW-PIBIT (*Anthus pratensis*).—0158, nestling, marked by Dr. H. J. Moon between Lytham and St. Annes-on-Sea, Lancashire, on May 22nd, 1913. Reported by Miss K. Merrill at St. Annes-on-Sea on April 17th, 1914.

GREAT TIT (*Parus m. newtoni*).—J389, nestling, marked by Mr. J. R. B. Masefield at Rosehill, Cheadle, Staffordshire, on May 30th, 1912. Found with a nest of ten young ones about a mile away on May 31st, 1914.

BRITISH SONG-THRUSH (*Turdus p. clarkei*).—15483, adult, marked by Mr. R. O. Blyth at Skelmorlie, Ayrshire, on Jan. 13th, 1912.

- Recaptured at the same place on June 11th, 1914. Ring replaced and bird released.
- 42095, nestling, marked by Dr. H. J. Moon at the Fylde, Lancashire, on May 12th, 1913. Reported by Mr. J. J. Ball at St. Annes-on-Sea in March, 1914.
- 45029, marked as 42095 on June 22nd, 1913. Reported by Mr. R. Cardwell at Great Marton, Blackpool, Lancashire, on May 9th, 1914.
- BLACKBIRD** (*Turdus m. merula*).—5541, adult, marked by Dr. H. J. Moon at the Fylde, Lancashire, on Nov. 26th, 1912. Reported by Mr. H. Gillett at Lytham, Lancashire, on May 7th, 1914.
- 0337, nestling, marked by Mr. J. Bartholomew at Kinnelhead, Dumfriesshire, on May 14th, 1913. Reported by Mr. J. C. Wallace at Moffat, Dumfriesshire, on May 7th, 1914.
- 41676, nestling, marked by Mr. A. Mayall near Shrewsbury, Shropshire, on June 10th, 1913. Reported by Archdeacon C. B. Maude at Shrewsbury on June 6th, 1914.
- HEDGE-SPARROW** (*Prunella m. occidentalis*).—F830, nestling, marked by Mr. A. B. Fletcher at Bradfield, Berkshire, on May 13th, 1912. Reported by Miss S. Fisher at Bradfield on May 18th, 1914.
- L823, adult, marked by Mr. A. W. Boyd at Altrincham, Cheshire, on Feb. 23rd, 1913. Recaptured at same place on Feb. 14th, and Mar. 8th and 17th, 1914. Ring replaced and bird released.
- SWALLOW** (*Chelidon r. rustica*).—R667, nestling, marked by Mr. J. R. B. Masefield at Cheadle, Staffordshire, on June 24th, 1913. Recaptured about one mile away on June 2nd, 1914. Ring replaced and bird released.
- BARN-OWL** (*Tyto a. alba*).—33194, nestling, marked by Miss C. M. Acland at Coulsdon, Surrey, on June 2nd, 1912. Reported by Miss Acland within two miles of where ringed in December, 1913.
- SPARROW-HAWK** (*Accipiter n. nisus*).—44177, nestling, marked by Mr. W. Graham Kerr at Golspie, Sutherland, on June 18th, 1913. Reported by Mr. J. Cameron at The Mound, Sutherlandshire, on May 27th, 1914.
- MALLARD** (*Anas p. platyrhyncha*).—33037, adult, marked by Mr. E. de Hamel at Tamworth, Warwickshire, on April 4th, 1913. Recovered at the same place on Dec. 13th, 1913.
- CORMORANT** (*Phalacrocorax c. carbo*).—100596, nestling, marked by Mr. R. M. Barrington at Saltee Islands, co. Wexford, on June 8th, 1913. Reported by Mr. J. Pool at Woodstown Weir, co. Waterford, on June 9th, 1914.
- SHAG** (*Ph. g. graculus*).—50757, nestling, marked as 100596 on June 19th, 1913. Reported by Mr. J. S. Jensen at Valentia Harbour, co. Kerry, on April 16th, 1914.
- DUNLIN** (*Erolia a. alpina*).—44883, nestling, marked by Mr. A. W. Boyd near Diggle, west Yorkshire, on June 5th, 1913. Reported by M. F. Zimmermann at Port Louis, near Lorient (Morbihan), France, on May 10th, 1914.
- COMMON CURLEW** (*Numenius a. arquata*).—28020, nestling, marked by Mr. H. S. Gladstone at Cleuchhead, Dumfriesshire, on July 19th, 1912. Reported by Mr. J. Currie at Moniaive, Glencairn, Dumfriesshire, on May 1st, 1914.

WOODCOCK (*Scolopax rusticola*).—16969, nestling, marked by Mr. J. H. Milne-Home at Canonbie, Dumfriesshire, on May 2nd, 1913. Recovered at Rowanburnfoot, Dumfriesshire, on Oct. 11th, 1913. 16972, nestling, marked as 16969 on May 7th, 1913. Recovered at Burnside, Dumfriesshire, on Dec. 12th, 1913.

COMMON GULL (*Larus c. canus*).—21903, nestling, marked by the late Mr. W. I. Beaumont in Kerrera Sound, Argyllshire, on June 12th, 1911. Reported by Mr. A. Stewart between Connel and Oban, Argyllshire, on April 27th, 1914.

LESSER BLACK-BACKED GULL (*Larus f. affinis*).—33885, nestling, marked by Miss A. Pease at the Farne Islands, Northumberland, on Aug. 2nd, 1913. Reported by Mr. M. W. Robson at the same place (found dead) on May 12th, 1914.

NOTES

THE LAND-RAIL INQUIRY.

MR. H. G. ALEXANDER, who has very kindly undertaken to work out the results of this inquiry, asks us to state that he will be glad of any information regarding the past and present status of the Land-Rail, from anyone who has not already sent in a schedule. All readers, therefore, who have not already given information, are particularly requested to apply for schedules direct to Mr. Alexander at 3, Mayfield Road, Tunbridge Wells.—Eds.

NOTES ON EARLY NESTING.

I VENTURE to think that it may be of interest to record the exceptionally early laying of some of the birds in south-east Devon this year. Of eight nests of the Goldfinch (*Carduelis c. britannicus*) which have come under my notice, one held a complete clutch of five eggs on April 30th: from two, the young birds flew on May 29th, and the last of the five hatched on May 28th. On May 22nd I found a nest of well-feathered young Swallows (*Chelidon r. rustica*), and the birds flew on May 30th; and a House-Martin's nest, destroyed accidentally on May 28th, contained four eggs in an advanced stage of incubation. A nest of the Blackcap (*Sylvia a. atricapilla*) contained four eggs on May 3rd, and young Tree-Sparrows (*Passer m. montanus*) were ready to fly; while House-Sparrows (*Passer d. domesticus*), on the contrary, had only just commenced to lay by May 25th. LEWIS R. W. LOYD.

[Though unusually early, the above dates for Goldfinches' nests are by no means the earliest on record, for Mr. C. Borrer mentions a nest in west Suffolk which contained three eggs on April 13th, 1912 (*Brit. Birds*, VI., p. 254). The Swallows were also unusually early, but in the early season of 1912 eggs were recorded even from Cumberland as early as May 7th (*Bull. B.O.C.*, Vol. XXXII., p. 117). For notes on Blackcap, see *antea*, p. 16. Under natural conditions the House-Sparrow is generally rather a late breeder.—F. C. R. JOURDAIN.]

I FOUND the nest of a Chiffchaff (*Phylloscopus c. collybita*) apparently completed at Basildon, Berkshire, on April 19th, 1914, and a nest with one egg at Cromhall, Gloucestershire,

on April 23rd, 1894. In Maidenhead Thicket, on May 17th, 1914, I found the nest of a Blackcap (*Sylvia a. atricapilla*) with young, which I judged from touch—the nest was in briars above my head—to be four or five days old. I did not discover how many there were, but laying must have been completed by about the end of April. I found the nest of a Land-Rail (*Crex crex*) with eleven eggs at Llangadfan, Montgomeryshire, on May 10th; the first egg would have been laid on April 30th. The fine, hot weather in the second half of April seems to have made the migrant birds begin nesting very soon after arrival, as was the case to a greater extent in the famous sunny year of 1893. In that year, at Cromhall, Gloucestershire, I found the first Whitethroat's egg on April 26th, and the first Nightingale's on April 30th; the Chiffchaff also laid some days before the end of the month. On April 13th, 1902, I found a Stone-Curlew's nest with one egg, on the Berkshire Downs.

A. COLLETT.

[The dates of nesting for Chiffchaff and Blackcap are both remarkably early, and should be compared with previous notes on this subject (*antea*, p. 16). The date for a full clutch of Land-Rail is earlier than any of which I have records, though Mr. W. Farren has met with a full clutch in Cambridgeshire on May 15th. The date for the first egg of the Stone-Curlew is also five days earlier than the usual time for the first laid eggs in the south of England. Whitethroats and Nightingales very rarely begin to lay before the beginning of May.—F. C. R. JOURDAIN.]

COCK SPARROW ASSISTING TO INCUBATE.

LAST year I found a cock House-Sparrow (*Passer d. domesticus*) assisting to incubate, as already recorded (Vol. VII., p. 52). This year several of my nesting-boxes were taken by House-Sparrows, and I frequently put the cock bird off during incubation. I caught the cock sitting on one nest (May 8th) and dissected him to make doubly certain. I think the cock only takes part in the work during the day-time, and then only to a limited extent.

J. H. OWEN.

INCURSION OF WAXWINGS.

BEDFORDSHIRE.—One between Markyate and Dunstable on April 15th, 1914 (W. Rowan).

LANCASHIRE.—Two in a garden at Mariebourne, Wigan, for several days in March (J. Few).

LESSER WHITETHROAT AND NUTHATCH
IN ANGLESEY.

ON May 17th, 1914, my brother and I heard and saw a Lesser Whitethroat (*Sylvia c. curruca*) in a garden on the south shore of Red Wharf Bay on the east coast.

On the same date we both watched for some minutes a solitary Nuthatch (*Sitta e. britannica*) in an oak tree, between Beaumaris and Llanfaes. Apparently this is the second instance of the occurrence of this species on the island.

RICHARD W. JONES.

SHORT INTERVAL BETWEEN TWO NESTS OF ROBIN.

IN an outhouse at the Junior School, Felsted, Essex, four disused leather horse-shoes were hanging from a nail in the wall. In February a pair of Robins (*Dandalus r. melophilus*) took possession of one of these, and the first egg was laid on March 10th. In due course the eggs hatched out, but too frequent inspection at this period by the small boys caused the birds to desert. The Robins then nested in a ditch not many yards away, and reared a brood. After that they came back and made use of another horse-shoe. The young birds left this on June 10th. I watched carefully the last day or two the young were in the nest, and could only detect one bird feeding the young. Another bird, which I thought to be the male of the pair, seemed not to take the least interest in the young. He spent his time in singing in a tree by the door and in building a nest in the third horse-shoe. It may be mentioned that the third and fourth shoes had been separated from the others in April and placed on the opposite side of the room. When the young left the nest in the second shoe, the nest in the third shoe had been lined ready for use. There was also a small amount of nesting material in the fourth shoe. On June 19th the nest in the third shoe contained four eggs and incubation commenced. For two pairs of Robins to build in the same small room would seem very extraordinary; on the other hand if, as I consider, the two last nests belonged to one pair, the interval between the fledging of the brood and the laying of the other set of eggs was remarkably short.

J. H. OWEN.

ALPINE SWIFTS IN SUSSEX.

IN the early part of June, 1914, a couple of Alpine Swifts (*Apus m. melba*) were noticed flying in company with common Swifts at Winchelsea, Sussex, the white under-parts being very conspicuous as the birds were flying low at this period.

I saw one soon after it had been shot, on June 10th, which proved to be a female; the other was shot on June 14th, but I did not see it as the man who obtained it thought he would not trouble me.

Although I had been waiting to get information about the second bird, it was not until to-day (June 22nd), upon making inquiries, that I found it had been obtained. I understand it was a male.

H. W. FORD-LINDSAY.

NESTING-HABITS OF WOODPECKERS.

IN BRITISH BIRDS, Vol. V., p. 137, I stated that a nest of the Great Spotted Woodpecker (*Dryobates m. anglicus*) and a nest of the Green Woodpecker (*Picus v. pluvius*), which I opened after the young had left in 1911, were very foul. This was due, I think, in each case to one or more young having died in the holes. The old birds had been unable to eject the dead, and this had been the primary cause of the foulness. I have since then opened holes when the birds have been sitting, during the nestling period, and also after the young have flown, and have always found the nests very clean (but with a rather disagreeable smell), except when a young one has died and not been ejected. I have been unable, in the course of several long watches, to see any dung carried away by the old birds. As I have always found the cup clean, and the dung is not ejected by the young themselves when they are old enough to climb to the entrance, as in the case of the Starling, this would indicate that the parents swallow it, though I am by no means certain of this. This year I opened a Great Spotted Woodpecker's entrance a little when the young were about twelve days old. A day or two later two died and were cast out by the parents, I presume because the enlarging of the entrance made it possible for them to do so. It is also noticeable that one young one, at least, is usually considerably behind the rest in development, which suggests that incubation commences before the last egg has been laid.

J. H. OWEN.

NESTLING CUCKOO EJECTING TWO EGGS AT ONCE.

ON June 16th, 1914, I was watching a nestling Cuckoo (*Cuculus c. canorus*) turning the eggs out of a Sedge-Warbler's nest. At one attempt it got two eggs behind it and successfully hoisted them over the brim. This is the only occasion on which I have seen two eggs ejected at once, although I have been witness of many ejections.

J. H. OWEN.

CLUTCHES OF FIVE EGGS OF PEREGRINE FALCON.

With reference to the set of five eggs of the Peregrine Falcon (*Falco p. peregrinus*), mentioned by Mr. Jourdain (*supra*, p. 26) as having been taken by me in south Wales, I can now add another record of a set of five also found in south Wales. My friend, Commander R. E. Vaughan, R.N., took three infertile eggs at the end of May, 1910, from a nest which also contained two young birds. It seems curious that so many eggs in the set should have been infertile.

W. M. CONGREVE.

CORMORANTS NESTING IN NORFOLK.

At the present time (June 18th, 1914) a pair of Cormorants (*Phalacrocorax c. carbo*) are nesting in a lake of Lord Hastings', in Norfolk, on a large alder tree growing upon an island in the lake. The nest, which is an old Heron's nest, repaired and enlarged, is too high up to see how many eggs it contains, but the old bird sits close as if she was not far off hatching. A small settlement of Cormorants used to breed at Fritton, in Suffolk, but it is a great many years since this species has nested in Norfolk.

J. H. GURNEY.

ASIATIC GOLDEN PLOVERS IN SUSSEX.

On April 23rd, 1914, a party of five or six birds of this species appeared on Wartling Marsh, near Hurstmonceux, of which three were shot (one male and two females) and sent to Mr. George Bristow (taxidermist, of Silchester Road, St. Leonards-on-Sea), who brought me up one of the birds in the flesh for the purpose of identification. It had all the appearance of being just recently killed. I could not, however, be certain whether it was a specimen of *Charadrius d. fulvus* or of *Ch. d. dominicus*, the American Golden Plover. I forwarded the bird to Mr. W. R. Ogilvie-Grant of the British Museum (Natural History Department), who kindly identified it for me, and wrote that "the bird appears to be without doubt the Eastern Asiatic Plover, *Ch. fulvus*."

In the *Hand-List of British Birds* mention is made of but two or three examples in Great Britain, none of which were obtained in Sussex.

THOMAS PARKIN.

SANDWICH TERNS IN DENBIGHSHIRE.

As there appears to be no record of the occurrence of the Sandwich Tern (*Sterna s. sandvicensis*) in Denbighshire, it may be worth noting that I watched two on May 25th, 1914, fishing in Colwyn Bay, in company with three Roseate Terns (*S. d. dougallii*).

RICHARD W. JONES.

LITTLE GULL IN STAFFORDSHIRE.

It is only within the last few weeks that I heard of the first definite occurrence of a Little Gull (*Larus minutus*) in Staffordshire, and last week I saw the bird itself in Birmingham. It is an adult female in winter-plumage, and was shot near Chasetown on December 2nd, 1911. Dr. MacAldowie, in his *Birds of Staffordshire*, says, "has been shot on the Trent in several places near Burton (Edwin Brown)," but it is doubtful if these occurrences were not in Derbyshire.

JOHN R. B. MASEFIELD.

ERYTHRISTIC EGGS OF BLACK-HEADED GULL.

WHEN looking over the notes on erythristic eggs of the Black-headed Gull (*antea*, Vol. VII., p. 256), I was reminded of a specimen in my collection taken some years ago in the neighbourhood of Golspie, though the exact date was not ascertained.

It is similar to those in the Dunrobin Museum, which were shown to me by the Rev. Dr. Joass. T. H. NELSON.

ICELAND GULL IN KENT.

ON March 16th, 1914, whilst staying at Dungeness, Kent, I had an excellent view of an Iceland Gull (*Larus leucopterus*) in adult plumage. A violent gale was blowing all the morning, and a great deal of refuse was thrown up by the tide all along the beach. When the tide turned soon after midday, great numbers of Gulls came to feed, and whilst I was watching them from the window of Mr. Austen's bungalow, I noticed this beautiful white-winged Gull amongst the crowd of Herring-, Black-headed and other species, not more than a hundred yards away. I watched it feeding for half an hour or so, but after that, the tide being lower, it went further down the shingle and was no longer visible from the window. About six o'clock, when the wind fell, I went out on to the shore, but I could not see the Iceland Gull any more. Most of the Gulls were then out on the water. Mr. Austen, the watcher, who saw the bird with me, said it had been about all the winter, and added that he had seen single birds in other winters. Presumably this bird spent most of its time out at sea, and was driven to land for shelter from the storm.

When Dr. N. F. Ticehurst published his *History of the Birds of Kent* in 1909, he was unable to give any definite record of this species in the county. H. G. ALEXANDER.

“RINGED” GUILLEMOT IN ANGLESEY.

As Mr. H. E. Forrest in his *Fauna of North Wales*, p. 397, states that the “ringed” variety of the Common Guillemot (*Uria t. troille*) is rarely met with in North Wales, and as the bird appears to be almost unknown in the Principality in the breeding-season, it may interest your readers to know that on May 22nd, 1914, my brother and I obtained an exceptionally good view of one which was resting in a fissure in the cliff-face opposite the South Stack lighthouse, near Holyhead. So far as we could discover all the other Guillemots (of which we saw between two and three hundred), were of the ordinary form.

RICHARD W. JONES.

MOORHEN COVERING EGGS.

It has been stated that Moorhens (*Gallinula ch. chloropus*) never cover the eggs with intent to hide them. This is not altogether true, as I have seen cases where the covering must have been put on the eggs with this object. For example, on April 22nd, 1914, I found a Moorhen's nest on an island in Halston lake, near Whittington, Shropshire. This nest was on the ground at the foot of a large beech some six or eight yards from the water. The site is that of a Mallard's nest, and a few sticks were placed sloping against the tree by the keepers to make the place less open. The nest contained six eggs and was so covered with leaves that I thought a Pheasant or Duck was using the place, and was greatly surprised to see Moorhen's eggs in such a place and so well covered.

J. H. OWEN.

BIRDS IN NORFOLK IN 1913.—From Mr. J. H. Gurney's usual annual report on the ornithology of Norfolk for 1913 (*Zool.*, 1914, pp. 161-182) we take the following items of interest:—

ORTOLAN BUNTING (*Emberiza hortulana*).—An adult male was taken at Yarmouth on April 28th, and three or four were seen on September 2nd, at Blakeney.

SPOONBILL (*Platalea l. leucorodia*).—Between May 1st and August 16th, Spoonbills were seen on Breydon on twenty-six days. The longest period during which they were not seen was from May 29th to June 11th, and the largest number seen together was four.

[NIGHT-HERON (*Nycticorax n. nycticorax*).—One reported to be on Holkham Lake on May 16th.]

BITTERN (*Botaurus s. stellaris*).—Although it is not recorded that either nest or young were found, it is almost certain that the Bittern again bred, as it was heard by Mr. Gurney on May 8th, and seen by him on June 20th.

REDSHANK (*Tringa totanus*).—An egg placed under a hen by Mr. G. H. Gurney hatched in twenty-four or five days.

COMMON CURLEW (*Numenius a. arquata*).—A nest was again found near King's Lynn by Mr. N. Tracy and four young were hatched.

ROSEATE TERNS (*Sterna d. dougallii*).—A pair were identified at Blakeney on June 24th, but there is apparently no proof that they were nesting. The photograph reproduced on page 175 and labelled Lesser Tern, appears to be that of a Common Tern.

BLACK-HEADED BUNTINGS IN YORKSHIRE AND SUSSEX.—At the meeting of the British Ornithologists' Club, held on May 13th, 1914, Mr. A. F. Griffith exhibited an adult male *Emberiza melanocephala* which had been caught near Halifax (Yorkshire) in December, 1910, and kept in an aviary by Major Johnson, of Hove, until May, 1912, when it was killed by a Corn-Bunting. Mr. Griffith also exhibited a second adult male of the same species which had been shot at Battle (Sussex) in the first week of April, 1912. Both specimens have been presented to the Booth Museum (*cf. Bull. B.O.C.*, XXXIII., pp. 133-4).

PIED FLYCATCHER IN CO. CORK.—Mr. R. M. Barrington notes (*Irish Nat.*, 1914, p. 148) that a male *Muscicapa h. hypoleuca* was taken at the Ballycottin Lighthouse and received by him in the flesh on April 19th, 1914.

WHITE'S THRUSH IN SUSSEX.—At the May meeting of the British Ornithologists' Club, Mr. A. F. Griffith exhibited a specimen of *Turdus d. aureus*, which had been picked up dead in a garden at Hove, Sussex, on September 26th, 1898. Mr. Griffith himself inspected the bird in the flesh at the time. It was recently presented to the Booth Museum.

INCREASE OF GANNETS AT LITTLE SKELLIG (KERRY).—Mr. McGinley, lightkeeper, informs Mr. Barrington (*Irish Nat.*, 1914, p. 134) that the Gannets on the Little Skellig are becoming more numerous every year, and have now extended to the south-west side. This would appear to be now the largest single colony of *Sula bassana* in the world.

FURTHER INCREASE OF FULMAR PETRELS IN IRELAND.—Mr. R. M. Barrington announces (*Irish Nat.*, 1914, p. 133) that Mr. P. J. McGinley, lightkeeper on the Great Skellig (Kerry), writing on March 16th, 1914, states that the Fulmars (*Fulmarus g. glacialis*) arrived there this year on February 20th, and that the colony now amounts to more than seventy birds. The discovery of this colony was first announced by Mr. Barrington in 1913 (*antea*, Vol. VII., p. 56), when the number of birds breeding was stated to be twenty-four. The first Irish colony discovered was that at Horn Head (Donegal) originally announced as an "Ulster Cliff." Mr. Barrington states that this colony was first discovered by Mr. G. V. Stoney in April, 1910. In May, 1911, there were about twenty birds there, but in June, 1913, Mr. Barrington found about seventy pairs. The second colony was also first discovered by Mr. Stoney, who received two eggs from the Stags of Broadhaven (Mayo) in May, 1911. In July, 1911, the late Richard Ussher discovered near Portacloy (almost opposite the Stags of Broadhaven), another colony, and made the first announcement of the fact that Fulmars were breeding in Ireland. The fourth colony to be discovered was the one on the Great Skellig mentioned above, and the fifth one on Tory Island (Donegal) as recorded by R. J. Ussher in 1913 (*cf.* Vol. VII., p. 175).

SANDWICH TERN BREEDING IN JERSEY.—Mr. G. F. B. de Gruchy records (*Field*, 20.VI.14, p. 1329) that on June 7th, 1914, he found two nests with eggs of *Sterna s. sandvicensis* on an islet off Jersey.

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MALE AVOCET PREPARING TO SETTLE ON EGGS. FEMALE GOING OFF TO FEED.
(*Photographed by Miss M. G. S. Best.*)

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EDITED BY H. F. WITHERBY, F.Z.S., M.B.O.U.

ASSISTED BY

REV. F. C. R. JOURDAIN, M.A., M.B.O.U., AND NORMAN F.

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NOTES ON BREEDING-HABITS OF AVOCETS.

BY

MARY G. S. BEST.

(PLATE 2.)

IN the middle of May, 1914, I spent a few days in a duck-decoy situated on one of the saltmarshes in the west of Holland. I found the nesting-season in full



AVOCET APPROACHING NEST.

(*Photographed by Miss M. G. S. Best.*)

swing when I arrived. Only a few of the earlier broods had hatched off and of these there were very few survivors, as the weather for a month previously having been unusually dry, the mud was too hard for the soft bills of the young birds, and they had died of starvation: also, the keeper said, the water in the ditches and decoy-pond was too salt for the little birds, as there had been no rain for some time. In the decoy we found several ducklings which appeared to have died

from this cause, as there were no marks of violence upon them.

Only one couple of little Avocets were running about under the bank of a big drain, their covering of down being of so light a buff that it might almost have been white, their long black bills even at that early stage showing the upward curve of those of the mature birds.



AVOCET TURNING HER EGGS BEFORE SETTLING DOWN ON THEM.
(*Photographed by Miss M. G. S. Best.*)

The nesting Avocets were easy birds to photograph, and returned quickly to their eggs after being disturbed—the only exception I noticed being one bird not very far from a Tern's nest, which fled from her eggs on the slightest alarm and remained in the distance calling in an agitated way.

The bird I photographed alighted at a little distance behind the nest, and approached warily, calling as she came, pausing every few steps to jerk her head and body, much in the same way that a Redshank does,

and at the same time to shake each foot quickly as she raised it from the ground.

Avocets seem to be very restless sitters—always on the move, walking from the nest a few feet to peck at the mud or to preen themselves, giving one the impression that their long legs become cramped when folded under the bird for any length of time. These



MALE AVOCET APPROACHING FEMALE ON NEST.
(*Photographed by Miss M. G. S. Best.*)

observations were made as much from other nesting pairs within easy distance of my hide as from the pair immediately in front of me.

The absent mate returned generally within an hour of his departure and changed places, flying down to the ground a few yards away and calling loudly as he advanced, which call was answered by the bird on the nest. She waited till he was close to her before standing up, then they both looked at the eggs, making at the

same time a contented crooning note; the new arrival then settled himself down, while she moved off a little way, feeding and stretching herself.

The bird off duty was seldom far away from its nest on these marshes, as there were so many nests of different birds breeding close together that the non-sitter was generally fiercely protecting its mate and eggs.



ALARMED. "Kluit! Kluit!"
(*Photographed by Miss M. G. S. Best.*)

When the Avocets were trying to decoy one away from their nest, they ran in a crouching attitude, rolling somewhat from side to side, head stretched out and tail spread, wings held on a level with the back, but bent from the metacarpal joint so that the primaries often brushed the ground.

I saw some of these birds one day when it was blowing a gale of wind. They were nearly blown over, and

probably owing to the wind getting underneath their wings, when running into the wind, they held their wings stretched to their full extent straight up over their backs, but half furled them again directly they altered their direction.

The Black-headed Gulls went out of the way to be annoying to their neighbours, but when it came to a fight they were not in it with the Avocets, which flew at them and struck with either wings or feet, the long bill being, perhaps, too flexible to be used as a weapon of attack.

When they were feeding in soft mud, the Avocets waded quickly along, using the bill with a sweeping, sideways motion, not using the point except to pick up things on dry ground.

RINGING BIRDS IN HUNGARY.

A NEW AND VALUABLE METHOD.

BY

H. F. WITHERBY.

DURING a recent visit to Hungary I had the pleasure of inspecting, by the kindness of the Director, Herr Otto Herman, the Royal Hungarian Central Bureau for Ornithology.

This institution has done and is doing, as is well known, excellent biological work. It is now housed in a fine new building in Budapest, and has a most efficient staff.

I was particularly interested in the section devoted to the ringing of birds, which is under the control of Herr J. Schenk. Ringing was started in 1908, and from then until and including 1914 some twenty-four thousand birds have been marked. Most of these were ringed as nestlings, but recently a number of adults of certain species have been marked. The best results have been obtained from Storks, Herons, Waders, Gulls and Starlings, the percentage of recoveries in Storks, Herons and Gulls being from three to five, while in other species the recoveries have been from one to two per cent.

Herr Herman very kindly made arrangements for me to accompany Herr Schenk on one of the marking expeditions which he constantly makes. The first day we visited Lake Velence—a large, shallow, rush- and reed-grown lake not far from Budapest. Here, nestling Black-headed Gulls, Black Terns and Redshanks were ringed, as well as one or two Black-necked Grebes, which were exceedingly common but impossible to catch except when very young, and also two Pochard ducklings.

This lake, which is well known to several English ornithologists, is crowded with bird-life and is a most

fascinating spot to visit, especially in June when many young ones are hatched.

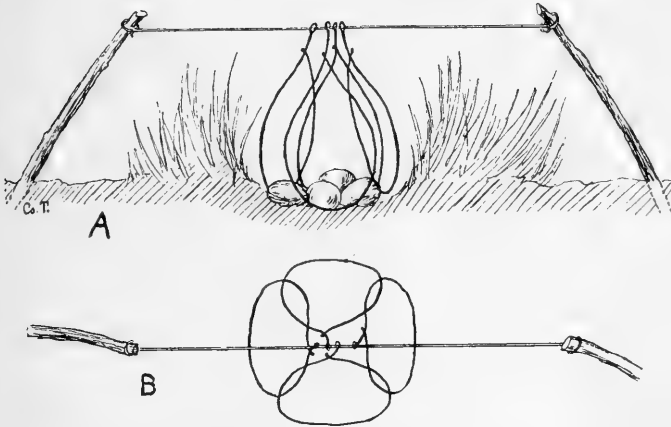
On the two following days we were at Ürbö where, on a great plain of rough grass, marsh and shallow rush-grown water, Black-tailed Godwits, Ruffs, Redshanks, Lapwings, Kentish Plovers, Black Terns and other birds were nesting.

Here Herr Schenk introduced me to a method of marking birds which was quite new to me, viz. by snaring the birds at the nest. I had often wished that we might be able to do this because it should lead to results very difficult to arrive at by other means. With our present methods we are unable to obtain a sufficient series of facts to show whether the larger birds nest year after year in the same place, and when and where the young breed. The last point is no doubt the more important as it bears directly on the question of how birds become distributed, and if sufficient facts could be collected by snaring and ringing combined much light might be thrown on such difficult questions as range extension and the way in which birds choose their breeding-places. Take, for instance, the case of the Black-headed Gull, of which we have ringed many thousands of young ones, unfortunately we have very few records to show when and where these young ones breed, and if we could snare the nesting-birds at a number of colonies on a large scale we should no doubt catch some of our ringed birds and thus obtain some very useful facts.

Herr Schenk has used this method successfully in Lapwing, Black-tailed Godwit, Redshank, Reeve and Black Tern, during the last three seasons. Most of the birds so caught do not desert their nests—the same Redshank, for instance, has been repeatedly caught on the same nest; some, however, desert the nest but breed again in the same season, so that this would do no harm in common species.

As to results, Herr Schenk has not yet gone far enough to get many recoveries, but in the second year he caught three birds which he had snared and ringed in the same place the year before, and in the third year he caught eight ringed birds.

Although he has ringed many young, he has not yet caught one of them as a breeding-bird in a subsequent year, but it is only since 1912 that he has been ringing



SHOWING METHOD OF SETTING SNARE.

A.—Side-view. B.—From above.

in this locality, and it is probable that most waders do not breed in their first year.

The snare itself consists of two pieces of stick, one end of each being sharpened to enable its being pushed into the ground. The length of the sticks may vary according to the nature of the ground and the site and height of the nest. They are connected together by a piece of string about fifteen inches long, tied firmly to the top of each stick. In the centre of the string four horse-hair nooses are fastened by means of slip knots. A noose consists of a strand of ten or twelve horse-hairs about fifteen inches long and fastened together by a knot at each end.

The sticks must be pushed firmly into the ground one on each side of the nest, so that the middle of the string is over the centre of the nest. When so fixed the string must be taut. The snares are then arranged in large loops reaching from the string to the nest, so that the eggs are completely surrounded and the bird cannot get to them without passing through one of the snares. How the snare should be set is very clearly shown in the accompanying drawings, which have been very kindly prepared for the purpose of explaining the method to English ornithologists by Herr Titus Csörgey, the Secretary of the Royal Hungarian Central Bureau for Ornithology.

Sometimes a bird will push aside the snares without being caught, in which case they must be readjusted. If there is a wind each snare should be fixed by stalks of grass or small twigs to prevent its being blown out of place. The places where the snares have been set must be carefully marked, and they must be visited every hour or two. If the weather is very hot the snares should be visited more frequently, as if a bird is left long in a snare in very hot weather it is likely to be suffocated. This, however, would seldom happen in this country, and Herr Schenk informs me that of two hundred birds snared this season only one—a Lapwing—has been killed.

I am afraid it is now too late to practise this method this year, but I hope that next year some of our "ringers" will take it up, and we may look forward to some interesting results. In any case, I am much indebted to Herr Herman and Herr Schenk for their kindness in giving me the opportunity of seeing this method worked, and of bringing it to the notice of the readers of *BRITISH BIRDS*.

NOTES

DESTRUCTION OF SEA-BIRDS IN A STORM AT TEESMOUTH.

NEVER within the memory of Cleveland residents has there been such a remarkable storm, nor one so disastrous to bird-life, as that which arose with startling suddenness, and swept over the Teesmouth, shortly after noon on



GULLS KILLED BY THE STORM: THERE WERE FORTY OR MORE
IN THIS SPOT.

(Photographed by Dr. A. S. Robinson.)

July 2nd, 1914. A vivid and alarming display of lightning heralded a cyclone of terrific violence, accompanied by a heavy fall of hail, with large lumps of clear ice, and it was afterwards found that great havoc had been wrought amongst the seabirds in the estuary, several hundreds being killed and washed up to high-tide mark.

On visiting the scene next day, my wife and I saw the bodies of gulls scattered in all directions, and counted upwards of three hundred within a distance of a quarter of a mile, near Redcar jetty, without taking into consideration those by the breakwater side. In some places

they were in groups of from six to twenty, or more, and others had been driven against the jetty, where they were partly buried in the sand. A bogey load had been taken away by workmen, and many wounded birds had sought refuge amongst blocks of slag, or had wandered to the river channel, where they were either caught by boys or carried off on the tide. Two or three adult Curlews and a Duck were picked up on the sands, and an adult Gannet was captured amongst the bents on the breakwater. I feel sure that if other three hundred be added to the numbers mentioned, this would form a very low estimate of the total casualties.

With the exception of a few Lesser Black-backed Gulls, the birds examined by my friends and myself were Common Gulls (*Larus canus*) and Black-headed Gulls (*L. ridibundus*), in the proportion of about three of the former to one of the latter. Most of the Common Gulls had a few immature feathers on the back and wings; nearly all *L. ridibundus* were in adult plumage. Almost all those I saw had broken wings or wounds on the head, and there can be no doubt that these injuries were caused by the large pieces of jagged ice driven by a furious gale. Several Black-headed Gulls were in a dazed condition, and weak on their legs, whilst the feet and legs of some dead birds were contracted and drawn up close to the body. A score or more of Gulls were skinned, and in every case there was evidence of serious injury from blows on the back, head, or wings. An adult Curlew had its skull fractured in two places, a broken wing, the neck damaged, and the tail completely shorn off.

An old wildfowler, whom I have known for many years, and on whose veracity I can rely, witnessed the whole occurrence. He tells me that when the storm was approaching, he saw a large assemblage of Gulls, regular frequenters of the Tees "slems," showing signs of uneasiness and screaming loudly in alarm, then rise in a body and make for the marsh; but before they got halfway across the sands the cyclone struck them, and they were lost to view. When the storm had passed the sands were strewn with dead Gulls, and dozens of wounded were helplessly struggling about. As my informant walked amongst them they showed no fear, evidently suffering from shock and buffeting by the wind and ice.

If I had not had ocular proof of the peculiar and tremendous force of the storm, I would hesitate to mention an almost incredible statement made by a resident at the

breakwater, who declares that he found some wounded Gulls actually held by one or both of their wings being embedded and driven into the sands by the ice, so rendering them powerless to escape. He released the unfortunates in such predicaments.

Three badly-stunned Black-headed Gulls were placed in my garden at Redcar on July 3rd. Next morning two had flown, and later in the afternoon the third one, whilst I was showing it to some visitors, got on the wing and flew off.

As regards the size of the pieces of ice which fell, I have the following reliable information. A master plumber and his men were doing some work in the "Look-out" near the fort on the breakwater, when a piece of ice shattered a large sheet of glass (26 ozs., as it is termed). One of the men picked up the piece of ice, and the master told me it measured over 3 in. in length by about $\frac{7}{8}$ in. in diameter. The men saw many more pieces of ice falling outside.

T. H. NELSON.

PIED WAGTAIL'S NEST BUILT IN MOVING RAILWAY TRUCK.

A RAILWAY truck was loaded with timber (larch trees) at Knighton in Radnorshire on May 1st, 1914, and left there the next day. The truck arrived at Birchenwood Colliery, north Staffordshire, on May 6th following, and was unloaded the same day. During the unloading of the timber a Pied Wagtail's nest containing two eggs was found on the top of the timber. The nest is described as made of dried grass and roots, with sheep's wool and pieces of ragged twine woven in—the lining was cowhair. I have seen the eggs and they are undoubtedly those of the Pied Wagtail. The only explanation appears to be that the birds commenced to build the nest immediately the timber was loaded in Radnorshire, and they must have followed the truck on its journey and completed the nest, and laid the eggs during transit. The nest appeared to be deserted when the truck arrived at its destination. I have verified the facts as far as I can, and believe them to be correct. I have heard of similar cases before.

JOHN R. B. MASEFIELD.

BREEDING-HABITS OF WILLOW-TIT IN KENT.

ON April 21st, 1914, a nest of a Willow-Tit was shown me in Cranbrook, Kent, by Mr. C. A. Winch and Mr. R. Watts. The hole was bored entirely by the birds in a

rotten willow-post in a fence. It then contained one egg. On May 3rd the nest contained nine eggs, and the bird was sitting. There were chips of wood on the ground, as well as in the nest, but the majority must have been carried away by the bird; the post contained also two broken-down nest-cavities of previous years. I sent one of the birds to



NESTING-HOLE OF WILLOW-TIT IN A POLE IN A HOP-GARDEN
IN KENT.

Mr. Witherby, who very kindly confirmed my identification.

The male took no part in incubation, but fed the hen on the nest; occasionally she left the nest at his call and was fed on a branch, returning to her duties immediately. I have noticed this also in the case of the Marsh-Tit. The food given proved to be small buds, which he searched for in the higher foliage of the willow-trees. The nest, which weighed as much as two sixpenny-pieces, contained no moss

and was lightly constructed of rabbit's hair mixed with down-feathers from a Mallard's nest and numerous fragments of decayed willow; the lumps of hair so characteristic of the nests of other Tits had been combed out and pulled to pieces by these birds.

On May 4th another Willow-Tit's nest was shown me in Cranbrook by Mr. A. A. Moore, about three miles from the other. It contained seven eggs, and the bird was sitting. One egg had been laid on the ground before the nest was completed. The nest was fifteen feet from the ground in a willow-pole supporting wirework in a hop-garden. The hole was bored by the birds; the inside wood was decayed, but the bark was still tough. It is remarkable that the bird should have found a suitable willow-pole among many hundreds of bare poles mostly of chestnut. About three feet from the ground, in the same post, there was a nest-cavity of a previous year of which the side had fallen away. The nest contained chips, and there were none on the ground, but as the hole was in an exposed position and high up they might have been scattered by wind. The nest contained no moss, but only narrow strips of wood and vegetable fibre threaded among soft fibres from a sack, with a little wool and a few small feathers, which altogether weighed as much as a sixpenny-piece. The entrance hole was an irregular circle, and the boring followed the line of the softest wood. The bark was removed beside the sitting bird and I noted the buff lines on the wing.

On May 10th I examined with Mr. J. Springett a nest of a Marsh-Tit (*Parus p. dresseri*) in my garden, built in a natural hole in a laurel stump. The nest-chamber was exceptionally small, but no attempt had been made to enlarge it. There were six eggs, indistinguishable from those of the Willow-Tit, and the bird was sitting. The nest weighed less than a sixpenny-piece and consisted of a felted layer of cat's and rabbit's hair without a particle of moss and no chips. We caught the bird on the nest and identified her.

I consider Marsh- and Willow-Tits very hard to distinguish with any degree of certainty in the field. The notes, perhaps, are the most satisfactory means when one has once learnt them. The nest-construction and nest-hole I place next. The buff edges to the secondary wing-feathers in the Willow-Tit are easily confused with lights reflected along the edges of the same feathers in the Marsh-Tit. The difference in the black of the head and shape of tail is not easy to see unless you have the two birds together.

As I have searched nearly every likely place in this and neighbouring parishes without further success, the Willow-Tit may be considered rare in this district.

ROBERT E. CHEESMAN.

WILLOW-TIT BREEDING IN CHESHIRE.

ON April 21st, 1914, I watched at close quarters a pair of Willow-Tits (*Parus a. kleinschmidti*) feeding in an oak at Dunham Woodhouses, Cheshire. I followed them to a large



NESTING-HOLE OF THE WILLOW-TIT.

(Photographed by H. H. Storey).

willow on the bank of the River Bollin, and found them at their nesting-hole in a rotten part of the tree. When I visited the place again on May 27th I found the birds busy feeding their young—almost entirely on small greenish-yellow grubs. On both dates they uttered almost perpetually a “chee” note, occasionally prefacing it with a few thin, sharp notes. I noticed that one of the birds was rather duller in appearance and browner on the crown than the other, though the brown-black colour of the cap was quite evident in both.

After the young had flown I examined the nesting-hole and nest: the hole opened almost immediately (in about two inches) into a practically circular cavity, which had evidently been hollowed out by the birds themselves, though I did not actually see them at work; the cavity was $6\frac{1}{4}$ inches deep, and about $5\frac{1}{4}$ inches across. The bottom of the cavity



WILLOW CONTAINING THE WILLOW-TIT'S NESTING-HOLE
AT DUNHAM WOODHOUSES, CHESHIRE.

(Photographed by H. H. Storey).

was quite rounded and smooth, like a saucer; on this the actual nest lay. It was of fair size and quite compact, but was made of very light materials and weighed only half an ounce. Very fine wool, hair and vegetable fibre (such as is found on sallows after they have flowered), with a few small feathers and some little pieces of dried grass, were woven together into a thick mat with a good deal of powdered rotten wood.

Mr. T. A. Coward saw the birds on May 30th and confirmed my identification.

The only previous nest in Cheshire was that found near Bowdon in 1913 by Mr. T. A. Coward (Vol. VII., p. 116). The bird probably occurs sparingly throughout the district, though we have only seen it rarely, and it is evidently not at all common. The accompanying photographs showing the nesting-hole and the surroundings were taken by Mr. H. H. Storey.

A. W. BOYD.

UNUSUAL NESTING-SITE OF MISTLE-THRUSH.

TAKING shelter under a small shed during a storm in east Devon, I was surprised to see the nest of a Mistle-Thrush (*Turdus v. viscivorus*) placed on the angle of two beams. It was composed largely of stinging and contained four eggs.

LEWIS R. W. LOYD.

[Though the site mentioned is very unusual for this species, it is not unprecedented. Mr. S. G. Cummings found a nest in the gable end of a ruined cottage at Rhosneigr, Anglesey. Mr. G. A. B. Dewar also reports a nest resting on a projecting beam under the eaves of a house, and in the Isle of Man several instances of nests on buildings have been recorded, the most remarkable being behind the letters advertising a chemist's shop in front of a row of houses at Port Erin (*Birds of the Isle of Man*, p. 3). Nests on rocks and in quarries or stone walls have been frequently reported.—F.C.R.J.]

[In 1901 I found and photographed a nest built on a horizontal beam, some twelve feet from ground, against the angle of two adjacent walls inside a large barn at Ewhurst, Sussex. In the following year, at the same place, I photographed a nest with four eggs, built on the top of three wooden hurdles leaning against an iron fence that separated two grass fields.—N.F.T.]

UNUSUALLY LARGE CLUTCH OF REDBREAST'S EGGS.

IT may be considered of sufficient interest to record a clutch of no less than nine eggs of the Robin (*Dandalus r. melophilus*). The nest was found in a bank in east Devon on April 24th, 1914, and then contained six eggs. The fact that one egg was laid each day from then until April 27th inclusive, tends to show that the eggs were the product of one female, unless, of course, a second female started to lay some time after the first. Howard Saunders, writing of the number of eggs laid by the Robin, says "occasionally as many as seven or

even eight," but no other authority to whom I have been able to refer gives more than seven as the maximum.

LEWIS R. W. LOYD.

[Clutches of eight eggs of the Robin have been recorded on several occasions, from Fifeshire, N.B. (*Ann. Scott. Nat. Hist.*, 1906, p. 143), North Wales (C. S. Meares), etc. Mr. E. B. Dunlop found a nest with nine eggs near Windermere in 1905, and noted that the eggs were not all laid on consecutive days. He also mentions a nest with ten eggs.—F.C.R.J.]

CURIOUS SITE FOR A BLACKBIRD'S NEST.

THIS spring a Blackbird (*Turdus m. merula*) has nested in a very strange place. A deep sewer was being constructed



BLACKBIRD'S NEST IN AN EXCAVATION 16 FEET FROM THE SURFACE.

(Photographed by Mr. C. Hennell).

and excavations were made some twenty feet deep in a sandy soil involving boards and struts; at an angle in the boarding sixteen feet below the surface, as shown in the photograph, a Blackbird built her nest and laid four eggs. Notwithstanding the fact that the trench was used and workmen constantly passed the nest, she hatched off three eggs, and when the young had flown the trench was filled in. This was in an open field about fifty yards from a wood.

WALTER CAVE.

CURIOUS BREAK IN NESTING ACTIVITIES OF HOUSE-MARTINS.

A NUMBER of House-Martins (*Hirundo u. urbica*) made their first appearance for the year at Branscombe, in east Devon, on the afternoon of April 20th, 1914. From early morning of the next day until after dusk they were busy collecting material from the edge of a neighbouring stream and flying off to a barn close at hand under the eaves of which a great number of nests are built. Owing to the wild weather experienced each winter in this locality, nothing but the remnants of a few old nests were left, and there was not one that could have been rebuilt under many days. On the morning of the 22nd, a little more work was done, but from noon on that day until May 8th not a bird was to be seen working, although there appeared to be nothing in the state of the weather, or the mud at the edge of the stream, to hinder them.

LEWIS R. W. LOYD.

INCREASE OF TUFTED DUCK BREEDING IN NORTHUMBERLAND.

THERE is a considerable increase in the Tufted Duck (*Nyroca fuligula*) breeding in Northumberland this season. More are breeding at Alnwick: I noted four broods of seven, four, seven, and three on the lake at Newton in south Northumberland, and several broods at Hallington and Netherwitton. If sportsmen will refrain from shooting them there is little doubt that Tufted Ducks will become established as breeding-birds all about the county.

M. PORTAL.

GREAT SHEARWATERS AT ST. KILDA.

ON June 19th, 1914, when boating in Village Bay, St. Kilda, off Dun, with Mr. A. G. Ferguson of Glasgow, we came up with a Great Shearwater (*Puffinus gravis*) which had been about in the bay for some days. The bird was very tame, and was easily secured. It proved to be a mature male, but very thin, and from the appearance on dissection, was certainly not breeding this year. On June 26th Finlay McQueen found another floating dead in the bay.

E. W. WADE.

[A good many Great Shearwaters have been seen and several obtained from time to time near St. Kilda, generally

from June to August. Eggs of the Great Shearwater were obtained by Mr. P. C. Keytel in the Tristan d'Acunha group of islands, and there is no doubt that the bird's breeding quarters are in the islands of the South Atlantic, and that it migrates northwards in our summer.—EDS.]

EARLY NESTING OF TURTLE-DOVE.

It may be of interest to record that I discovered a Turtle-Dove (*Streptopelia t. turtur*) sitting on her eggs at Edenbridge, Kent, on May 15th, 1914, which would appear to be a very early date for this species. H. H. FARWIG.

[The date is decidedly early, but we have the following records: Nest and one egg, Essex, May 1st (J. H. Owen); nest and two eggs, Sussex, May 19th (*Bull. B.O.C.*, XXX., pp. 144 and 147); nest and two eggs, Warwick, May 19th; (t.c., XXXII., p. 144), two nests with two eggs each, Cambridgeshire, May 16th and 18th, 1893, and nest with two young (two or three days old), May 22nd, 1893 (N.F.T.).—EDS.]

ROSEATE TERNS IN IRELAND.

On June 5th, 1914, when visiting the nesting site of the Roseate Tern (*Sterna d. dougalli*) discovered in 1913 (cf. Vol. VII., p. 186), I identified only two pairs and an odd bird of this species from amongst the other Terns. By July 6th, on which date a second visit was made to the spot, not a single Roseate Tern was to be seen or heard. It can be assumed, therefore, that the birds noted on June 5th left the place during the interval of the two visits, and did not attempt to breed there. It is well known that Terns change their breeding-grounds from time to time for reasons not yet explained, and possibly this habit predominates to a greater extent in the Roseate Tern than it does in the case of either the Common or Arctic Tern.

G. R. HUMPHREYS.

LONG-TAILED SKUAS IN CUMBERLAND, YORKSHIRE AND IRELAND.

WHILE walking along the shore at Drigg, Cumberland, on June 11th, 1914, I picked up a dead Long-tailed Skua (*Stercorarius longicaudus*) which had apparently been washed ashore. The bird was in full plumage, and the two central tail-feathers were $9\frac{1}{2}$ ins. longer than the rest of the tail-feathers. I forwarded it to Dr. Clubb, Director of the

Liverpool Museum, but it was only possible to preserve the wings and tail. As this Skua is very uncommon on the west coast of England, this occurrence may be of interest.

E. U. SAVAGE.

AN example of the Long-tailed Skua was killed at Withens Reservoir, Cragg Vale, in the Hebden Bridge district, south-west Yorkshire, on June 14th, 1914, by Mr. V. Jowett. It was despatched to the Morley Museum, the Curator, Mr. E. J. Gentry, kindly informing me of the occurrence. Answering my inquiry of a later date, Mr. Gentry states that the bird was identified by Mr. Parkin, taxidermist, of Wakefield, who has been entrusted with its preservation. The two central tail-feathers were six inches longer than the other tail-feathers. Nelson (*Birds of Yorkshire*, II., p. 706) states that this bird's visits, as a rule, take place in autumn only; and that the earliest example was taken alive at Redcar on June 20th, 1849, a most unusual date for the occurrence of any bird of this family so far south. He also adds that the bird has not been recorded on the spring passage northwards, but that doubtless it occurs at that period.

WALTER GREAVES.

WHEN fishing on Lough Arrow, co. Sligo, I spent some time on June 11th, 1914, in the company of a Long-tailed Skua, a most absurdly tame bird. It was feeding close to the boat on May-flies, and I quite believe I could have caught it in the landing net had I wished to do so. I first heard of the bird from a friend fishing there about June 7th or 8th, and from others also. Nobody knew what it was. I was unlucky enough to expose the only three films I had with me when I first came across the bird, and before I found out how very tame it was. Had I but waited I could have got a photograph of it sitting on the shore not more than five or six feet away from me.

I have never seen a more graceful flier: it simply glided about through the air without apparent effort. I have been assured that birds have no power of movement in the extremities of long tail-feathers, but the accompanying photograph of the bird flying and just about to alight on the water seems to indicate otherwise.

On May 31st, a friend also fishing with me on Lough Arrow, told me he had seen a bird which he thought must be a Skua, though he only knew the bird from books. From his description I concluded it was a Richardson's or else Pomatorhine. On my sending him a print of the Long-tailed Skua, he said that his Skua was not the one I photographed,

as his had no white on it at all, so that it would appear that there were two Skuas on the lake when we were there.



LONG-TAILED SKUA ON LOUGH ARROW, JUNE 11TH, 1914.
ABOUT TO ALIGHT.

(Photographed by J. A. Dockray).

It is hardly surprising, as we had most tempestuous and cold weather.

JOHN A. DOCKRAY.

MOORHEN COVERING EGGS.

MR. J. H. OWEN'S note on page 54 reminds me of a correspondence on this subject in the *Zoologist* (1898, p. 506; 1899, pp. 30 and 81). Seebohm in his *History of British Birds* (II., p. 561) stated that "the Waterhen generally covers her eggs when she leaves the nest with pieces of surrounding vegetation," and Dixon in his *Game Birds and Wild-Fowl of the British Isles* (p. 85 of the 4th Edition) also said: "When the sitting bird leaves the nest, it covers the eggs with bits of vegetation." In support of this statement Dixon gives the names of Bewick, Waterton, Naumann, Stevenson and Stanley and refers to an instance

in Stanley's *History of Birds* (p. 299). Mr. A. Bankes (*Zool.* 1899, p. 82) also describes how a Moorhen, disturbed from a nest with nine eggs, partly covered them with pieces of seaweed and a fresh green leaf or two. It is evident, however, that this is not the usual habit of this species, though occasional instances do undoubtedly occur, for every field worker must have seen scores of nests which were not so covered, and the statements by Seebohm and Dixon are examples of the fallacy of founding a general rule upon particular exceptions.

F. C. R. JOURDAIN.

MOORHEN HATCHING TWO BROODS IN ONE NEST.

ON April 25th, 1914, I found a nest of a Moorhen (*Gallinula ch. chloropus*) containing nine eggs. The nest was built in the top of a thorn bush some ten feet high and had as a foundation an old Blackbird's or Song-Thrush's nest. The entire clutch was safely hatched and the young swimming about on May 1st. On June 4th, while fishing, I was surprised to see a Moorhen come off the same nest, which on examination proved again to contain nine eggs. The whole of these, too, were successfully hatched by June 12th.

LEWIS R. W. LOYD.

[Stevenson, *Birds of Norfolk* (II., p. 415), says that as many as three broods are sometimes reared in a season from one nest.—F.C.R.J.]

BLACKCAP SINGING IN WINTER IN OXFORDSHIRE.—Mr. O. V. Aplin records (*Zool.* 1914, p. 237) a male *Sylvia a. atricapilla* in his garden at Bloxham on February 28th, 1914. "It sang a little but only got out one good high note." On March 13th it sang well.

FULMAR PETRELS AT BUTT OF LEWIS.—Mr. R. Clyne notes (*Scot. Nat.*, 1914, p. 165) that for the first time some examples of *Fulmarus g. glacialis* were seen at Butt of Lewis on April 24th, 1914, and a few remain "evidently intending to breed." The cliffs here are only about 100 feet high. Last year Fulmars were reported as breeding on the east side of Lewis (*cf. B.B.*, Vol. VII., p. 203).

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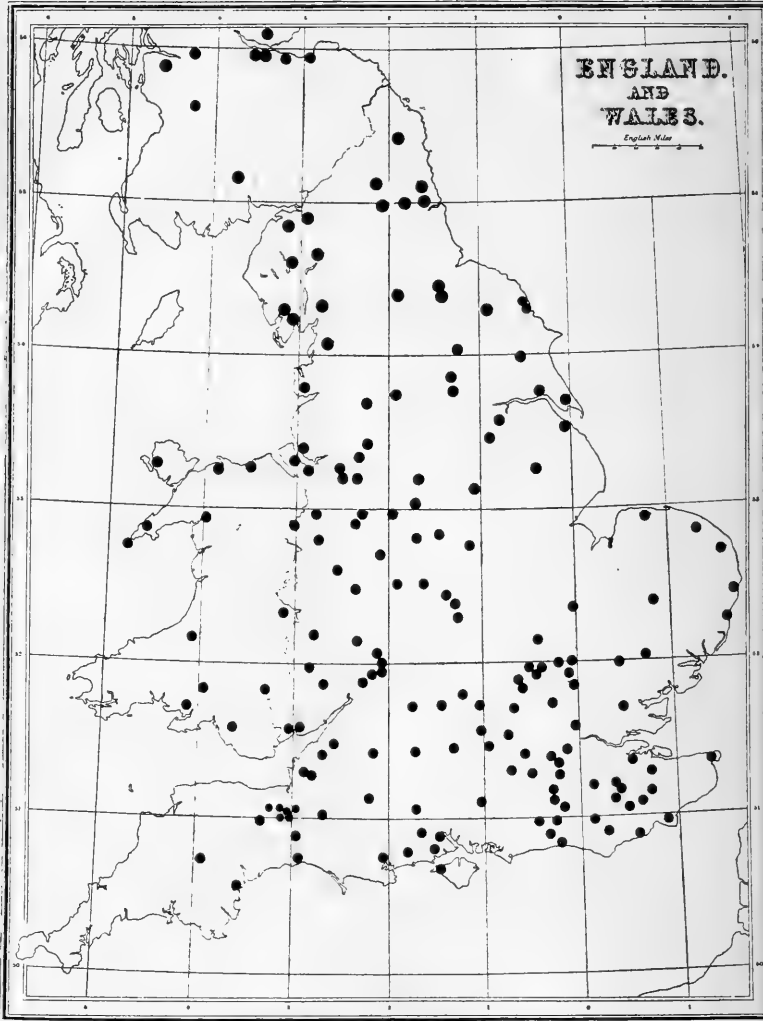
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Map to show the Centres from which information has been received regarding the Status of the Land-Rail.

A REPORT ON THE LAND-RAIL INQUIRY.

BY

H. G. ALEXANDER, M.B.O.U.

OBSERVATIONS on the status of the Land-Rail (*Crex crex*) as a breeding species have been sent in from over one hundred and seventy centres in England and Wales and from a few in Scotland and Ireland. The schedules received in 1913 dealt very thoroughly with some districts in England, but a number of counties were quite untouched; accordingly, this year I have tried to get information from the latter districts, and have not asked for further information from last year's observers. To some extent the gaps have been filled, but, as will be seen from the map, there are still considerable areas from which no information has been sent, including the counties of Cornwall, Oxford, Huntingdon, Northampton, Rutland, and Durham. The information from Wales is still very meagre. I have consulted the *Victoria County Histories* and the recent county books, as well as various notes in the *Zoologist*, chiefly in 1911, when a correspondence took place on the subject.

The centres marked on the map are not, of course, all of equal value; some observers have been able to send information derived from various sources over quite a large area—even a whole county—and for a number of years, whilst others—unfortunately their number is much larger—have only been able to give the facts for one or two years over a few square miles.

I think it will be most satisfactory to give an outline of the facts for each county.

Beginning in the south-west, the Land-Rail was described as rather scarce in CORNWALL in 1906 (*Vict. Hist.*) though formerly abundant. The two observers in DEVON have no recent information of any breeding in their districts, though some used to breed about

Kingsbridge some twenty years ago; the *Victoria History* (1906) describes it as rare in the south, but frequently breeding in the north.

In all parts of DORSET the Land-Rail is regarded as a vanishing or vanished species (*Phenological Report of Dorset N.H. and Antiquarian Field Club*, 1914), and the several reports from separate districts fully bear this out. It appears never to have been common within recent times, but there were a few twenty years ago, whereas now hardly one remains. It is frequently noted (and shot) on the autumn migration, as in many other districts where few breed.

In the south of SOMERSET very few remain, but in the Mendips there seem to be rather more, and they are holding their own at the present time; thirty or forty years ago, however, they were far more abundant. In south GLOUCESTER they are again very scarce, but in the north, chiefly in the river flats, a few still breed—as many as three or six to the square mile in some parts; but here also there used to be more. It is noted that the numbers fluctuate from year to year, although the general tendency is a decrease; this seems to apply in many parts of the country, but, comparing the fluctuations in different districts, I cannot see that any one year is shown to be specially favourable or unfavourable to the species: the fluctuations are merely local.

Every observer in WILTSHIRE notes a decrease in the last ten years, but a very few Land-Rails, or at least an occasional single pair, still remain in most parts. In HAMPSHIRE the numbers are even smaller; in the New Forest region a few are still found annually, without any apparent diminution, but elsewhere both to west and east the decrease has reached vanishing point: it seems to have begun at least twenty years ago. A few are still noted in the north of the county, and in the uplands of BERKSHIRE, but in most parts of the latter county none breed at the present day; in the

Thames valley the Land-Rail was common twenty years ago.

In 1889, according to the *Birds of Oxfordshire*, the species was locally abundant. In south OXFORD it appears to have been very common in the 'seventies, and possibly no less abundant in the north, but in 1903 it had become quite rare, as recorded in the *Zoologist*; by 1911, when correspondence on the subject took place, no further change had been noted: a single pair was still observed from time to time, but no more. In BUCKINGHAMSHIRE there are still a few; ten years ago they were more common. In 1912 there appear to have been more than usual.

An exceptionally large number of Land-Rail observers seems to inhabit HERTFORDSHIRE, and fortunately their evidence is practically unanimous. For twenty years at least a decrease has taken place, but a few pairs still remain in various districts, and most of these return year after year; however, some fluctuations have been noticed in the last three or four years. The evidence from BEDFORDSHIRE, though much less, suggests that the same remarks might be applied to that county.

In MIDDLESEX occasional pairs have been noticed in the last ten years, but apparently only for single years. This seems to be the condition of things also in SURREY, SUSSEX, and KENT. North of the Surrey downs, about the Eden valley and locally in west Sussex, very small numbers still occur regularly, but in every other part the notes are of single pairs breeding for one year and then disappearing again, or else of a complete absence of the species, except on the autumn migration. In some districts the Land-Rail was formerly quite common, and in almost all it appears to have been known as a regular breeding-bird forty to twenty years ago, except, perhaps, in east Kent (where no memory recalls it as ever common), but most observers record its disappearance fifteen

to twenty years ago or earlier, even in the flat clay country of the Weald, where it was evidently quite common.

In ESSEX the decrease was first observed in the 'seventies or even in the 'fifties; at the present day only occasional pairs are noted as breeding from time to time. The recent information from SUFFOLK is to the same effect, but it was evidently not a rare species many years ago. In NORFOLK the decrease seems to have taken place rather more recently, and a few still nest in the north-east of the county, but in other parts it has been absent for at least ten or fifteen years, perhaps longer. The only positive information from CAMBRIDGESHIRE is of a pair in the Cam flats in 1914; it is evidently some years since it was a regular breeding-bird. The statement made in 1904 that it was "common" (*Handbook of Nat. Hist. of Camb.*) suggests that the decrease has been rapid.

I have been unable to discover anything about HUNTINGDONSHIRE; in 1902 the vague statement is made that the Land-Rail was "common" in NORTHAMPTONSHIRE (*Vict. Hist.*), but this seems rather unlikely. In RUTLAND, in 1907 and 1908, it was regarded as by no means common and much decreased (*Birds of Rutland* and *Vict. Hist.*). In LINCOLNSHIRE the species is evidently scarce, but not extinct; in some parts the numbers fluctuate. Quite in the north it is fairly regular—about one to a square mile on the Wolds and rather more in the marshes.

In south NOTTINGHAMSHIRE a few remain: formerly it was very plentiful (*Vict. Hist.*, 1906). Some still occur annually in LEICESTERSHIRE. In south DERBY the Land-Rail had decreased very much, but they were common in 1908, increased in 1911, and have appeared in fair numbers since; further north in the meadows below the Pennines the number is still estimated as six pairs to a square mile.

Except locally, in the Malverns, and at Tamworth and Hampton-in-Arden, a steady decrease has been noted throughout STAFFORDSHIRE, WARWICKSHIRE, and WORCESTERSHIRE. From a district in north Worcester-shire the actual number of pairs observed each year is given, showing a steady decrease from seven pairs in 1906 to one in 1913; to the present time a few pairs remain in all parts of these three counties. There appear to be more in the Severn and Avon valleys than in most districts.

In HEREFORDSHIRE no decrease has been noted in the last few years, except near Hereford, where there were fewer in 1908 and subsequently. In MONMOUTH a gradual decrease is noted, but the species is still not rare.

The few records from south Wales are as follows: none in south-west GLAMORGAN for ten years; none but an occasional pair in east BRECON for twenty years but more in the 'eighties; in east RADNOR an increase has been noted lately, but the numbers are subject to variation; in CARMARTHEN the Land-Rail is evidently not rare, though somewhat diminished in numbers recently, and the same is the case in south CARDIGAN.

In MERIONETH it is decreasing locally, but fairly common in some districts; in DENBIGH and FLINT the numbers appear to be fairly well maintained, whilst in ANGLESEY, the Lleyn district of CARNARVON, and on Bardsey Island, the Land-Rail is still evidently a really abundant species.

Returning to England, we find that four observers in SHROPSHIRE all speak of a decrease in the last twenty years, but a few pairs still breed regularly in all parts. In CHESHIRE the numbers are fairly well maintained in the Mere district, but some decrease seems to have occurred in the last ten years in other parts of that county.

In LANCASHIRE the decrease is only noted locally—possibly only in the lower districts. In some parts the species is still abundant, as it certainly is in the YORKSHIRE dales across the Pennines; even here fluctuations are noted. In the vale of York the species is said to have become comparatively scarce in recent years, but it is certainly not at all rare. In the south of the county a decrease has evidently taken place, but in the East Riding, Land-Rails are still fairly plentiful on the Wolds and common about Scarborough and Pickering (at Scarborough the evidence is conflicting). Near Northallerton very few breed as compared with former years.

In WESTMORLAND a decrease is noted in the last ten years, but in most parts of CUMBERLAND, except on the east, the bird appears to be abundant and no change is recorded in its numbers.

In DURHAM, according to the *Victoria History* (1905), the numbers have much diminished lately. The six observers in NORTHUMBERLAND all record it as a common species, which shows no decrease: in one locality an increase is noted.

The observations from SCOTLAND and IRELAND are few, and no certain conclusion can be drawn from them. Nevertheless it would seem that in Scotland some decrease is taking place in parts of the lowlands, at any rate in Midlothian and one or two other places, but elsewhere no great change is remarked. In all the northern and western districts, wherever any suitable ground occurs for their nesting, Land-Rails are apparently very abundant, possibly even increasing. This applies to the islands even more than to the mainland.

In Ireland one or two cases of decrease are noted in the extreme south-east and east, but the few records from other parts show that it is an abundant species in many parts, whilst in the north and west Land-Rails are said to swarm, and if possible to be increasing.

It will be seen that in England, throughout the south and east—at any rate from Devon to Lincolnshire and including the south-east Midlands—the Land-Rail can no longer be regarded as a regular breeding species, although a very few birds still nest from year to year in almost every county. In south Wales, the west of England and all the Midlands, to the foot of the Pennines and the Yorkshire moors, a fairly general decrease, apparently of more recent origin, is still taking place, except in a few river-valleys and perhaps some of the high ranges of hills. But throughout the Pennine region and to the west of it the decrease is scarcely appreciable; in all these parts off the actual moorland the species is still very abundant.

Everywhere the birds are recorded as inhabiting grass or clover, and only occasionally corn as well.

Numerous attempted explanations are given to account for the decrease: some recorders suggest that shooting the birds in autumn, or the increase of telegraph and telephone wires, against which they are often killed, may be partly responsible. The corn-drill, it is suggested, has made it impossible for birds to nest in the cornfields, and in some parts the turning of grassland into corn or the reverse, or the decrease in the amount of clover-fields, are brought forward as contributory causes. But by far the most popular view is that the machines now in general use for cutting the hay destroy many nests which were formerly spared, and that this is responsible for the decrease.

It does not seem likely that either of the first two suggestions can have any real effect on the numbers of any common bird. It is well known that so long as a species is at all common, nothing short of a sustained and wholesale slaughter at almost all times of year has any noticeable effect on the number breeding each year; there always seem to be spare birds to fill up the gaps (though what happens to them when there are no gaps to fill is a mystery) amongst all the

common species of a district. Personally, I should find it much easier to believe that the corn-drill was partly responsible, for its effect would be to limit the number of possible breeding-sites; only it does not appear from the information received that any considerable proportion of Land-Rails now nest, or have ever nested, in corn. If, however, it could be shown that before the drill was used cornfields were the usual nesting-places, I think the evidence would be strongly in favour of this solution. But we should still want to know how it came about that in some districts they managed to adapt themselves to changing circumstances, and nested in the grass and clover (as they seem now to do wherever they are common), whilst in other districts they succumbed to the change. As for changes in the type of cultivation, these do not seem to be sufficiently identical over the large area affected to provide a satisfactory explanation. The machines used in cutting the hay certainly have more to be said for them. If the objection made to the autumn shooting and telegraph wire solutions were raised again here, I think it would be fair to answer that the effect of the machines is much greater and more general, and still more that it affects the species in the most vital way possible by killing off an immense proportion of the new stock every year; it does not kill chance individuals, some old, some young, but it kills whole families of young. Moreover, the machine is, I believe, used far more in the parts where the Land-Rail has been practically exterminated than in the north and west of our islands.

In spite of all this I am not quite satisfied. There is evidence provided by various observers which militates against even this last theory. One observer, in fact, in the north-west of England records the Land-Rail as increasing, adding significantly that this is very difficult to explain, seeing that machines destroy the families every year. Possibly the truth is that

we are too apt to explain things as the direct result of human instrumentality. I do not doubt that civilization has had a vast effect on the whole of nature in this and all other civilized countries ; but this effect is brought about much less by actual destruction of species than by indirect means : when man reclaims virgin ground he changes the balance of nature far more even than when he becomes an inveterate collector of specimens. If it could be shown that any of the changes in agriculture in the last fifty years had indirectly affected either the food-supply or the supply of nesting-sites of the Land-Rail we should soon know the cause of its decrease ; but at present I doubt if enough is known of the bird's requisites to permit even of speculation on the subject.

The decrease of the Land-Rail, however, is no mere isolated phenomenon, and it must not be treated as if it were. Many other species show a marked tendency either to decrease or to increase, and we know no more why the Redpoll and Hawfinch have increased than why the Land-Rail and Martin have decreased. I am inclined to think that ornithologists, in common perhaps with other naturalists, have been too much disposed to regard evolution as a process which works so slowly that no natural change can be expected to show itself in any period short of a million years ; and consequently, when they see an evolutionary change (even of distribution) taking place rapidly under their own eyes, they resort to the explanation that man is upsetting nature. However this may be, it is clear that a proper comprehension of the problems of distribution, in particular those of changing distribution, can only be gained by a study of ecology ; and from the ornithological point of view ecology is still in its infancy. If this Land-Rail inquiry should serve to stimulate a further study of ornithological ecology it will have had some value ; and in any case I hope it may make it easier for

someone in a few years' time to determine the true cause of the decrease of the Land-Rail.

In conclusion, I must thank everyone who has made this paper possible. I have purposely refrained from mentioning a single name, for if I had mentioned one I should have had to mention all who have sent information, and forty more whose writings I have consulted. In case I have made any errors, I hope they will be corrected by those who may have been unintentionally misrepresented, or whose facts and opinions have been overlooked; the explanation for such errors is that the actual compilation of this paper has had to be done with regrettable haste.

RÜPPELL'S WARBLER IN SUSSEX.

A NEW BRITISH BIRD.

ON May 6th, 1914, I was shown a couple of small birds in the flesh that had been obtained the previous day in an old stone-quarry at Baldslow, Hastings, Sussex. Upon examination, I came to the conclusion that they were undoubtedly examples of the rare Rüppell's Warbler (*Sylvia rüppelli*). Not having any work giving an illustration of this species, I took one of the birds after it had been set up to Mr. T. Parkin, who supported my theory that it was a Rüppell's Warbler.

On referring to Dresser's *Birds of Europe*, we found a very good plate given, and there could be no doubt about the species.

It seems remarkable that these two birds should have wandered so far west, but I consider that the unusual heat and absence of wind at this period had a very marked effect on migrating birds. This view is strengthened by the fact that a large number of rare birds were recorded about this time. Living as I do on the south coast, and having studied the movements of migrants on arrival and departure for many years, I am convinced that we get more erratic visitors during a period of excessive heat and no wind. Such birds I always look upon as wanderers, and of more interest than those that are blown ashore in a gale, and are, after all, only blown out of their course and naturally alight if lucky enough to reach land.

In the case of these two Rüppell's Warblers, the place where they were shot was just the spot for any wanderers to our coasts to drop in, being a very large, open, disused stone-quarry, situated in the midst of a very large wood, and overgrown with brambles and thick undergrowth, the accumulation of years. In addition to having seen the birds in the flesh, I happen to know the man who shot them, and am quite satisfied

with the result of an interview I have had with him on the subject.

The photograph, of which a reproduction is given here, I took as soon as the bird was mounted. It



RÜPPELL'S WARBLER (MALE) SHOT AT BALDSLOW, SUSSEX,
ON MAY 5TH, 1914.

gives a very good idea of the original and may be interesting to many, as very few even of the most expensive works give an illustration of this species.

H. W. FORD-LINDSAY.

DESCRIPTION.—*Adult male. Winter.*—Fore-head, lores and crown black, feathers lightly tipped grey; rest of upper-parts french-grey slightly darker on upper tail-coverts; chin and throat black, some feathers lightly tipped white; from base of bill to base of ear-coverts a conspicuous white moustachial stripe; ear-coverts dark french-grey, sometimes almost black; breast, belly and under tail-coverts greyish-white tinged pink, centre of belly pure white; flanks and axillaries pale grey, slightly tinged pink; tail-feathers black, central pair and outer webs of others tinged grey and fringed whitish, outermost pair white with only base black, next (penultimate) pair with the tip white extending to about distal third of inner web, next pair with smaller white tip; wing-feathers black, tipped and fringed on inner and outer webs greyish-white, innermost secondaries fringed buffish-pink; primary-coverts as primaries; greater coverts tinged grey and inner ones fringed buffish-pink; median coverts french-grey tipped whitish; lesser coverts french-grey. This plumage is acquired by complete moult in autumn (Sept.-Nov.). *Summer.*—No moult, and abrasion causes little difference except that fringes of wing- and tail-feathers become mostly worn off and crown and throat become uniform black.

Adult female.—Differs from adult male in having fore-head and crown greyish-brown with varying amount of brownish-black usually confined to centres of feathers, thus giving a somewhat mottled appearance, but sometimes middle of crown is nearly black; rest of upper-parts brown with slight greyish tinge, especially on rump; moustachial stripe showing distinctly whiter than chin and throat, which are usually buffish-white often more or less mixed with blackish; upper-breast pale buff; flanks browner buff; centre of breast and belly white; axillaries tinged buff; tail- and wing-feathers as adult male but much browner not so black; inner secondaries and greater coverts fringed pale buff.

Nestling.—(Not examined.)

Juvenile. Male and female.—Much like adult female but crown and throat with no trace of black; wing-feathers and greater coverts edged and tipped buffish-brown.

First winter and summer. Male.—As adult male but crown not so uniformly black, often marked grey or brown; rest of upper-parts not so pure a grey, but tinged brownish; feathers of throat more fringed white; wing-feathers and primary-coverts browner and edged browner; outer greater

coverts and many of the median and lesser coverts also browner. The juvenile body-plumage and a varying number of innermost secondaries, inner greater coverts and some median and lesser coverts are moulted in autumn, but not rest of wings or tail. *Female*.—Difficult to distinguish from adult female, but apparently less black on crown and none on chin and throat and edgings of wings and wing-coverts browner.

Measurements and structure.—♂ wing 68-73 mm., tail 59-64, tarsus 20.5-22, bill from skull 13-14 (14 measured). ♀ wing 66-69. Primaries: 1st usually about two-thirds as long, but occasionally as long as longest primary-coverts, 3rd and 4th longest, 2nd and 5th sometimes as long but usually 1-3 mm. shorter, 6th 3-6 shorter; 3rd to 5th emarginated outer webs. Secondaries between 9th and 10th primaries or slightly shorter, tips rounded. Bill fine. A few short, fine nasal and rictal bristles.

Soft parts.—Bill dark horn, paler at base of lower mandible; legs, feet, and iris bright red-brown.

CHARACTERS.—The black crown and throat and white moustachial stripes of the male are very distinctive. The female is much like a Lesser Whitethroat, but always has some blackish markings on the feathers of the crown, more white on the outer tail-feathers and a shorter 1st primary.

H. F. WITHERBY.

The species should be added to the *Hand-List* as follows:—

148a. *Sylvia rüppelli* Temm.—RÜPPELL'S WARBLER.

SYLVIA RUPPELLI (corr. rüppelli) Temminck, Pl. Col. 245, fig. 1 (1823—Kandia; though occurring in Kandia (Crete) Temminck's type came evidently from the Red Sea or from Egypt; cf. Cretzschmar, Atlas Reise, p. 29).

Sylvia rüppelli H. W. Ford-Lindsay, Brit. B., VIII., p. 93.

DISTRIBUTION.—*England*.—Two males, Baldslow, Hastings, Sussex, May 5, 1914 (*ut supra*).

DISTRIBUTION.—*Abroad*.—Breeds in Greece, Asia Minor, Crete, and probably in Palestine and Cyprus. Winters in north-east Africa (Nubia, Red Sea).

AUTHORS OF THE HAND-LIST.

NOTES

TWITES IN SHROPSHIRE IN SUMMER.

ON July 30th, 1914, I watched for several minutes a pair of Twites (*Carduelis f. flavirostris*) at Middletown, Shropshire, close to the Montgomeryshire border. My attention was first attracted by the call-note of the male, many times repeated, and presently his mate came flying up and the two flew off together towards Wales. The place where I saw them is a rough common with clumps of gorse, bracken, etc., and is quite suited to the requirements of the Twite for nesting. The observation is worth recording because the Twite is distinctly rare here in summer, and, although Rocke (writing in 1865) stated that it bred on the Longmynd, neither bird nor nest has been found there since that date, despite repeated searches.

H. E. FORREST.

EARLY BREEDING OF LESSER WHITETHROAT AND BLACKCAP.

ON April 24th, 1914, I found a nest of the Lesser Whitethroat (*Sylvia c. curruca*) near Hitchin, Hertfordshire. It was lined and ready for eggs. On May 2nd, 1914, a nest of the Lesser Whitethroat was found at Bradfield, Berkshire. It then contained five eggs, which were all hatched out on May 17th. On May 9th I found a nest of the Blackcap (*Sylvia a. atricapilla*) at Bradfield. It then contained five eggs, three of which were hatched out on May 16th, the remaining two being sterile.

R. BURNIER.

[The first egg in the Lesser Whitethroat's nest mentioned above, at Bradfield, must have been laid by April 28th. Mr. J. H. Owen found a nest at Felsted containing four young at least a day old on May 14th, 1912. In this case the first egg must also have been laid in April, probably about the same date. In Harting's *Birds of Middlesex*, p. 51, it is said that an egg was found near Willesden on April 28th, and Mr. P. F. Bunyard (Vol. VI., p. 87) records a nest with five eggs from Kent, on May 4th, 1912. In this case the first egg was probably laid on April 30th. All these occurrences are from the south of England, but Mr. S. G. Cummings found a nest in Cheshire with five eggs on May 6th, 1902, and another with four eggs is recorded from Salop on May 5th, 1912 (*Rep. Caradoc and Severn Valley F.C.*, 1912, p. 17).—F. C. R. JOURDAIN.]

WRENS LAYING IN YEAR-OLD NESTS.

BETWEEN April 20th-25th, 1911, I found a nest of a Wren (*Troglodytes t. troglodytes*) amongst the roots of an overturned tree on the banks of a river in Huntingdonshire. It was lined, but contained no eggs, and I had no further opportunity of visiting it that year. On May 8th, 1912, curiosity led me again to the spot. The nest remained and contained six eggs. In May, 1912; I found a Wren's nest, also amongst the roots of a tree, on the top of a bank in east Devon. This nest was not laid in and was still unlined when last visited in 1913. Passing the spot on May 9th, 1914, I found the nest still there and containing six eggs.

This year I have carefully marked several Wrens' nests which have been built but not laid in, and look forward to seeing whether they will be used for eggs in 1915. If it is not accepted as a fact that year-old nests are frequently used by Wrens, might I suggest that others keep observation on some for a twelve month.

LEWIS R. W. LOYD.

[It is a known fact that Wrens will sometimes renovate old nests and use them for breeding purposes, though it is much more usual to find new nests built. At present there are not enough data to show whether in such cases any preference is shown for lined (and used) or unlined nests.—F.C.R.J.]

CUCKOO IN HOUSE-SPARROW'S NEST.

IN July, 1914, some painters at work on the premises of Mr. Salter, chemist, Castle Street, Shrewsbury, found a young Cuckoo (*Cuculus c. canorus*) in the nest of a House-Sparrow, under the eaves. They had noticed the Sparrows constantly carrying food to the nest, even when the painters were at work on ladders within a yard or two, but they did not know there was a Cuckoo in it till one of them put his hand into the nest and brought the big nestling out. He took it down to show Mr. Salter and other people, afterwards returning it to the nest, where the fosterers resumed feeding as if there had been no interruption. Mr. Salter's house is in the very centre of the town, so that the selection of this nest by the Cuckoo is the more remarkable. H. E. FORREST.

SPARROW-HAWKS' METHOD OF FEEDING YOUNG

THE following account of the behaviour of a pair of Sparrow-Hawks (*Accipiter n. nisus*) may possibly interest some of your readers.

On June 24th, 1914, whilst lunching on the Downs some few miles south of Salisbury in the shade of a belt of fir-trees in company with my keeper J. H. Copsey and another companion, we heard a Hawk calling, at first far away, then nearer. On our getting up, a cock Sparrow-Hawk rose out of the wood about a hundred yards away and disappeared over the wood.

Copsey found the nest quite close to us and we could see that there were some young birds in down sitting on its edge. Whilst examining the nest from below with glasses, the hen soared above us over the tops of the fir-trees and then flew away in the direction in which the male had gone.

On investigating a little further, we found a fallen tree trunk, some eighty yards north of the nest and quite close to the spot above which we had first seen the male bird. This trunk was evidently used as a dressing-block on which to pluck and trim the food, as on each side of it the ground was thickly strewn with the feathers of small birds.

We then hid ourselves. After a very short time the hen bird returned to the wood, and after dodging about from one tree to another finally took up her station close to the nest. In about twenty to thirty minutes the cock bird returned carrying a small bird in one of his feet. He settled on a tree not far from the dressing-block, but slightly nearer to the nest, and called to the hen once or twice. She however did not move nor did she answer him. After a few moments I am afraid the cock must have seen me as he flew out of the wood, carrying the small bird with him. We hid and watched again but nothing of interest occurred and I had then to leave.

Copsey wrote to me a week later as follows: "Now I must say a bit about the Hawks. I had the afternoon of the 30th June with them. They had a Lark laid at the dressing-block, that you saw, ready dressed—all but one wing. I kept hid for three hours. The cock came and brought a Lark close to me. He took it to three different blocks to finish dressing it and when he had finished he had plucked every feather of the bird, I think, for he was most careful. The hen bird watched all the time. The cock then took the bird close to the hen, say on a bough about four feet from where the hen sat all the time. She made a screeching note to him. The cock then flew straight to the nest with the bird in his feet, and left it on the edge of the nest. The young took no notice of him. He then flew straight away up the wood as [if] off for another bird for them. The hen

kept her place sitting for quite ten minutes after the cock had left. She then went to the nest and broke up the bird and fed the young, and then went up the wood to await the cock's return and I think to watch the dead Lark at the block that I first mentioned."

Copsey adds the following note in a letter dated July 10th : "I shall be pleased for you to mention my name because some gamekeepers may in time read it. Should they ask any question I shall be very pleased to inform them that the Hawks reared their young on small birds. Not one head of game, nor a game feather can be seen at any of the trimming blocks in that wood, nor on the mounds [i.e. ant hills] out on the Down you saw used by the Hawks last year. Larks have been their principal diet."

I may add that besides Larks, so far as I remember, we recognised feathers of Goldfinch, Chaffinch, Mistle-Thrush, Blackbird and Song-Thrush.

The reason I have ventured to ask you to insert the above is that at any rate for this pair, it settles the question of which bird dresses the food for the young. F. G. PENROSE.

[The above is an interesting confirmation of Mr. E. Selous's statement (*cf. Zool.*, 1911, pp. 179, etc.) that the female, so far as he observed, did not pluck the prey but that this was presumably done by the cock. Mr. Selous states, however, that the prey is usually delivered to the female in the near neighbourhood of the nest and only very rarely does he deposit it on the nest.—EDS.]

NIGHT-HERON IN SHROPSHIRE.

I RECORDED in *British Birds*, VI., p. 122, a Night-Heron (*Nycticorax n. nycticorax*) shot on the Severn below Shrewsbury in May, 1912. On June 1st, 1914, Cartwright, the keeper, who shot the bird in question, and who is a reliable observer, well acquainted with waterfowl, saw another on the same stretch of the river. He recognised it before it came into view by its harsh note, and the bird passed quite close over his head in its flight down stream, giving him an excellent view, so that he was able to identify it beyond a doubt. He could easily have shot it if he had wished to do so. Besides these two birds only one prior example has been recorded in Shropshire by Eyton in 1836, so it is somewhat remarkable that all three occurrences were on the same stretch of river within a mile or so. It is close to Uriconium, the buried Roman city, now in course of excavation.

H. E. FORREST.

BARTRAM'S SANDPIPER IN SUSSEX.

ON July 3rd, 1914, a specimen of Bartram's Sandpiper (*Bartramia longicauda*) was picked up at Bopeep, St. Leonards-on-Sea, Sussex, by a workman. It had flown against the telephone-wires which run along the side of the marsh adjoining the road. It was badly damaged about the head and neck. Thinking it was a Snipe, the man gave it to a publican at St. Leonards, and I saw it in the flesh the same day. It proved to be a male.

H. W. FORD-LINDSAY.

REDSHANKS BREEDING INLAND IN KENT.

SINCE reading Colonel Feilden's article on the recent nesting of Redshanks in the Rother Valley, Sussex (Vol. VII., p. 330), it has occurred to me that a similar incursion of breeding Redshanks is taking place in mid-Kent, on uplands sloping to the valley of the river Beult, at Headcorn, a tributary of the Medway.

On April 12th, 1913, while riding in the mid-Kent Point to Point races at Sutton Valence, I noticed a pair of Redshanks which by their actions were evidently breeding in a rushy meadow at the far end of the course.

On April 18th, 1914, I unfortunately did not reach the rushy field, but a friend who went to investigate flushed several pairs in it, all of which showed anxiety.

About the same time Mr. A. E. Cheesman, of Sissinghurst Castle, Cranbrook, told me that a pair of Redshanks were visiting a rush-covered corner of a meadow there—that he had had all the sheep removed, and his men had been told to keep out of the meadow. These somewhat drastic measures were successful, for on May 3rd I found the nest with four eggs slightly incubated—these have since hatched.

This nest is twenty miles from the sea, far from rivers of any size, and surrounded by cultivated land.

The fact that many birds were collected by Boyd Alexander throughout a number of years in this district, and that no mention of the Redshanks nesting nearer than Romney Marsh appears in his notes, is sufficient evidence that these birds are gradually extending their breeding-range over the interior of this county away from the marshes and river-valleys.

ROBERT E. CHEESMAN.

COMMON GULL BREEDING IN CUMBERLAND.

ON May 30th, 1914, on the Cumberland side of the Solway Firth, Messrs. T. L. Johnston and James Storey found

a nest containing three eggs of the Common Gull (*Larus canus*) the identity of which is, to my mind, certain, as both the old birds were seen standing beside the nest, from a distance of less than twenty yards, and both Mr. Johnston and Mr. Storey are well versed in all Solway birds and know the Common Gull well. The nest was isolated, and rather a large structure; it was placed on the side of a creek some miles from the nearest nesting-site of *L. ridibundus*. The nest can now be seen in Carlisle Museum.

One or both of the old birds have been seen several times since, and Mr. Johnston feels certain that they have bred again, but has failed to locate their new nesting-site.

I have personally seen both the clutch of eggs and the nesting-site, and feel quite confident in the matter, as the eggs of the Common Gull cannot easily be confused with those of any other British breeding gull. Unfortunately I did not see the gulls themselves during the short time at my disposal, but I am certain no mistake has been made in the identification.

This makes the second nesting site of *L. canus* in England (*vide A Handlist of British Birds*, p. 200).

F. W. SMALLEY.

MOORHEN COVERING EGGS.

WHEN reading Mr. J. H. Owen's note on page 54, it struck me that such an occurrence was scarcely worth recording, and I am rather surprised to read that Mr. Jourdain (page 80) considers it unusual for the Moorhen to cover her eggs. I have always considered this quite a common habit of the Moorhen, if she has time to cover her eggs before danger approaches too near. Last June I came across two Moorhens' nests and in each case the eggs were carefully covered with grass and water weed.

JOHN R. B. MASEFIELD.

[We think that Mr. Masefield's experience must be exceptional, and we should like to have the opinions of others on the subject. The proportion of nests with covered eggs to those with uncovered eggs should be stated.—EDS.]

DESTRUCTION OF GROUSE IN A STORM IN YORKSHIRE.

AFTER numerous inquiries in search of evidence as to damage occasioned by the fall of ice on July 2nd (*antea*, p. 67), I have received some interesting information from Thomas Whitwell, Mr. E. B. Emerson's keeper on Swainby Moor, who states

that a severe storm occurred there on Saturday, July 4th; on the 2nd (the date of the storm at the Teesmouth) there was a very heavy thunderstorm, but no hail, only very heavy rain. The ice storm on the 4th was quite local, and centred on Live Moor; in fact it did not extend across the valley of Scugdale to the big moor, which runs parallel to, and only half a mile distant from Live Moor. The ice might be described as in lumps of all shapes and sizes up to about three inches in length, as though a large collection of icicles had been broken into fragments, and the duration of the storm was about half an hour, with continuous thunder and lightning. In places where large covies of Grouse had been located, they were entirely wiped out, and this season is the worst ever known there. The big moor, on the contrary, is much above the average; quite equal to the best years Mr. Emerson has experienced. Swainby is distant fifteen miles S.S.W. by S. from the Teesmouth. T. H. NELSON.

EARLY NESTING IN SCOTLAND IN 1914.—Mr. W. Evans contributes an interesting note on the season of 1914 to the *Scottish Naturalist* 1914, p. 163, which tends to show that the summer-like weather of April tempted several species to breed earlier than usual. Among the more notable records are the following: Greenfinch, 2 eggs on April 17th in Edinburgh district; Rock-Pipit with recently-hatched young on May 11th on Isle of May; Wood-Warbler, 6 eggs, three or four days incubated on May 24th (East Lothian), and Great Spotted Woodpecker with young on May 26th (East Lothian). That the Golden Plover frequently lays in the latter half of April is a well-known fact, and the statements to which Mr. Evans presumably refers in the fourth edition of Yarrell and Seebohm's *History of British Birds* have been corrected in later works, such as Saunders's *Manual* and the *British Bird Book*. A Partridge's nest with several eggs is recorded from near Dunbar on May 3rd; an Eider Duck's nest with 5 eggs (incubation begun) on the Isle of May on May 8th; while one Guillemot's egg and five Razorbill's were seen *in situ* at the same locality on May 9th, and one Guillemot's egg is reported to have been laid on May 7th. Three are said to have been taken from the Bass Rock on the 8th, and Razorbills and Puffins had eggs on the Bass on May 11th. Kittiwakes had begun to lay on the Isle of May on May 19th. Mr. Evans states that the dates here recorded for the Guillemot, Razorbill and Kittiwake are the earliest among his records for the neighbourhood, which cover a considerable period.—F. C. R. JOURDAIN.

MEALY REDPOLLS IN STAFFORDSHIRE.—In his report on birds in Staffordshire for 1913 (*N. Staffs. Field Club, Report 1913-14*), Mr. J. R. B. Masefield states that three examples of *Carduelis l. linaria* were captured near Longton, in December, 1913. This appears to be the first really authentic record of the occurrence of the bird in the county.

WILLOW-TIT NESTING IN RENFREW.—Mr. T. Thornton MacKeith records (*Scot. Nat.*, 1914, p. 164) the finding of a nest with young of *Parus a. kleinschmidti* on June 6th, 1914, in Renfrewshire. It was in a rotten stump and "was lined with wool." The hole had been excavated by the birds themselves.

GARGANEY BREEDING IN KENT.—At the meeting of the British Ornithologists' Club held on June 10th, 1914, Mr. E. G. B. Meade-Waldo exhibited the down and breast-feathers from the nest of a Garganey (*Anas querquedula*) found on the banks of the Eden, near Hever, Kent, on May 27th, 1914 (*Bull. B.O.C.*, Vol. XXXIII., p. 142). The nest had contained eight eggs, that had just hatched, and the duck and her young ones were afterwards seen. From Mr. Meade-Waldo's remarks it would appear that the Garganey is, and has been for some time, at any rate an occasional (if not regular) summer resident in that district of Kent, though the actual fact of its breeding had not hitherto been proved. This is only the third (published) record of the nest of this species having been found in Kent, and the first from the interior of the county, and thus marks a considerable extension of its known breeding-range.

POSSIBLE BREEDING OF TUFTED-DUCK AND POCHARD IN NORTHANTS.—Mr. O. V. Aplin saw three pairs of *Nyroca fuligula* and one pair of *N. f. ferina* on the lakes at Fawsley Park on May 11th, 1914, and thinks they may have been breeding or intending to breed there (*Zool.* 1914, p. 238). It should, however, be remembered that the Tufted-Duck is a very late breeder, so that the evidence is far from conclusive in this case. The Pochard has also been suspected of breeding at Byfield Reservoir, but we believe that neither species has yet been proved to breed in Northamptonshire.

LITTLE GULL IN FIFESHIRE IN JUNE.—Miss E. V. Baxter had several good views of a *Larus minutus* in an immature stage of plumage in Largo Bay on June 10th, 1914. The bird is seldom seen in summer (*Scot. Nat.*, 1914, p. 164).

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INCREASE AND DECREASE IN SUMMER
RESIDENTS.

REPORT ON THE 1913 INQUIRY.

BY

M. VAUGHAN, M.A., M.B.O.U.

As this report has been drawn up on the same lines as that issued last year (Vol. VI., pp. 298-311), it seems scarcely necessary to explain in detail the principles that have been followed. This year only 67 observers responded to the invitation, while last year 116 reports were received, and it may be as well to point out that of these 67, only 9 based their answers on the exact number of birds seen or counted, 19 on their general impression, while in the rest of the schedules this query was ignored, so that it is clear that the value of the information received varies considerably.

Besides this, it was an exception when an answer was received to query 3, "Were the numbers in 1913 above or below the average?" Therefore in many cases it has not been possible to decide whether the numbers of any given species in 1913 were above or below the average, and this naturally detracts from the value of the report as a whole.

This year the returns do not cover so much ground and few counties have been worked with any degree of thoroughness. Kent, Sussex, Cheshire, Lancashire, Hampshire and Yorkshire have been well represented; Staffordshire, Warwickshire, Northumberland, Essex and Surrey fairly so, but other counties have either been omitted, or represented by only one observer, and it goes without saying that it is impossible for a single observer to do justice to a whole county.

In these circumstances, with such scanty material to work on, wide generalizations are out of place; from

the nature of the case it must be remembered that the report can only cover a very limited ground, and all that has been attempted is to decide as briefly as possible how far the conclusions arrived at last year are confirmed or modified by the additional information obtained this year. Perhaps it is not too much to say that in the case of ten out of the twelve species which are under observation, the results obtained in 1913 and 1912 are practically identical, while as regards the other two species, the Swallow and House-Martin, though in a few localities they seem to be recovering the ground lost in 1912, yet it would not be wise to base any very definite conclusion on the evidence which is derived from the returns.

RED-BACKED SHRIKE.—The answers to query 3 are so few that it is impossible to decide whether this species was present in average numbers in 1913 or no, but there can be no reasonable doubt that it is decreasing. It does not seem to be numerous anywhere, and where an increase is reported it amounts to very little. It may be noted that normal numbers always mean small numbers, and attention is often drawn to the fact that this species is slowly decreasing. The absence of this bird is noted in three localities in Surrey, and in Essex, a favourite county, two observers have failed to detect a single bird of this species, while a third reports a decrease of fifty per cent.

THE SPOTTED FLYCATCHER.—As far as can be judged from the answers received to query 3, the Spotted Flycatcher seems to have been present in average numbers in 1913. This species has a wide distribution and appears to be holding its own almost everywhere. The only counties from which distinct decreases were reported were Devon, Cornwall and Wiltshire.

THE CHIFFCHAFF.—As compared with the previous year there seems little change in the status of the

Chiffchaff. Though not so numerous nor so well-distributed as the Willow-Warbler, especially in the north of England, this species appears to be maintaining its position without difficulty. Decreases reported appear to be of purely local significance.

THE WILLOW-WARBLER.—What has been said about the Willow-Warbler in 1912 will apply with equal force to 1913. Though 1912 was a more than average year, 1913 does not seem to have suffered in comparison with it, and there can be no reasonable doubt that this species is holding its own in all parts of the country, though a few local decreases have been recorded.

THE WHITETHROAT.—The numbers of this species seem to have been up to a good average in 1913. The returns of 1913 contain few additional items worthy of notice, and it may be said that they tend to confirm the conclusions drawn from the report of the previous year. The distribution of the Whitethroat is somewhat irregular, but it appears to be a common bird in most parts.

THE LESSER WHITETHROAT.—The returns of 1913 contain little fresh information bearing on the increase or decrease of this species. The distribution of the Lesser Whitethroat is "patchy," and it seems to be numerous in few localities.

THE WHINCHAT.—The additional evidence contained in the returns of 1913 strengthens the conclusion already arrived at, that the Whinchat is steadily decreasing and seems to be almost extinct in localities in which it was comparatively common a few years ago. In a few localities increases are recorded.

THE REDSTART.—Making every allowance for the fact that the Redstart is "patchy" in its distribution, so far as can be judged from the returns it seems probable that this species is decreasing everywhere.

In three localities, Knighton (Radnorshire), Cambridge, and Hampton-in-Arden (Warwickshire), a marked increase is reported, but in the other cases where an increase is noted, it is either a small one, or qualified by the remark "an uncommon bird," or, "below the average." In Devonshire, Cornwall, Wiltshire, Monmouthshire and Surrey, observers have failed to detect the presence of this species, and there is no instance where a decrease in one locality is nullified by an increase in an adjacent area.

THE NIGHTINGALE.—As was only to be expected in the case of a bird with a restricted distribution like the Nightingale, no returns were received from many counties, and so far as can be judged from the limited evidence forthcoming, this species seems to have some difficulty in holding its own.

THE SWALLOW.—If we compare the returns of 1913 with those of 1912, which was a bad year, perhaps it is not too much to say that on the whole this species shows some signs of recovery, though it is not safe to generalize too confidently on such insufficient evidence.

So far as can be gathered from the returns, the counties in which the Swallow seems to be maintaining its ground are Essex, Hampshire and Cheshire.

THE HOUSE-MARTIN.—The returns received for 1913 would appear to indicate that in certain districts this species has become more numerous, but whether this increase is general there is no evidence to determine. As a rule the increase has been a small one and does not amount to very much, the only exceptions being at Lydiard Millicent (Wiltshire), Upton Heath (Cheshire), and Fylde (Lancashire), from which places decided increases have been reported.

Marked decreases have been recorded from Berkshire, Northumberland, Cheadle (Staffordshire), Newport (Monmouth), Lynmouth (Devonshire), Padstow (Cornwall),

Billingshurst (Sussex), Tonbridge (Kent), Lancaster, and Epping (Essex).

This species would appear to be holding its own best in Shropshire, Wiltshire, Cheshire, Hampshire and Essex.

THE WRYNECK.—As far as these reports are concerned there is strong evidence, negative as well as positive, to prove that this species has been and is decreasing.

RECOVERY OF MARKED BIRDS.

It is particularly requested that those who have not already sent in schedules will do so at once, in order that all the birds ringed during the year may be included in the usual annual report, which it is hoped will be published next month.

The following have kindly sent in subscriptions towards the expenses of the Marking Scheme since the last acknowledgment was made: Messrs. J. Bartholomew and B. Beetham, Miss B. A. Carter, Mr. J. R. B. Masefield, Miss E. Mellish, Messrs. T. Robinson, F. A. Rottenburg, and A. O. Whitehead.

STARLING (*Sturnus v. vulgaris*).—15505, nestling, marked by Mr. R. O. Blyth at Skelmorlie, Ayrshire, on May 25th, 1912. Reported by Mr. W. Halford at Helensburgh, Dumbartonshire, on August 11th, 1914.

42359, adult, marked by Mr. T. C. Hobbs at Gosforth, Northumberland, on May 15th, 1913. Reported by Mr. C. Anderson at the same place on August 1st, 1914.

49706, nestling, marked by Mr. R. Burnier near Stanford Dingley, Berkshire, on May 10th, 1914. Reported by Mr. H. Freeman near Slough, Buckinghamshire, on June 28th, 1914.

YELLOW BUNTING (*Emberiza c. citrinella*).—E23, nestling, marked by Mr. J. Murray (Gamekeeper to Mr. H. S. Gladstone) at Tynron, Dumfriesshire, on June 23rd, 1913. Recaptured at Thornhill, Dumfriesshire, on July 15th, 1914. Ring replaced and bird released.

SKY-LARK (*Alauda a. arvensis*).—086, nestling, marked by Dr. H. J. Moon at St. Annes-on-Sea, Lancashire, on May 15th, 1913. Recovered at the same place on June 1st, 1914.

GREAT TIT (*Parus major*).—B750, adult, marked by the London Natural History Society at Hale End, Essex, on January 12th, 1911. Reported by Miss M. S. Mowat at Highams Park, Chingford, Essex, on August 14th, 1914.

BLACKBIRD (*Turdus m. merula*).—43088, nestling, marked by Dr. H. J. Moon at the Fylde, Lancashire, on May 25th, 1913. Reported by Mr. S. Serjeant near Lytham, Lancashire, on May 25th, 1914.

REDBREAST (*Dandalus rubecula*).—R243, adult, marked by Mr. D. A. J. Buxton, at Fairhill, Tonbridge, Kent, on January 10th, 1914. Recovered at same place on August 20th, 1914.

HEDGE-SPARROW (*Prunella m. occidentalis*).—42596, adult, marked by Miss V. E. and Mr. P. A. Buxton at Fairhill, Tonbridge, Kent, on July 19th, 1913. Recovered at the same place on December 29th, 1913, January 18th, 1914 (see Vol. VII., p. 336), and August 26th, 1914. Ring replaced and bird released.

SWALLOW (*Chelidon r. rustica*).—L58, adult, marked by Mr. J. Bartholomew at Kinnelhead, Beattock, Dumfriesshire, on May 28th, 1912. Recovered at East Earshaig, Dumfriesshire, at the beginning of June, 1914.

P936, nestling, marked by Dr. H. J. Moon at the Fylde, Lancashire, on June 14th, 1913. Reported by Mr. E. Kay Robinson at Kirkham, Lancashire, on July 2nd, 1914.

- R908 and T288, nestlings, marked by Miss C. M. Acland, at Banstead, Surrey, on July 5th and August 22nd, 1913. Recovered at Woodmansterne, Surrey, in May, 1914.
- BRITISH GREAT SPOTTED WOODPECKER (*Dryobates m. anglicus*).—11301, nestling, marked by Mr. H. Bentham at Thursley, near Godalming, Surrey, on June 10th, 1913. Reported by Mr. H. W. Bissemer at Chailey, Lewes, Sussex, on July 13th, 1914.
- SPARROW-HAWK (*Accipiter n. nisus*).—26212, nestling, marked by Mr. T. F. Greenwood at Hebden Bridge, Yorkshire, on June 27th, 1914. Reported by Mr. E. G. Horsin at Burnley, Lancashire, on August 18th, 1914.
- COMMON HERON (*Ardea cinerea*).—50332, nestling, marked by Mr. J. R. B. Masefield near Cheadle, Staffordshire, on May 31st, 1913. Reported by Mr. R. E. Knowles between High Moor and Chigford Moor, Cheshire, in May, 1914.
- MALLARD (*Anas p. platyrhyncha*).—34819, adult, marked by Mr. M. Portal at Leswalt, Stranraer, Wigtownshire, on February 28th, 1914. Reported by Mr. C. L. Ronman at Jemtön, Norbotten, Laen, Sweden, on August 12th, 1914.
- CORMORANT (*Phalacrocorax c. carbo*).—50394, nestling, marked by Mr. R. M. Barrington at Saltee Islands, co. Wexford, on June 10th, 1913. Reported by Mr. S. C. Mitchell at Drogheda, co. Louth, on July 15th, 1914.
- 100586, marked as 50394 on June 8th, 1913. Reported by Mr. F. Perse on Lough Corrib, co. Galway, on July 17th, 1914.
- 100584, marked as 50394 on June 8th, 1913. Reported by Mr. D. McCreadie at Turnberry, Ayrshire, on August 22nd, 1914.
- 100661, nestling, marked by Miss A. Pease at Farne Islands, Northumberland, on August 2nd, 1913. Reported by Mr. W. Lambert, Jr., at Morecambe Bay, Lancashire, on September 5th, 1914.
- 50155, nestling, marked by Mr. H. W. Robinson at the Isle of Meledgan, Scilly Isles, on April 20th, 1914. Reported by Dr. Ricard at Loguivy, near Ploubazlanec (Côtes du Nord), France, on July 19th, 1914.
- 50139, marked as 50155. Reported by the Rev. J. R. Paramore at Winkleigh, north Devonshire, at the beginning of August, 1914.
- WOOD-PIGEON (*Columba p. palumbus*).—22521, nestling, marked by Mr. H. W. Ford-Lindsay at Pett, Sussex, on June 15th, 1913. Reported by Mr. G. Clacy at Peasmarsh, near Rye, Sussex, first week of July, 1914.
- LAPWING (*Vanellus vanellus*).—49733, nestling, marked by Mr. A. Greenwood at Hebden Bridge, Yorkshire, on May 30th, 1914. Reported by Mr. A. H. Stanworth near Burnley, Lancashire, on August 31st, 1914.
- COMMON REDSHANK (*Tringa totanus*).—0502, nestling, marked by Mr. J. Bartholomew at Torrance, near Glasgow, Stirlingshire, on June 22nd, 1913. Reported by Mr. H. T. Malcomson at Strangford Lough, co. Down, on September 5th, 1914.
- COMMON SNIPE (*Gallinago g. gallinago*).—18208, nestling, marked by Mr. R. E. Knowles on the east Cheshire Hills on May 16th, 1912. Reported by Lord Newton at Disley, Cheshire, on August 27th, 1914.
- WOODCOCK (*Scolopax rusticola*).—41806, nestling, marked by Mr. Lochrie per Mr. M. Portal in Wigtownshire, on May 7th, 1913. Reported by Mr. W. L. Clifford nine miles from Moffat, Dumfriesshire, on August 28th, 1914.

- SANDWICH TERN** (*Sterna s. sandvicensis*).—82977, nestling, marked by Miss A. Pease at Farne Islands, Northumberland, on July 15th, 1914. Reported by Mr. W. Norkett at Forres, Elgin, on August 29th, 1914.
- COMMON TERN** (*Sterna hirundo*).—80372, nestling, marked by Miss M. H. Greg at Holy Island, Northumberland, on June 27th, 1914. Reported by Mr. Lacy Rumsey at Ovar, near Villa Nova de Gaya, Portugal, on September 8th, 1914.
- 48544, nestling, marked by the London Natural History Society at Blakeney Point, Norfolk, on June 23rd, 1914. Reported by Mr. H. Sims Reeve at Felixstowe on July 28th, 1914.
- 82647, marked as 48544. Reported by Mrs. F. Harbutt at Kessingland, near Lowestoft, Suffolk, on July 29th, 1914.
- LESSER BLACK-BACKED GULL** (*Larus f. affinis*).—33880, nestling, marked by Miss A. Pease at the Farne Islands, Northumberland, on August 2nd, 1913. Reported by Mr. F. W. Taylor at Sunderland on September 12th, 1914.
- 36260, nestling, marked by Mr. F. W. Smalley at Foulshaw, Westmorland, on July 1st, 1914. Reported by Mr. E. Milnes at Fleetwood, Lancashire, at the end of August, 1914.
33885. The bird marked with this ring (recorded on p. 47) was a complete skeleton when found, and had probably died soon after ringing.
- PUFFIN** (*Fratercula a. arctica*).—64734, adult, marked by Miss A. Pease at the Farne Islands, Northumberland, on July 2nd, 1913. Recaptured on the same island on July 16th, 1914. Ring replaced and bird released.



NOTES

ROSE-COLOURED STARLINGS IN SUSSEX.

ON August 9th, 1914, I was shown a male Rose-coloured Starling (*Pastor roseus*) that had been obtained the previous day on the Marsh at Pevensey, Sussex. It was an adult bird in full plumage. Another has been seen on several occasions up to the time of writing (August 24th). I have also heard of a bird being seen "in the company of Starlings" on the Pett marshes, which from the description I am satisfied belongs to this species. H. W. FORD-LINDSAY.

FECUNDITY OF THE HOUSE-SPARROW.

I HAVE, in a wood adjoining my garden near Chelmsford, about twenty Selborne Society nesting-boxes, nearly all of which have been occupied this year (much to my annoyance) by House-Sparrows. Yet the result of my periodical examinations of the contents of these boxes has not been without interest, as it has afforded striking evidence (though little was needed) as to the phenomenal fecundity of this noxious and pestilent bird. Thus, from one box (No. 2), I removed a nest containing either eggs or young on 15th May, 13th June, 4th July, 25th July, and 13th August: that is to say, on *five* occasions within ninety consecutive days—an average of only eighteen days between each brood. From another box (No. 3), I removed a nest containing either eggs or young on four occasions within the same period. From two other boxes (Nos. 5 and 10), I removed nests containing either eggs or young on 15th May, 13th June, 4th July, and 25th July: that is to say, on four occasions within seventy-two days—again an average of only eighteen days between each brood. I cannot prove, of course, that all the nests I removed from these four boxes respectively were the product in each case of one pair of birds; but there is, I think, no reasonable doubt that they were. In view of such facts, need one wonder at the extraordinary abundance of the Sparrow? MILLER CHRISTY.

NOTES ON THE YOUNG OF THE SPOTTED FLYCATCHER.

THIS summer I have spent considerable time watching nests of the Spotted Flycatcher (*Muscicapa s. striata*) and the following points have seemed especially interesting.

The parents invariably carry away the excrement after the young are two days old; up to that time I cannot speak with certainty. Both birds feed and brood, but the amount of brooding is less than with most birds. The parents have often to remove undigested matter from the gapes of the young. This matter is swallowed. From the time when the young are thirteen days old until they leave the nest they can eject such matter themselves and do so over the edge of the nest. The food consists of flies, daddy-long-legs, bluebottles, many kinds of small moths and butterflies up to the size of (and including) the common white butterfly,



SPOTTED FLYCATCHER—ADULT AND JUVENILE.

(Photographed by J. H. Owen).

and wasps. I could not see what kind of wasp was taken, but I fancy it was the common wasp, as it was brought to the young fairly frequently. I noticed that the parents were most particular to render all large insects inert before feeding them to the young, and particularly so with wasps. In about a quarter of an hour one morning I saw five wasp-pellets ejected by the young. One of them was submitted to Mr. G. Meade-Waldo of the Natural History Museum, who stated that it was impossible from this fragmentary material to identify the species, which was probably *Vespa germanica* or *V. communis*. On the same morning I saw remains of bluebottles ejected.

All large insects seemed to be put in the gape head first. The young had to gulp several times to swallow completely

white butterflies. A point that struck me particularly was that the parents would not keep food in the beak long, but swallowed it themselves and immediately began to search for more. I saw them swallow wasps and butterflies as well as small flies when I purposely kept them from the nest. Very often the food, if it had been held in the beak a short time, was covered with a kind of saliva when given to the young.

A very interesting point is that after the young are twelve days old they are not brooded during the night. In July the whole brood in one nest I was watching perished during a very wet, stormy night on this account.

Another point worth noting is that when the young more than fill the cup of the nest, they are not fed in sequence, that is to say, if two are in the cup and two standing above the level of it, these two are fed continually until either they are satisfied, or the two in the cup get very hungry, and then these two work their way up and are fed.

When the young leave the nest a little down is still visible along the back and back of the head. The interior of the mouth is then yellow and the flanges are yellow inside but nearly white outside. The base of the tongue has spurs, and the palate at the back of the mouth has tooth-like projections. The spotting of the young is very much more marked than in the parents, and the spots on the breasts of the young vary considerably, being very much darker in some than others, even in the same brood. J. H. OWEN.

WHITETHROAT USING SUPPLEMENTARY NEST.

ON May 1st, 1914, my friend Mr. L. Miles found a White-throat's (*Sylvia c. communis*) nest which was then nearly completed. Several subsequent visits were paid to the place, but it was not until June 14th, when I accompanied my friend to the nest, that it was found to contain a single fresh egg. This would appear to be an instance of the use of a supplementary nest for breeding purposes.

HOWARD BENTHAM.

[Mr. H. Eliot Howard (*Brit. Warblers*, pt. 4, p. 12) records a period of from six to eleven days as elapsing between the arrival of the female and the laying of the first egg. Mr. J. Whitaker (*Zool.*, 1895, p. 310) mentions a case in which a Whitethroat was observed to sit in a completed nest for fifteen days before an egg was laid. Neither of these cases approaches the period of about forty-four days recorded above.—F.C.R.J.]

SIZE OF SONG-THRUSH BROODS IN THE SCILLY ISLES.

HAVING marked a number of Song-Thrushes (*Turdus ph. clarkei*) in the Scilly Isles during the past summer, perhaps details of the size of thirty-seven broods may be of interest.

2.7	per cent.	contained	5	young.	} Average brood = 3.46.
48.6	"	"	4	"	
40.5	"	"	3	"	
8.1	"	"	2	"	

Only one nest contained five young, but two others contained five eggs apiece, of which, in the one case, only three hatched out, and in the other both nest and eggs disappeared. The average brood was 3.5, as three more broods of four were found, when fully fledged, dead in the nest, but in the above table I have only included those which were actually reared and flew. The nests were all far too small to accommodate a fully-fledged brood of five, one nestling of the only brood of five being accommodated in a hole in a neighbouring wall.

H. W. ROBINSON.

LATE NESTING OF THE NIGHTJAR.

MR. ALFRED M. INGLIS found a Nightjar (*Caprimulgus e. europæus*) sitting on a single egg on the common near Westerham, Kent, on the morning of August 12th, 1914. The egg was accidentally broken by a dog and was then found to be in an advanced state of incubation. The lateness of this particular nest is probably accounted for by the fact that local fires have been frequent on the neighbouring common, and may have destroyed earlier attempts. I should be glad to know if this is the latest record for the Nightjar.

CLIFFORD BORRER.

[As it is now known that the Nightjar sometimes rears a second brood in the season, it is not unnatural that eggs and young should be met with occasionally in August and even in September. Amongst other recorded instances may be mentioned a young bird about three days old in Yorkshire on August 19th (*Zool.* 1883, p. 380): one egg hatched August 19th in Yorkshire (*t.c.* p. 429): a pair of eggs in Norfolk, which were hatched on August 13th (*ibid.*): two eggs in Sussex on August 17th (*Field*, August 21st, 1880): two fresh eggs in Hampshire on August 12th (*Zool.* 1883, p. 495): two fresh eggs also from Hampshire on August 15th (*Zool.* 1910, p. 339): and young, twelve to fourteen days old, on September 2nd, in Yorkshire (*Nat.* 1889, p. 333).—F. C. R. JOURDAIN.]

CUCKOOS' EGGS AND NESTLINGS IN 1914.

IN previous years (*cf.* Vols. VI., pp. 330-3 and VII., pp. 233-4) I have given details of the Cuckoos' eggs and nestlings found by myself and other members of the Felsted School Scientific Society. In 1914 thirty-four eggs and young were found as follows:—

<i>Foster-Parents.</i>	<i>No. of Cases.</i>	<i>Percentage.</i>
Hedge-Sparrow	18	52.9
Pied Wagtail	5	14.7
Redbreast	5	14.7
Sedge-Warbler	4	11.7
Linnet	1	2.9
Greenfinch	1	2.9

One nest was deserted with the Cuckoo's egg alone in it. Of the sixteen young that I saw in the nests six died or were destroyed in the nestling stage. This is a much smaller percentage than I have recorded in previous years. Three nests (one Hedge-Sparrow, two Pied Wagtails) each had two Cuckoos' eggs. The Pied Wagtails' nests were both in the same garden, and the first was taken by the boy that found them. The second nest was left for observation, but was unfortunately destroyed by rats when the young were hatching. In all three cases the eggs were the produce of different Cuckoos.

The first eggs were found on May 17th in a Redbreast's nest with four eggs and a Hedge-Sparrow's with three, and were evidently laid early on that day, as the nests were under observation. The last Cuckoo left a Hedge-Sparrow's nest on August 8th. We last heard mating notes, double notes, etc., on June 28th, and last heard the Cuckoo on June 29th. This should mean, in my experience, that no egg was deposited after June 30th at latest, and makes our last Cuckoo a very interesting problem. Giving the young one twenty-one days in the nest and thirteen days to hatch (a good allowance), thirty-four days in all, incubation of the egg should not have started before July 5th. The Cuckoo must therefore have deposited the egg a few days after all calling had ceased, which is altogether contrary to my previous experience. We had another young Cuckoo quite close to the last-mentioned, which left the nest on August 2nd. In this case incubation should have begun on June 29th, and this egg was probably the last but one from the same Cuckoo.

J. H. OWEN.

DEVELOPMENT OF YOUNG PEREGRINE FALCONS.

As there are some vexed questions regarding the incubation of the Peregrine Falcon (*Falco p. peregrinus*) which still remain to be answered to the satisfaction of all, the following observations may be of value.

According to my experience the Falcon begins to sit before the full clutch is laid, and, although the young Falcons may grow more quickly than the young Tiercels, evidence as to the date of hatching can still be obtained from the development of the young, development not being the same as size.

On June 15th, 1914, I visited an eyrie containing two young about three weeks old. The birds showed considerable difference in size and the smaller bird was far the most fully feathered, while its voice was higher in pitch. The difference in the voices of the two young was roughly the same as in the case of the adult Falcon and Tiercel. On June 21st I went to the eyrie with a friend. The difference in size was even more evident, but still the smaller was more fully developed; its feathering was practically complete: the larger had a quantity of down adhering to the feathers, while the smaller bird showed none. The difference in voice was so striking that we could either of us say which bird it was that was calling, without looking. From voice and size we concluded that the smaller bird was a young male, and from its development we concluded that it had been hatched before the other. DOUGLAS A. SCOTT.

FOOD OF SPARROW-HAWKS.

I HAVE read Dr. Penrose's note on the Sparrow-Hawk's method of feeding its young (*antea*, p. 98) with great interest, and his observations on the nature of the food entirely corroborate my own. I know these birds are classed as "vermin" of the worst kind by most keepers, but I am beginning to wonder if they ever do any real damage. Not many years ago we had a nest about half a mile from the field on which we were rearing upwards of three thousand Pheasants. The keepers had instructions not to molest the Hawks unless caught red-handed. They passed over the coops day after day, caught numerous young Sparrows, but never once touched a young Pheasant. The eggs were allowed to hatch, and the young flew in peace. In my experience, a Kestrel, *when* she takes to the coops, will do far more harm than any Sparrow-Hawk. The same season as the incident recorded above, a Kestrel took over fifty

young Pheasants before she was destroyed. It is well known that these birds, as a rule, do little or no harm to game, but when an individual takes to the coops it must be shot on sight, though I would never allow one of these delightful birds to be killed unless caught in the act.

HEATLEY NOBLE.

GADWALL IN CHESHIRE.

ON August 19th, 1914, I shot a young male Gadwall (*Anas strepera*) on a pond near Heswall. It was by itself, although there were two Mallards on another portion of the pond. It flew off as I walked up, but coming round again I shot it. I felt sure it must be a Gadwall, but to make more certain I sent it to Mr. T. A. Coward for confirmation.

This is the first specimen of this bird I have come across during nearly thirty years of shooting in the Dee estuary and neighbourhood, though I have had many hundreds of ducks of all kinds through my hands.

JOHN A. DOCKRAY.

FERRUGINOUS DUCK IN CARNARVONSHIRE.

ON the landward side of the railway embankment at Afonwen are some shallow meres fringed with reeds and reed-mace and covered in part with beds of water-lilies. These pools are much frequented by ducks, and on August 27th when I was at the place with Mr. F. Brownsword there was on one of them, in addition to the Mallard, Teal, Wigeon and Shovelers which one expects at this season, an adult male Ferruginous Duck (*Nyroca nyroca*). The bird when we first saw it was diving for food among some Coots on the fringe of a reed-bed. Startled by the firing of a gun it rose with the other birds, but pitched again on another of the pools, where we found it later sleeping in a lily-bed. On the water the bird looked rather smaller than a Tufted Duck; its head was a warm brown passing into bay on the neck, upper breast and flanks; the back and tail noticeably darker than the flanks and breast; the white eyes showed up plainly against the brown cheeks. On either side of the base of the tail was a pure white spot, apparent only when the bird swam high in the water, but in the act of diving the white of the belly was plainly visible; bill lead colour. In flight a narrow white bar showed right across the wings.

C. OLDHAM.

STONE-CURLEW BREEDING IN BUCKINGHAMSHIRE.

IN 1909 a farmer living on a part of the Chilterns in Buckinghamshire told me that he felt sure that the Stone-Curlew (*Burhinus æ. œdicnemus*) bred regularly on his farm. I expressed my doubts as to whether some mistake had not been made, and spent a whole day at the farm trying to find the birds, but was unsuccessful. On May 23rd, 1910, he brought me two eggs which one of his men had found that day while horse-rolling one of the fields. These eggs are now in the Aylesbury Museum. I then asked the farmer to do what he could to see that the birds were not molested in future.

This year he brought me a photograph (taken by a friend on April 19th) of another nest on his farm, and he has since let me know that the eggs hatched off safely. The gentleman who took the photograph writes me as follows:—"The eggs were deposited on a flat place scratched out in a furrow and were surrounded by a collection of small chalk stones. I think the Great Plover is not so rare in Bucks. as is commonly supposed, as I have heard of several places on the Chilterns where it breeds regularly." I may say that I have never seen one of these birds in Buckinghamshire until this year, when I saw one on April 28th about six miles from where the photograph was taken. This was on a large flinty field quite suitable for a nesting site, but closer to houses than I have previously seen these birds.

EDWIN HOLLIS.

[Dr. Hartert in the *Vict. Hist. of Buckinghamshire* (1905) speaks of this species as formerly not uncommon in several localities, but now not nesting anywhere in the county, and not even recorded on trustworthy evidence as having been heard for years past, so that the above record is of considerable interest.—EDS.]

YELLOWSHANK IN SUSSEX.

Two examples of the Yellowshank (*Tringa flavipes*) were obtained at Camber, Sussex, on August 15th, 1914. I examined them in the flesh on the following morning, when one proved to be an immature male, and the other an adult female. This is, I believe, the first time that the species has been obtained in the county. It is also curious that these two birds were shot by a young man who was under the impression they were Redshanks, and had he not been successful in obtaining some of the latter he would not

have noticed that they were of a different species, so that I should not have had an opportunity of examining them, with the result that this record would never have appeared.

H. W. FORD-LINDSAY.

[Only three previous occurrences are admitted in our *Hand-List*, viz. : Notts. 1854 (?), Cornwall, Sept. 12th, 1871, Fair Isle, Sept. 24th, 1910.—EDS.]

SPOTTED CRAKE IN SUSSEX.

ON August 1st, 1914, whilst at Pett, I was shown a Spotted Crake (*Porzana porzana*) by one of the "lookers," who had just picked it up under the telegraph wires. It was quite fresh, and I should say it had only been killed the previous night. Unfortunately the next day was Sunday, and the Monday Bank Holiday, so it was not until the 4th that I gave it to Mr. Ruskin Butterfield for the Hastings Museum. By an oversight he put it on one side until the Wednesday, when it was too far gone to preserve.

H. W. FORD-LINDSAY.

MOOR-HEN COVERING EGGS.

THE notes which have appeared in BRITISH BIRDS (*antea*, pp. 54, 79, 102) on this question are very interesting. Mr. Masefield's experience, which has led him to look upon the habit of covering her eggs as quite a common one of the Moor-Hen, is the very opposite of my own. In fact, out of the scores of Moor-Hens' nests which I have found, I have never yet seen one which had the eggs properly covered, and, as I have been interested in this question for many years, I have invariably examined the nests very carefully when possible, even though no eggs were visible. One does sometimes find bits of reeds or leaves or nest-material lightly laid over the eggs, but I have always considered this due to accident and not to design on the part of the bird, because in no single case which I can recall did this material in any way tend to the concealment of the eggs. Although I have often watched Moor-Hens both on to and off the nest, I have never seen any attempt to cover or uncover the eggs on the part of the bird, even when she has left without being disturbed.

E. ARNOLD WALLIS.

I have seen many Moor-Hens' nests, but cannot recall ever observing one in which the eggs had been covered by the bird in leaving.

NEVIN H. FOSTER.

I HAVE watched Moor-Hens' nests on our pond for nearly fifty years and have never yet seen any of the eggs covered when the birds were away, and as we have any amount of rats, one would suppose that if it is customary for them to cover their eggs for protection, they would do so in this case. Further, I may say that I have never come across a nest of Moor-Hen with the eggs covered in all my wanderings.

HERBERT MASSEY.

NOTES FROM SCOTTISH ISLANDS, SPRING, 1914.—The Duchess of Bedford publishes (*Scot. Nat.* 1914, pp. 173-181) some interesting notes of birds seen at various Scottish islands in the spring of 1914. The article is accompanied by some very excellent photographs of the Stack (Orkneys) and North Rona. The notes of chief interest are as follows:—

ORTOLAN BUNTING (*Emberiza hortulana*).—On May 8th there appeared at Fair Isle a number of these birds. It was difficult to estimate how many, but every little patch of ploughed land held one or more. They stayed a few days.

GANNET (*Sula bassana*).—The number of Gannets at the Stack of Stack and Skerry is estimated at about five thousand. Mr. Gurney in *The Gannet* estimated the number from various reports at five thousand on p. 164, but subsequently (p. 325) considered eight thousand probable. The Duchess notes that she has frequently seen these birds fishing in a perfectly calm sea, though it has been stated that they cannot catch fish in such water.

GREAT SHEARWATER (*Puffinus gravis*).—On June 21st immediately after leaving the Stack numbers of Great Shearwaters were seen. Often six or eight were in sight at one moment, and for two hours the yacht going slow was passing amongst them. They are described as somewhat heavy looking on the water with much white showing on their flanks. In flight they appear very dark, slightly slimmer than Fulmars, with a dark band across the tail and the white on the upper tail-coverts conspicuous.

FULMAR PETREL (*Fulmarus g. glacialis*).—A few Fulmars were found breeding on Bulgach, an island between Cape Wrath and Handa, in both of which places the bird has bred for some time. The Duchess also remarks that all along the north coast of Sutherland, Fulmars are seen in small numbers.

WHIMBREL (*Numenius ph. phaeopus*).—A pair were seen on high ground on North Rona on June 21st, but there was not time to search for a nest.

GREY-HEADED WAGTAIL AND CONTINENTAL REDBREASTS ON THE ISLE OF MAY.—Miss L. J. Rintoul and Miss E. V. Baxter paid their usual spring visit to the Isle of May from May 8th to 25th, 1914, and record (*Scot. Nat.* 1914, pp. 198-201) that a Grey-headed Wagtail (*Motacilla f. thunbergi*)

was identified on May 20th, and Continental Redbreasts (*Dandalus r. rubecula*) on May 16th (one), 17th (two), 22nd and 23rd (one).

WHITE'S THRUSH IN ABERDEENSHIRE.—Mr. A. L. Thomson records (*Scot. Nat.* 1914, p. 201) that an example of *Turdus d. aureus* was killed by flying against a window in the Castlehill, Aberdeen, on October 6th, 1913.

THE OSPREYS OF LOCH AN EILEIN.—The *Scottish Naturalist* for July, 1914 (pp. 149-158), contains a reprint of an interesting article by Mr. C. G. Cash from the *Cairngorm Journal* of July, 1907, in which the history of the Loch an Eilein Ospreys (*Pandion h. haliaëtus*) is traced with considerable detail between the years 1804 and 1902. Mr. Cash criticises the account given by Messrs. Harvie-Brown and T. E. Buckley in the *Fauna of the Moray Basin*, Vol. II., and points out some unimportant inaccuracies. We do not think, however, that the statements quoted from Dunbar's "Reminiscences," and the extract from Mr. Howe's letter can be taken to mean that three eggs and two young birds were found in the same nest at one time. In the former case Dunbar speaks only of the three eggs, and in the second two young birds and one egg are mentioned. That this nest was severely harried by Roualeyn Gordon-Cumming and Lewis Dunbar in the 'forties and early 'fifties is of course well known, and there is evidence that the Loch an Eilein or Loch Gamhna nests were also robbed in 1887, 1889, 1891, and possibly in 1885-6, 1892, and 1898. It is, however, quite clear from Mr. Cash's record that in every year from 1894 to 1897 young were hatched, while in 1899 the eggs were broken during fighting between the birds themselves. Since 1899 no breeding has taken place, and in 1901 and 1902 only a single bird appeared at the Castle and remained mateless. Since then this historic site, sad to say, has been untenanted. As to the cause of the final disappearance of the birds, there are not sufficient facts to show, and perhaps it will never be known. There are some who have laid the blame on egg collecting, while others have put it down to the shooting of the birds on migration. However much we may deplore the taking of the eggs years ago, it is evident from the facts above narrated that egg collecting was not the cause of the birds' disappearance. As to the shooting of Ospreys on migration, it is unfortunately a fact that a number were so shot during the years preceding those which witnessed the disappearance of the Osprey from Loch an Eilein, but it is also a fact that a number of

Ospreys from the Continent annually migrate through the British Isles, and as it is not possible to state exactly the limits of British and Continental migration routes we cannot say whether the Scottish Ospreys happened to be amongst the killed or not. When a species becomes exceedingly rare as a breeding bird in any area, any interference, whether by human or other agency, may exterminate it altogether, and the risk is greater in the case of a migrant such as the Osprey, and to disturb the status of any such species must be condemned as an unscientific act.

FULMAR PETRELS IN KINCARDINESHIRE.—On June 18th, 1914, Miss L. J. Rintoul, Miss E. V. Baxter, and Mr. L. R. Sutherland visited the cliffs of Fowlsheugh to discover whether the Fulmar had yet extended so far south (*Scot. Nat.* 1914, p. 215). They were rewarded by seeing ten Fulmars, and although none seemed to be actually breeding, there is little doubt that they will do so. It was only in 1911 at Berriedale Head that the only other colony on the east coast of Scotland was discovered, and Fowlsheugh is a degree south of this. Is it too much to hope that some day the Fulmar will appear on the Yorkshire cliffs?

DECREASE OF BLACK-HEADED GULLS IN DUMFRIESSHIRE.—Mr. H. S. Gladstone gives details (*Scot. Nat.* 1914, pp. 203-4) showing that the nests of Black-headed Gulls in Dumfriesshire have decreased from 5,300, when he made a census in 1908 and 1909 (*cf. The Birds of Dumfriesshire*), to 3,600 in 1914. The decrease is partly accounted for by the draining of two lochs and the destruction of some 1,000 to 1,200 nests; on the other hand, no new "gulleries" of any importance have been discovered in the county.



REVIEWS

Report on Scottish Ornithology in 1913, including Migration.

By Evelyn V. Baxter and Leonora Jeffrey Rintoul.
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THIS is the third annual Report on Scottish Ornithology to be issued separately. It is drawn up on the same excellent plan as that for the previous year, the information being given under the following headings: "Species and Subspecies new to Scotland," "Birds new to Faunal Areas and Uncommon Visitors," "Extension of Breeding Range," "Summer and Nesting," "Winter," "Ringing," "Plumage," "Habits," "Migration," and notes arranged under species which form the bulk of the Report. So far as we have been able to check it, this Report has been compiled with great care and accuracy, and is altogether a very valuable piece of work.

The authors remark that the year 1913 was one of much interest to students of Scottish Ornithology: five birds new to the list were recorded, as well as many uncommon visitors; so far as summer and winter migrants were concerned the date of their arrival and departure were on the whole normal; rock-breeding birds were reported from several stations on the west coast as rare or absent; on the other hand, some of the Ducks, the Great Crested Grebe, and notably Fulmars, extended their breeding ranges; while at the end of the year the arrival of Waxwings in numbers was an event of considerable interest.

Many of the records in the Report have of course already been published, but there are a number of very considerable interest which appear here for the first time, and these with a few others which have not previously been referred to in our pages are noted below; all the dates are in 1913:—

MEALY REDPOLL (*Carduelis l. linaria*).—A few are recorded from several of the northern isles and Outer Hebrides from mid-September to mid-October, and a large immigration began on October 26th and lasted until the end of November. They were noted at many stations, chiefly, apparently, in the northern isles and on the east coast, but also as far west as the Outer Hebrides.

GREENLAND REDPOLL (*C. l. rostrata*).—"Quite a party" were seen at Possil Marsh (Clyde) on November 8th, and again in November and December, when specimens were procured and submitted to Mr. Eagle Clarke for identification.

ORTOLAN BUNTING (*Emberiza hortulana*).—Fourteen at Fair Isle at different dates in May and three on September 15th; two at

Pentland Skerries on May 7th, and two on September 19th; single birds at Auskerry on May 11th, 12th, and 14th.

LAPLAND BUNTING (*Calcarius l. lapponicus*).—One at Auskerry on October 3rd; one at the Flannans on November 12th.

WOOD-LARK (*Lullula a. arborea*).—One at Auskerry on October 11th and 21st; one at the Flannans from early November to January 27th, 1914, when it was shot.

SHORE-LARK (*Eremophila f. flava*).—Single birds at Fair Isle and Pentland Skerries in October; two at Auskerry on October 30th, one November 2nd, and two November 3rd.

BLUE-HEADED WAGTAIL (*Motacilla f. flava*).—Single birds at Fair Isle on May 12th and June 3rd.

GREY-HEADED WAGTAIL (*M. f. thunbergi*).—At Fair Isle five on May 13th, one 15th, two 17th, and two June 28th-30th.

YELLOW WAGTAIL (*M. f. rayi*).—Single birds at Fair Isle and Auskerry at various dates in April and May; one at Pentland Skerries on September 19th.

GREY WAGTAIL (*M. b. boarula*).—Two at Fair Isle on May 30th, and reported at various dates from August to early October from North Unst, Galson (Outer Hebrides) and Flannans.

GREAT GREY SHRIKE (*Lanius e. excubitor*).—One at Fair Isle on October 15th.

RED-BACKED SHRIKE (*L. c. collurio*).—One at the Flannans on May 20th.

WAXWING (*Ampelis garrulus*).—A few occurrences are noted in November and December, but most appear to have arrived in Scotland in January, 1914, and do not therefore come within the scope of this report.

SIBERIAN CHIFFCHAFF (*Phylloscopus c. tristis*).—Single birds at Fair Isle on October 4th and 10th previously recorded as "autumn" (*cf.* Vol. VII., p. 49); one at Lerwick on October 31st, in addition to those already mentioned (*l.c.*).

NORTHERN WILLOW-WARBLER (*Ph. trochilus eversmanni*).—One at Little Ross Lighthouse (Kirkcudbrightshire) on April 30th.

WOOD-WARBLER (*Ph. s. sibilatrix*).—One at Lerwick on May 11th, besides that already recorded on May 4th (*cf.* Vol. VII., p. 349).

BARRED WARBLER (*Sylvia n. nisoria*).—In addition to the remarkable number already recorded for England and Scotland in the autumn of 1913, the following occurrences are here given:—One at the Flannans on September 2nd and one on the 26th; one on Pentland Skerries on the 19th.

LESSER WHITETHROAT (*S. c. curruca*).—Noted in small numbers at Fair Isle, Pentland Skerries, Auskerry and Isle of May, during first half of May, and during September to October 6th, the last on October 12th at Isle of May.

RING-OUZEL (*Turdus t. torquatus*).—One was seen at close quarters at Aberlady on February 1st. Occurred in the Flannans in autumn.

BLACK REDSTART (*Phoenicurus o. gibraltariensis*).—An unusual number occurred both in spring and autumn, viz., Mull of Galloway, February 1st; Pentland Skerries, five in March, three in April, two in May, three in October, one in November; Isle of May, one in March, one in April, ten in May, seven in October; Auskerry, five in October, besides those already reported (Vol. VII., p. 303).

NORWEGIAN BLUETHROAT (*Luscinia s. gaetkei*).—One at Pentland Skerries on May 6th and four on September 19th, one at Aukerry on May 8th.

HEDGE-SPARROW (*Prunella m. occidentalis*).—Two nests were found in Uist (Outer Hebrides) where it has not previously been known to breed.

HOOPOE (*Upupa e. epops*).—One at Lerwick on September 22nd.

GREAT SPOTTED WOODPECKER (*Dryobates m. anglicus*).—Bred at Thirlestane and Gask (Perthshire).

WRYNECK (*Jynx t. torquilla*).—One at Little Ross Lighthouse (Kirkeudbrightshire) on August 28th.

SPARROW-HAWK (*Accipiter n. nisus*).—One at Sule Skerry on April 15th and one on May 17th, one at Aukerry on October 8th.

SHELD-DUCK (*Tadorna tadorna*).—One at Fair Isle on September 10th.

GADWALL (*Anas strepera*).—Found breeding (young seen) in Moray and Sutherland, a first record for the former and second for the latter. It will be remembered that it was found breeding in Caithness in 1912 (*cf.* Vol. VI., p. 318).

SLAVONIAN GREBE (*Colymbus auritus*).—Two nests with eggs were found on June 26th.

LITTLE STINT (*Erolia m. minuta*).—One at Fair Isle on June 2nd.

GREEN SANDPIPER (*Tringa ocropus*).—One at an inland loch in Ross-shire on August 15th.

BLACK-TAILED GODWIT (*Limosa limosa*).—One shot in Kirkeudbrightshire on the Solway on January 2nd, five clearly identified on the Dornoch Firth on August 26th, one on the Beaully Firth on October 13th.

LONG-TAILED SKUA (*Stercorarius longicaudus*).—In May one in Harris, and one at New Deer (Aberdeenshire).

H. F. W.

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CORMORANTS IN NORFOLK.

BY

E. L. TURNER, HON. MEM. B.O.U.

THE nesting of a pair of Cormorants (*Phalacrocorax c. carbo*) in a disused Heron's nest in Norfolk has already been reported by Mr. J. H. Gurney (*antea*, p. 52), and shortly after the announcement I was asked to visit the nesting-site in order to procure photographs if possible. The results are interesting as a scientific record; pictorially they fail, for the technical difficulties of the situation were insurmountable.

The nest selected by the Cormorants was placed at the top of a large alder on a tiny island in a lake. It was about forty feet up, and difficult of access owing to the unsound condition of the tree. A reference to Figure 1 will give the reader a better idea of its whereabouts than can any written words. It was in the middle of the branches on the extreme right-hand top corner of the walled island, not in the fork of the tree where the sky shows through, but just over this. In Figure 2 the old bird is seen perched above the nest, while in Figure 3 one adult is flying away, and the other may be discerned just beneath the moving bird; the nest with one youngster sitting upright is to be seen to the left. Figure 3 was taken after a large branch had been removed in order to let in some light. Two young birds were first visible on July 1st, but I think they must have been hatched some days earlier. By July 8th the brood was found to consist of four. The first two birds were fledged on July 28th, the third on August 1st, while the fourth remained in the nest till August 6th.

Cormorants do not breed on the east coast south of Flamborough Head. They have not been known to nest in Norfolk for upwards of two hundred years. William Turner wrote in 1544: "I have seen Mergi nesting on sea-cliffs about the mouth of the Tyne river,



Fig. 1. THE ISLAND IN A LAKE IN NORFOLK, SHOWING THE TREE
IN WHICH THE CORMORANT'S NEST WAS PLACED.
(*Photographed by Miss E. L. Turner.*)



Fig. 2. THE OLD BIRD PERCHED ABOVE THE NEST
(*Photographed by Miss E. L. Turner.*)



Fig. 3. ONE OF THE OLD BIRDS FLYING AWAY, AND THE NEST.
(*Photographed by Miss E. L. Turner.*)



Fig. 4. THE YOUNG. FIRST ATTEMPTS AT WING EXERCISES,
JULY 7th.
(*Photographed by Miss E. L. Turner.*)

and on lofty trees in Norfolk with the Herons" (*Turner on Birds*, edited by A. H. Evans, 1903, p. 111). Sir T. Browne in his MS. notes and letters, written between 1605 and 1682, printed with notes by T. Southwell in 1902, states (p. 11) that Cormorants built at Reedham "upon trees from whence King Charles the first was wont to be supplied." There is no evidence to show when they ceased to breed at Reedham, but it is stated in Lubbock's *Fauna of Norfolk* (new edition 1879, p. 174) that Cormorants nested in Herons' nests in the woods of Herringfleet on the shores of Fritton Lake in Suffolk occasionally, but not regularly; that in 1825 there were many nests, and in 1827 not one. Since that time there is no record of Cormorants having bred in Norfolk or Suffolk.

I paid my first visit to the birds depicted here on July 7th.

After prospecting from all points of view and taking trial photographs, it was found impossible to obtain successful results either from the shore or from a boat, so we landed on the island, selected what appeared to be a reasonably strong tree, about 20 ft. away from the Cormorants' nest, and, at dusk, a tall ladder was securely fixed against it. No platform or shelter of any description could be erected, because at that height one was on a level with the topmost branches of the surrounding trees, most of which were too slender to bear any weight, or else too decayed.

The next day, July 8th, when I first mounted the ladder, one old Cormorant sat quietly on a branch near the nest for some time. I exposed a plate, more or less at random, before the bird flew away. This was the only one exposed during that day, for a large limb and several smaller twigs had to be removed from an adjacent tree before the nest was clear. In order to do this the ladder had to come down, men and saws hunted up—a process which took about three hours and entailed a lot of labour, for the ladder alone required

three men to lift it into position. I did not care to risk disturbing the Cormorants any longer and so left them for several days.

The only good light on the nest was between 11 a.m. and 1.45 p.m., but being several feet beneath it, my camera had to point upwards towards the underside of the surrounding foliage, which never reflected any light. Moreover, the ladder swayed with every gust of wind, and the Cormorants were never still, so that no exposure above one-twenty-fifth of a second was practicable. I used my Birdland camera throughout at double extension. It was slung round my neck and balanced against a pole tied at right angles to the ladder.

Cormorants somehow look ridiculously out of place in trees; their curiously-shaped feet with the four toes webbed do not seem adapted for perching. I tried very hard to get a good photograph of their peculiar method of hanging on to a branch, but the colour of their feet harmonised with the wood so well that they failed to show. I sometimes laughed aloud at the terrified expression of the adventurous nestlings when they first began to perch on some slender branches near the nest. If a sudden puff of wind came, the birds wrapped their feet tightly round a twig, crouched down and craned their necks towards the haven of the nursery, and sometimes made desperate efforts to regain it, opening their beaks meanwhile and panting with fear. It occurred to me that possibly I might present the same frightened aspect to the Cormorants, when sudden gusts compelled me to cling to my ladder with both hands, as both it and the tree bent before the wind. The first batch of photographs obtained between July 7th and July 20th showed only two birds clearly. Occasionally the head of number three appeared, but the fourth was not of an age to sit up and take notice, except at feeding-time; then all four showed up plainly as soon as the old bird approached. That fortnight was a particularly hot one, and the two elder birds sat with open beaks

pointing skywards, rapidly inflating their throats. Sometimes they leaned against a branch, panting in this peculiar manner. I do not know whether they liked or disliked heat.

They loved sunning their queer little aldermanic, down-covered bodies and expanding their wings, flapping the latter solemnly to and fro. I knew when the old



Fig. 5 WAITING TO BE FED.
(Photographed by Miss E. L. Turner.)

birds were near, because the nestlings would suddenly stand up and, gazing skywards, follow the circling flights of their parents with a corresponding circular motion of their four heads, and also give vent to four wailing cries when the old bird sheered off without feeding them. On two occasions only did she come within range, but the result was not satisfactory. To my intense annoyance, however, she invariably returned to the nest directly I left the island. The nestlings were fed by both old birds; each in turn received a due proportion of food. There was no pushing or quarrelling,

and their table manners—for Cormorants—were quite good; but the noise they made during the progress of the meal was like that produced by four uncoiled pump handles all working inharmoniously together. Between July 21st and July 26th a continuous gale raged, but on the 27th there came a lull, and I made a dash for my birds, securing the one bright hour of the



Fig. 6. THROWING LEAVES OVERBOARD.

(*Photographed by Miss E. L. Turner.*)

day for my work. This was the first time I obtained a photograph of all four nestlings together. Just after mounting the ladder a sudden heavy shower forced me to shut up the camera and descend. Then occurred one of the prettiest sights it was my luck to witness, but I had to remain fretting and fuming on the ground. The four young birds stood upright and flapped their wings in unison all the time the storm lasted, twisting their heads from side to side with quaint, sinuous movements, and evincing every symptom of keen enjoyment. They were at all times amusing, and the first and fourth

birds had an individuality of their own. No. 1, being the eldest and strongest, swaggered considerably and lorded it over the rest; No. 4, being the last in the nest and somewhat less adventurous than the others, played solitary games. They all loved a tug-of-war with bits of stick: two or three, and sometimes all four, took part in this. Their individual diversion was to pull off



Fig. 7. WATCHING THE WORLD IN GENERAL, JULY 31st.
(*Photographed by Miss E. L. Turner.*)

leaves, drop them outside the nest and then lean out to watch them flutter out of sight. Sometimes two interlocked their beaks and engaged in a mild sham fight. They never quarrelled, and their mutual conversation sounded quite amicable, if raucous. On July 27th the two older birds stood on the edge of the nest flapping their wings vigorously and rapidly for ten minutes at a stretch, so that I was not surprised to hear three days later that they had flown. I was told that there were "six birds on the wing," but the two younger birds were as yet quite unable to fly.

When I went again on the 31st two flew out of the nest, while the remaining birds sat up and watched the world in general. Later in the day I rowed after the two fledged birds and found that they could only take short flights, after which they either dropped on to the water or stood on shore. Sometimes they perched on a rope which was stretched across one end of the lake for the



Fig. 8. SLIGHTLY BORED, JULY 31st.
(*Photographed by Miss E. L. Turner*)

use of bathers. The young Cormorants found some difficulty in balancing themselves on this, and generally ended by falling into the water. I stayed that night at the keeper's house, hoping to creep up the ladder at dawn without disturbing the sleeping birds, but it was a wet morning and photography out of the question. I went out at 5.30 and found one bird sitting on the bridge and two playing in the water; this left only the youngest at home. I spent from 9 a.m. till noon near her, but she slept peacefully for two hours, while I spent the time watching the others disporting themselves with

their parents on a spit of sand by the lake-side. From my perch I had a fine view over the lake ; so had the one remaining bird, which every now and again complained loudly at the solitude, or else vigorously exercised its wings ; but its chief amusement consisted in pulling the nest to pieces and remaking it, or else in dropping twigs overboard and looking after them as they fell.



Fig. 9. EXIT No. 3.

(*Photographed by Miss E. L. Turner.*)

There was a tremendous fascination about watching these big birds in their first efforts at flight. One almost *saw* the rise and growth of the instinctive impulse to fly. I grew quite excited about it myself, because at such close quarters one not only observed the continuous efforts resulting in a daily increase of strength, but also the fearful joy of it ! The spasmodic gasping, and wild startled eye, the dread of that first plunge into the new life and then—it was an extra puff of wind that finally launched No. 3—the young Cormorant has sky and sea as well as the earth for his wanderings.

On August 3rd I erected a hiding tent on the sandy point, where I had seen the Cormorants disporting themselves, and I stayed that night in a lodge by the lake-side. The youngest bird was still in the nest, and about 5 p.m. two others joined it. A great chattering ensued and was maintained till dusk. Finally these two young ones settled down to roost by the nest. But



Fig. 10. THE LAST TO LEAVE, AUGUST 3rd.
(Photographed by Miss E. L. Turner.)

the adult birds and their first-born roosted in a corner of the wood at the far end of the lake, where they could, however, keep an eye upon their nursery. This youngster now showed white on the breast and looked very conspicuous against a background of fir branches. His parents seemed very pleased with him and sat side by side encouraging him to take short circular flights above them, and each time he alighted they greeted him with approving grunts. The old birds also indulged in much quiet love-making, rubbing their beaks together and raising and lowering their heads in unison. They

kept up these rhythmic movements for a considerable time. A colony of Herons (whose breeding-place was on the Cormorant island) also roosted in the same corner of the wood and came in at dusk with loud discordant cries. An owl hooted and Pheasants crowed, while scores of Wood-Pigeons kept up a continuous undercurrent of sound. Amid all these essentially woodland notes the hoarse cries of the old Cormorants and creaking notes of their offspring sounded curiously out of place. As the shadows in the lake grew longer, a flock of Canada Geese flew in and, with a swish and a swirl, alighted on the water. I was in my tent about 3 a.m. the following morning (August 4th). The Cormorants awoke at 3.30, and the five met on the lake where they swam about for some time. The old birds then flew straight out to sea while the young went back to the nest and awaited their parents' return at 6 a.m. when they were fed. During the whole of that morning they remained either on the island or flew to adjacent trees, or else played together on the lake. They were fed again at 12.30.

I paid my final visits to the Cormorants on August 20th and 21st. The tent had been in position since August 3rd, and therefore I hoped all the birds were used to it. When I reached the lake at 4.30 p.m. it was surrounded by geese and ducks, but no Cormorants, though two were circling round the island. I neither saw nor heard anything of them till 7.30, when a party of *ten* flew steadily in from the sea and quietly settled down in the trees. The four immature birds now all showed white against a dark background. Some of them returned to the nest as before, and others to the roosting-place with the Herons. Again, however, both parents sat bolt upright on a branch, while their family went through various aerial evolutions until dusk. But what were the four strange birds, and why did they come? On a previous occasion (July 28th), while two nestlings remained unfledged, *six* birds were observed "flying high in the sky." Evidently the one pair of breeding

Cormorants considered their unconventional choice of a home a domestic success. It seems to me that they always went out to sea for their food supply; at any rate, I never saw them take fish from the lake. On August 21st I again slipped into my tent about 2.30 a.m. Soon after 3 a.m. eight Green Sandpipers alighted with merry call-notes close to me, and ran about the sands. They bathed and preened themselves, chased each other along the water's edge in a way wholly delightful to look at, but terribly galling to the photographer. When the light came, and with it the geese and Herons, these charming little waders flew off to another part of the lake. They were playing round us the night before, but I think must have moved on during the morning, for they were not in evidence after dawn. The whole Cormorant family came down to bathe with the geese about 8 o'clock and then went away. In all probability they spend the greater part of the day by the sea and retire to the lake to roost. Young birds have been seen at Hasbro' recently, but, of course, they are not necessarily members of this particular family.

One of the most interesting facts in the life-history of these Cormorants was the persistence with which they returned to the nest for meals, and also to roost. Unfortunately I was unable to continue observations later than August 21st, and so far have not succeeded in obtaining any later information with regard to their habits and movements.

NOTES

BIRDS MIGRATING NORTHWARDS IN OCTOBER.

AN unusually strong migration of Lapwings, Starlings, Gulls (chiefly Herring-Gulls), Redwings, Sky-Larks, with finches and other species in smaller numbers, and one Grey Shrike, took place on the coast of north Norfolk on October 7th, 1914, being particularly remarked in the parishes of Cromer, Northrepps, and Overstrand. The morning was quite fine, with a gentle wind from the north, in which direction the wind had been high on the previous day (when it registered at Northrepps, one mile from the sea: N. force 4 at 8 a.m., N.N.E. force 3 at 10 a.m., N. force 3 at 2 p.m., and N.N.E. force 1 at 10 p.m.). All the birds were flying either dead against the wind, or slightly north-north-west, and there can be little doubt that it was owing to the wind that they were going in this unusual direction. One does not expect to see migrants going north in October without a reason.

My attention was first drawn to the movement at 7 a.m., but it was in full progress at six o'clock, and had probably been going on most of the night. At 11 a.m. it had distinctly slackened, and by mid-day was practically over. In those six hours it is a reasonable estimate to say that twelve thousand Lapwings must have passed over the parishes of Northrepps and Overstrand, and say ten thousand Starlings, ten thousand Gulls, and five thousand birds of other species, all going north, or nearly so. The Redwings and Sky-Larks went by in threes and fours, but all the Lapwings and Gulls were in flocks, averaging perhaps forty birds apiece, and all were flying rather slowly, as if they had come a long way.

On the coast of north Lincolnshire Mr. Caton Haigh writes that a similar passage of birds was observed on the same day, but here the direction of the flight was north-west. It seems evident therefore that the migrants were following the coast-line, and made no attempt to cross the North Sea. One of the Plover netters told Mr. Caton Haigh that it was the biggest flight of Lapwings he had ever known, and these men have long experience at their trade.

J. H. GURNEY.

HABITS OF BROODING BIRDS AND NESTLINGS
AT NIGHT.

IN the October issue of *British Birds*, Mr. J. H. Owen, writing of the Spotted Flycatcher, says (p. 116): "after the young are twelve days old they are not brooded at night." I have examined the nests of Blackbirds, Song-Thrushes, and Robins at night and have found that when the young are half-feathered the old birds do not brood them by night, although they may continue to do so by day. Young Blackbirds and Thrushes, examined by lantern light, behaved just as by day. The behaviour of young Robins, however, under similar circumstances was different. I examined two nests, one in 1913 and one in 1914, and found that when the nest was disturbed, the nestlings responded by a most curious spasmodic action which appeared to be quite unconscious, and was only evoked by the stimulus of touch. With ruffled plumage they darted their heads over the nest-brim with great rapidity, while their bodies were agitated until the whole nest quivered. They accompanied these actions by a snapping noise similar to that made by two Thrushes when fighting. I have never heard this sound from a Robin, either adult or young, before. It should be mentioned that this attack, if one may call it so, was never directed at the disturbing finger, but seemed to be quite purposeless. I timed the demonstration, and found that in one nest it lasted twenty to twenty-five seconds, and in the other only half as long. I never could get any response to disturbance during the day-time, and so far I have not noticed the action in other broods examined by night, which were Blackbirds and Thrushes. MAUD D. HAVILAND.

BREEDING STATUS OF LINNET IN THE
SCILLY ISLES.

IN their paper on the "Birds of Scilly" in the *Zoologist* (1906, p. 250), Messrs. Clarke and Rodd state that: "The Linnet occurs in large and frequent flocks, often mixed with Chaffinches, in autumn and spring, and irregularly throughout the winter. It has not hitherto been recorded as nesting at Scilly, but in 1903 nests were found on Garrison Hill, St. Mary's, and on St. Martin's, and in 1904 on Tresco." It would appear that it has considerably increased as a nesting species since then, for I found three nests round Old Town, St. Mary's, in 1914, quite by accident, and had I searched, should no doubt have found many more, judging by the

number of family parties which I saw on the Garrison Hill, St. Mary's, during the latter part of June and the first week in July. The only brood which I kept under observation left the nest on May 14th. On April 29th and 30th there were enormous flocks on St. Agnes on migration.

H. W. ROBINSON.

TREE-PIBIT NESTING IN THE SCILLY ISLES.

IN their paper on the "Birds of Scilly" in the *Zoologist* (1906), Messrs. Clarke and Rodd state (p. 247) that the Tree-Pipit (*Anthus t. trivialis*) has been occasionally observed in autumn on Treco and St. Mary's, once on St. Martin's, and twice on Bryher, and an adult male was found dead on St. Agnes early in June, 1902. They state, further, that the bird is probably often overlooked, and may be a regular autumn-visitor.

On July 2nd, 1914, I found a nest of this species containing four young near Old Town, St. Mary's, and as I later received a leg with ring from one of the brood, it would seem that the whole brood fell victims to one of the numerous cats which are a perfect pest on this and other of the inhabited islands. It is thus possible that the bird found on St. Agnes in June, 1902, may have been breeding. I may also mention that I procured an adult male on St. Mary's on April 19th, 1914.

H. W. ROBINSON.

LATE BREEDING OF YELLOW WAGTAIL.

ON July 12th, 1914, when a meadow in Tatham, north Lancashire, was being cut, a nest of young Yellow Wagtails (*Motacilla f. rayi*) was cut through. On August 1st in a pasture-field I saw a Yellow Wagtail leave a nest containing four incubated eggs. I saw both bird and eggs the following day, but on visiting the nest four days later there were only three eggs and they were quite cold. The next day all the eggs had gone. Most likely these were the same parent birds, as the nests were within fifty yards of each other.

G. SANDERSON.

[Although as a rule the Yellow Wagtail lays in the latter half of May or early in June and rears only one brood, yet exceptionally it breeds much earlier, and probably where second broods are reared they are the produce of these early nesters. F. S. Mitchell (*Birds of Lancashire*, p. 46, 2nd ed.) states that sometimes they begin to sit as early as April 26th, though usually quite a month later. Nests with eggs were also reported from Denbigh on April 23rd, 1906, and Somerset

on April 24th, 1906 (*Bull. B.O.C.*, XX., p. 105). On the other hand, Mr. W. Fitzherbert-Brockholes (*British Birds*, VI., p. 126) records eggs on July 16th, 1909, and Mr. H. F. Witherby found young almost fledged in Suffolk on August 3rd, 1914. As there is an interval of eleven or twelve weeks between the earliest and latest records of eggs, it is tolerably certain that in some cases two broods are reared.—F.C.R.J.]

WILLOW-TIT IN NORTH-EAST NORFOLK.

ON September 8th, 1914, I heard and saw a Willow-Tit (*Parus atricapillus*) in a plantation a few miles from the coast of north-east Norfolk; the previous day a remarkable number of black-capped Tits (either Marsh- or Willow-) had been noticed in another plantation rather nearer the coast.

This suggests the possibility of a migratory movement along the east coast in autumn, of which some evidence has already been furnished in *British Birds* (Vol. IV., pp. 248 and 284). The birds procured by Dr. C. B. Ticehurst in Suffolk, and Mr. G. H. Caton Haigh in Lincolnshire, in autumn and winter, were shown to be British Willow-Tits (*P. a. kleinschmidti*). I was, of course, unable to assign the bird I saw to any particular race.

It may be worth while to add that in the second half of September and the first week of October this year (1914) I saw Willow-Tits with unusual frequency, and in an unusual variety of places, near Tunbridge Wells.

H. G. ALEXANDER.

ICTERINE WARBLER IN SUSSEX.

A SPECIMEN of the Icterine Warbler (*Hypolais icterina*) was obtained at Hollington Park, St. Leonards-on-Sea, Sussex, on August 26th, 1914. I examined it in the flesh, and found it to be an immature male.

H. W. FORD-LINDSAY.

DARTFORD WARBLER IN WARWICKSHIRE.

I AM not aware whether the Dartford Warbler (*Sylvia undata dartfordiensis*) has been reported from Warwickshire; the species certainly does not appear in the list of birds compiled by the late R. F. Tomes for the *Victoria History of the County of Warwick*, Vol. I., 1904, nor is the county credited with an occurrence in the fourth edition of Yarrell's *British Birds*. During the past two days (October 9th and 10th, 1914) I have been watching an individual bird of this species on a tract of gorse-land some few miles distant from Stratford-on-Avon. For obvious reasons I do not

particularize the spot, more especially as it is to be hoped that the Furze-Wrens may permanently establish themselves there, if indeed they have not already done so. So far as I could tell, as the result of six hours' search, only one bird was in evidence.

REGINALD HUDSON.

FOOD OF SPARROW-HAWKS AND METHOD OF FEEDING YOUNG.

I CAN confirm all that Dr. Penrose and Mr. Heatley Noble write (*antea* pp. 98-100, 119) about the food of Sparrow-Hawks and the methods in which it is delivered to the young.

For over forty years we have never disturbed any Sparrow-Hawks' nests on the Hever or Stonewall Estates (Kent), and I do not think we have had to destroy more than half a dozen old hens for depredations done in the rearing-field. The harmless Kestrel (for I believe it is almost entirely harmless to *wild* game) is often far more troublesome in the rearing-field than the vast majority of Sparrow-Hawks. The time of year and methods of hunting are conducive to this. The Kestrel breeds early when food is comparatively scarce and there is not much cover in the fields.

The coops with young Pheasants are put out early in May, the young wander about in the short grass, the foster-mother can only see straight before her, and cannot give warning to her brood, which depend on her for protection. A Kestrel hanging in the air, it may be quite a long way off, sees those tempting morsels and comes in with a long slanting stoop (I have often seen him do it) and picks one up. He finds it so easy that he comes again and will continue to do so until stopped. It is always the cock which is the culprit: the hen is sitting or has small young. Later in the season one rarely has any trouble with a Kestrel—food is abundant. Mice are exposed by the mowing machines, etc., and there are plenty of cockchafers and young finches, etc. The opportunity to take the young of *wild* game does not occur to the Kestrel as his method of hanging in the air "gives him away" to every mother with a brood, and she keeps the young motionless until the coast is clear.

The Sparrow-Hawk, breeding late in the year, hatches its young when food is most abundant and easily procured. Until the young are strong enough to pull up their own food the cock does the *whole* of the foraging, the hen waiting by the nest or on it. The quality of the food brought by the male can be easily proved by the feathers left round the plucking places. There are generally two or three of these

within about 100 yards. Song-Thrushes, Blackbirds, Mistle-Thrushes, almost all small birds are brought at times, but strange to say very seldom Sparrows! Some Hawks seem to have a fancy for certain species. I have known one that took great numbers of Bullfinches, others often took Goldfinches. Many are very fond of Skylarks, etc. I do not remember ever to have found the feathers of a game-bird brought by the *cock*. When the young begin to pull up their own food the hen begins to hunt, and then she may take to robbing the rearing-field. The young Pheasants are then quite big, and she will take them when nearly as large as a Partridge. *If* this happens she will have to be shot, but there is then no reason to destroy the nest, for the cock will finish rearing the brood or most of them, with small birds.

Every year we have at least one nest of Sparrow-Hawks close to each of our rearing-fields. Some years the direction taken by the old birds when hunting is directly over the field, and not a Pheasant is touched. When we have had a troublesome bird it has always been a hawk that hunted from the wood and was evidently attracted by the young Pheasants flying up out of the grass in play. There is one other occasion when the Sparrow-Hawk *may* do harm. When the coops are first put in the rides in the wood, a *young* female Sparrow-Hawk that is just beginning to kill for herself may see the Pheasants, and finding them a simple prey will probably kill one a day until stopped, but this is rare. The occasional old Partridge killed by the female Sparrow-Hawk is almost too rare an occurrence to be taken into account.

I have never ventured to write on the subject of this delightful dashing bird before, knowing what a bad name it has got, but I know that many observant field-naturalists are of the same opinion as myself, and I feel certain if employers would see that their keepers *never* killed a Hawk except when caught red-handed, that they would find they had not appreciably diminished their stock of game, and would enjoy their "walks abroad" far more.

E. G. B. MEADE-WALDO.

PECTORAL SANDPIPER IN SUSSEX.

AT Pevensey, Sussex, on August 25th, 1914, an immature female of the American Pectoral Sandpiper (*Erolia m. maculata*) was obtained. I saw the bird in the flesh the following morning, and it was in splendid condition, which gave me the idea that it had not been in the locality for long, as owing to the continued drought nearly all the feeding

grounds are dried up, with the result that most of the birds usually met with have gone farther afield.

H. W. FORD-LINDSAY.

NEST OF JACK SNIPE.

THE accompanying photograph of the nest and eggs of a Jack Snipe (*Limnocryptes gallinula*) is genuine, and will probably be of interest to readers of *British Birds*. This



NEST AND EGGS OF JACK SNIPE.

(Photographed by H. L. Popham, in Russia.)

nest was found in an extensive marsh in Russia in a tussock of coarse grass. The bird sat very close and did not leave the eggs until almost trodden upon; it flew only a few yards before alighting, and when flushed again flew right away. The eggs are so well known that it is not necessary to describe them in any way, but I am not aware that a photograph of the nest and eggs has been previously published.

H. L. POPHAM.

SLENDER-BILLED CURLEW IN KENT.

AN example of the Slender-billed Curlew (*Numenius tenuirostris*) was obtained at Jury's Gap, Kent, on September 10th, 1914, and I examined it in the flesh on the following day. It proved to be an immature male. There have only been three previous records for Great Britain, an immature pair September 21st, 1910, and an adult male, September 23rd, 1910, all obtained in Kent (*cf. Brit. B.*, Vol. V., p. 124).

H. W. FORD-LINDSAY.

POMATORHINE SKUA IN WILTSHIRE.

IN Mr. Hony's paper on the "Birds of Wiltshire" (*antea*, Vol. VII., p. 283), he mentions a Skua of which I had caught a passing glimpse in a farmhouse near Sherston. I have since seen this bird, which is an immature Pomatorhine Skua (*Stercorarius pomarinus*), and was shot there at least thirty years ago.

H. W. ROBINSON.

STATUS OF LAND-RAIL.

IN YORKSHIRE.

IN his Report on the Land-Rail Inquiry Mr. H. G. Alexander states (*antea*, p. 88): "In the East Riding (of Yorkshire) Land-Rails are still fairly plentiful on the Wolds." I wish I could believe this to be true, but the evidence unfortunately all points the other way. In 1913 I made the most careful inquiries in the district extending roughly south of a line drawn due east from Burdale in the centre of the highest part of the Wolds to the sea, and westwards to the plain of York, and all the evidence I obtained pointed to the fact of their being almost extinct. This year the scarcity is more pronounced than ever, and I do not believe that a dozen pairs could be found in the above district in the East Riding. I have been able to learn of two pairs in the neighbourhood of Beverley, one near Hessle, one near Ellerker, and one near Bishop Burton. In Holderness the answer to all inquiries is that the bird has not been seen or heard. Perhaps you could furnish me with the evidence upon which Mr. Alexander's statement is based.

E. W. WADE.

[Mr. Wade sent in very full particulars of the status of the Land-Rail in the Yorkshire Wolds, the only information received from that part of the East Riding. I find that in my first précis of the observations sent in, I summarised part of this information in the words, "None since 1908,"

which I read in my haste as "More since 1908." I have already said that I had to work out the Land-Rail report with regrettable haste, and to this I must add that when the proofs came I was away from home, and was not able to refer to the original papers for verification of my statements. All this is not, of course, intended as an excuse, but merely as an explanation; such an error is not excusable. I apologize most sincerely to Mr. Wade and to all the readers of *British Birds*.—H. G. ALEXANDER.]

IN OXFORDSHIRE.

ON September 4th, after reading the Report on the Land-Rail in *British Birds*, I asked my bailiff if he had heard or seen any this year and he replied in the negative. Oddly enough, in the afternoon when some oats were being cut no less than five were flushed. I did not see them myself, but have no doubt, from what I am told, that some at all events were young birds. The field in which the birds were is in the parish of Sarsden, about three miles S.S.E. from Chipping Norton. MORETON.

MOORHEN COVERING EGGS.

I HAVE followed the correspondence on this subject with much interest, as for several years I had ample opportunities of observing the nesting habits of these birds in Hampshire, and made special notes when the eggs were covered. It was certainly not a common occurrence in the locality to which my observations were confined. Unfortunately having lost many of my notes, the following deals with only thirteen nests which were observed with special care, so as not to startle the sitting bird before she had time to cover the eggs. Of these thirteen, three had the eggs covered, and a fourth was doubtful, because the nest was composed of flags so loosely put together that they blew about and thus made it difficult to judge if the bird actually pulled them over the eggs. I am sure this proportion of covered eggs in nests, viz., three, or at the most four, out of thirteen, does not at all represent the correct proportion, because I seldom made a note of nests in which the eggs were uncovered. I feel confident therefore that only a small percentage of the nests were left by the birds with the eggs covered over with herbage.

Sometimes a nest was found with the eggs covered, though later on during incubation the eggs were uncovered, but the surrounding herbage was pulled over so as to form an arch.

One nest provided some particularly interesting observations as follows. June 2nd, nest in a moat placed among a thick growth of irises, one egg. June 8th, seven eggs covered with herbage. June 24th, the surrounding irises had been opened out some days before so as to secure a photograph; now the eggs are uncovered but the irises have been pulled over in the form of an arch, and the archway extends a short distance beyond the nest, which must have necessitated the bird leaving the nest and standing in the water to complete the structure. Later this archway was extended still further.

On several occasions when lying hidden to watch a nest I have seen the old bird return, settle on the nest, and stretching up slowly, pull the surrounding flags so as to form a loosely constructed arch, which archway helped materially to conceal the structure.

Incidentally the incubation period was found to be from fifteen to seventeen days, not infrequently twenty-one, and once as long as twenty-eight, but this latter was due, without doubt, to the fact that the nest was placed on a pond adjoining a cottage garden, in which a numerous family of young children played from morning to night, and under these circumstances it was surprising the eggs hatched at all. With very few exceptions, we found the Moorhen laid at the rate of one egg a day: on a very few occasions there was a lapse of two or three days between the first and succeeding eggs. J. E. H. KELSO.

[The incubation period in this species appears to be very variable, but other observers record longer periods than Dr. Kelso. Thus Mr. S. E. Brock gives the duration as 19-20 days; Mr. O. A. J. Lee noted that the first chick of nine was hatched on the 22nd day after the nest had been found with three eggs, and Mr. W. Evans' results show that the period ranges from 19 to 21 days.—F. C. R. JOURDAIN.]

ICTERINE WARBLERS IN ORKNEY.—Mr. J. Bain records (*Scot. Nat.*, 1914, p. 237) the occurrence of a male and female *Hypolais icterina* at the Pentland Skerries on June 10th and 11th, 1914.

LONG-TAILED SKUA IN CO. DONEGAL.—Mr. D. C. Campbell records (*Irish Nat.*, 1914, p. 227) that an example of *Stercorarius longicaudus* was observed at the island of Doagh, Innishowen, on May 30th, 1914. In connexion with this record the occurrences previously noted (*antea*, pp. 77-9) should be consulted.

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BRITISH BIRDS

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FEEDING-HABITS OF THE SPARROW-HAWK.

BY

W. FARREN.

DURING July, 1914, I spent some time watching, at close quarters, the nest of a Sparrow-Hawk (*Accipiter n. nisus*) in which five young were being reared. The nest was about twenty-five feet high in the branches of an apple-tree in an orchard north of Cambridge. It was built entirely by the Sparrow-Hawks, there being no foundation in the form of an old nest of Wood-Pigeon or other bird. I saw it first on June 6th, when it contained five eggs. While examining the nest on June 17th, I discovered two eggs—in addition to the five in the nest—among the sticks near the bottom of the nest. These I removed. There was no sign of incubation, and it is probable that they had been laid during the early stages of building and buried by subsequent additions to the nest. On the evening of the 25th the nest contained four newly-hatched young and one egg chipping. On the 28th I commenced the building of a hut in the branches on a level with the nest, from which I could watch and photograph the birds. On July 5th I completed my hut, the front of which was about eight feet from the nest.

I spent three hours in the hut on July 8th, and paid fairly regular visits from then to July 22nd. On no occasion did I see a game bird brought to the nest, nor any sign of one having been brought. While this corroborates the experience of Dr. Penrose (*antea*, p. 99) and of Mr. Heatley Noble (*antea*, p. 119), it must be remembered that my nest was not in a game country. The series of orchards in which it was situated are full of Blackbirds, Thrushes, Warblers and other small birds, and my own experience is that both Kestrels and Sparrow-Hawks prey chiefly on the birds most easily procurable in their immediate neighbourhoods.

I am afraid there is no doubt that both are liable to be destructive of young game-birds when these are being reared near their own nurseries, but even so, I personally would not condemn them. This, however, is merely a question of whether one's preferences are for Hawks or game. There is one point worth mentioning from which it seems evident that it by no means follows that Sparrow-Hawks are certain to prey on young Pheasants in coops adjacent to their nest. In the orchard about fifty yards from the nesting tree were many fowls, and coops of chickens of all ages, and so far as I could ascertain not one was taken.

The birds brought to the nest were chiefly Song-Thrushes, Mistle-Thrushes, Blackbirds, and less often Sparrows and birds of similar size. In the early days the birds brought were not only plucked but skinned, and were only recognizable by heads or legs rescued after my watch was ended. Later, skinning was often, but not always, neglected; but although unplucked or partially plucked birds were brought occasionally, this was rare. The first date on which I saw the young Hawks tear up food for themselves was the 16th of July, when they were about three weeks old, but I had not been to the nest since the 11th, and they had grown considerably in the five days that had elapsed and may well have helped themselves sooner.

A brief account in detail of the watches I kept and the periods at which food was brought may be of interest. It must be remembered, however, that my presence in the hut may at times have had a disturbing influence on the visits of the adult Hawks. The male never once, while I was present, remained to break up food for the young, although he occasionally came and left a bird on the nest. Although I have no actual evidence, there seems to be no doubt that the male caught and dressed many of the birds brought to the nest by the female. On one occasion, at any rate, she

was absent from the nest only five minutes when she returned with another bird ready dressed.

The following are the dates and duration of my watches and the number of times the young Hawks were fed :—

July 8th.—6 a.m. to 9 a.m. Female brought a bird at 8.15 and another at 8.50, which she broke up and fed to the young.

July 9th.—6 a.m. to 8 a.m. Female brought a bird at 6.50 but left in alarm, returning at 7.40 when she broke up the carcase.

July 11th.—6 a.m. to 10 a.m. No visit by adults, although they called occasionally on an adjacent tree.

July 16th.—6 a.m. to 8.30 a.m. Female brought a bird at 7.30 and another at 8.15. She broke both up, and the young Hawks tore at the carcasses left. 4 p.m. to 5 p.m. Female brought a carcase at 4.10 but left, taking it with her. She returned and broke it up at 4.50.

July 17th.—3 p.m. to 5 p.m. Female arrived with carcase at 3.30. The male followed her on to the nest almost immediately, but did not stay. Female came again at 4.40 with a fresh carcase and remained five minutes breaking it up. On this day I thoughtlessly caused the loss of one of the young Hawks. When I came down the tree I found a plucked Sparrow that had dropped from the nest, and climbed up to return it to the nest. Although the young Hawks were used to seeing me go up to the hut, they screamed with alarm when I climbed up their branch, and one of them flew off and landed in a thicket near by, the last I saw of it.

July 18th.—6 a.m. to 9.30 a.m. Female arrived at 8 a.m. but left in alarm, returned in five minutes, commenced to break up carcase and again left. The young Hawks tore at the carcase for some time. Female returned at 9 a.m. with a bird of the size of a Mistle-Thrush and stayed fifteen minutes breaking it up.

July 19th.—3.30 a.m. to 8 p.m. Sixteen birds brought during day. No sign of any food having been brought previous to my arrival. Female arrived with Thrush (?) at 5 a.m., stayed till 5.10. Male flew through tree at 5.5. Female came at 5.15 evidently with male's



FEMALE SPARROW-HAWK AT THE NEST. JULY 8th, 1914.
(*Photographed by W. Farren.*)



FEMALE SPARROW-HAWK AT THE NEST. JULY 19th, 1914.
(*Photographed by W. Farrow.*)

catch. She broke it up and at 5.20 reached down into middle of nest and carried off a cleanly picked skeleton. Female at 5.40 with small bird, left at 5.45. Female at 6.30 but left at once carrying bird with her. Female returned at 7 and spent a few minutes breaking up bird. Female with small bird at 7.20, did not stay but left bird in nest which was monopolised by one young female. Female at 8.5 brought small bird which she broke up. Then fished out of the nest the partly eaten carcase brought at 7.20, cleared this up also, eating a little herself, and left at 8.15. At 9 a.m. I was relieved by my son who reported that at 10.5 the female came with small bird, but left at once taking it with her. Returned at 10.15 and remained five minutes breaking up the bird. At 12.30 the male brought an unplucked Spotted Flycatcher which it dropped into the nest and left at once. At 1.15 p.m. I again took charge. 1.45 male came but left immediately without leaving any food. 1.50 female came and left small plucked bird. 2.0 female after flying around and calling, brought a Starling partly skinned, but with some wing-feathers intact. She stayed until 2.15 breaking up the Starling, clearing it up completely. 2.25 female brought a bird size of Thrush, broke it up and left at 2.35. 2.55 female brought small bird, broke it up, and as the young Hawks were not very keen, she eat a good part of it herself. 3.35 male flew on to the nest, dropped a small bird and left. A thunderstorm worked up at this time; the young Hawks were very quiet, and with the exception of a little calling at 5.15 there was no sign of the adults, until 5.40, when the male again flew on, dropped his catch—a small bird—and departed. At 6.5 p.m. I was again relieved by my son who recorded a visit by the female at 6.40 with a small bird (unplucked) and one by the male at 7.20, which dropped a small bird in the nest but did not stay.

July 22nd.—5.30 a.m. to 10.30 a.m. Young Hawks now fully feathered, with a slight amount of down still adhering to their heads and the ventral region. They had been fed when I arrived, as there was a newly picked carcase of a bird of the size of a Thrush on the nest. 6.15 female brought a small bird but only stayed three minutes. 8.50 female again brought a small bird, partly broke it up as before and left.

On July 23rd the young Hawks were still on the nest, but on the 25th one had disappeared. On the 26th, when I approached the tree at 10.30 a.m., the remaining three flew off. They rose high above the trees and flew strongly. I examined the nest and found six cleanly picked skeletons of Thrushes and one plucked but almost intact Mistle-Thrush.

Having suspicions that the young Hawks would probably return to the nest to feed, I made another examination on August 2nd. There was a pile of picked bones, some quite fresh, as though the birds had fed there within the last few hours. There were pairs of wing-bones attached to sterna, and legs joined by the pelvic bones. I counted twenty complete pairs of leg-bones besides odd ones. They were all of the size of those of a Song-Thrush. Some undoubtedly had belonged to Blackbirds, and some, I believe, to Mistle-Thrushes.

Judging from my notes made on the whole day vigil on July 19th, feeding appeared to be most vigorous from 5 a.m. to 9 a.m. and from 2 p.m. to 6 p.m., from 9 a.m. to 2 p.m. being a very slack period. This is partly confirmed by the fact that on the six days that I watched from 6 a.m. for three or four hours, one occasion only was a blank, while on five occasions at least two birds were brought, and on both occasions when I spent an hour or two in the afternoon, food was brought. The fact that the male came seldom, and never once stayed to break up the food he brought, was, I am convinced, due only to his suspicious nature and nervousness. The female, although showing alarm occasionally, was as a rule quite unsuspecting, and continued to break up food while I took photographs and changed plates, although I sometimes made my exposures with a noisy focal-plane shutter.

THE "BRITISH BIRDS" MARKING SCHEME.*

PROGRESS FOR 1914 AND SOME RESULTS.

BY

H. F. WITHERBY.

THE progress made during the sixth year of the *British Birds* Marking Scheme is in every way satisfactory. The number of birds ringed is not quite so large as that in 1913, but this is easily accounted for by the fact that we stopped ringing Black-headed Gulls, which accounted for nearly four thousand in our last year's totals. That we have made up half this number by the ringing of other species this year is very satisfactory, because there is perhaps no other British species which can be ringed in such large numbers as the Black-headed Gull. There was also a falling off in the number of Starlings ringed, chiefly because Dr. Joy was unable to find time to work his winter cage-trap. On the other hand, we have large increases in Song-Thrushes, Black-birds, Swallows, Martins, Shags, Lapwings, Lesser Black-backed Gulls and Puffins. The following are the grand totals :—

NUMBER OF BIRDS RINGED.

In 1909	...	...	...	2,171
„ 1910	...	...	...	7,910
„ 1911	...	...	...	10,416
„ 1912	...	...	...	11,483
„ 1913	...	...	...	14,843
„ 1914	...	...	...	13,024
				<hr/>
	Total	...		59,847
				<hr/>

Dr. H. J. Moon, who was an excellent second last year, has this year beaten all our previous records by ringing two thousand five hundred and twenty-one birds—a truly remarkable total, as Dr. Moon has not done any

* For previous Reports see Vol. III., pp. 179-182, for 1909; Vol. IV., pp. 204-207, for 1910; Vol. V., pp. 158-162, for 1911; Vol. VI., pp. 177-183, for 1912; Vol. VII., pp. 190-195, for 1913.

ringing in large nesting colonies. Miss A. Pease has the splendid total of seventeen hundred and eighty-eight, Mr. A. Mayall seven hundred and thirty-one, Messrs. J. R. B. Masefield and H. W. Robinson over six hundred each, Miss Blyth and Mr. R. O. Blyth over five hundred, Messrs. J. Bartholomew, A. W. Boyd and Miss C. M. Acland over three hundred each, and twenty others over one hundred each. There is no falling off either in the number of ringers or their keenness.

I have recently drawn attention (*antea*, p. 63) to a plan of snaring adult birds at the nest, from which most valuable results should be obtained. I sincerely hope that next year some of our ringers will take up this idea and I am certain that the result will amply repay the trouble involved.

As in previous reports, I may here draw attention to some of the many recoveries which have been reported during the year.

Among summer migrants ringed as nestlings the following may be picked out as of special interest.

	Ringed.	Recovered.
Whinchat ..	Yorks, 15/6/'14	Portugal, 4/10/'14.
Turtle-Dove ..	Hants, 9/8/'13	Portugal, Sept., '13.
Sandwich Tern	Farne Is., 9/7/'13	Ivory Coast, 9/2/'14.
"	" 15/7/'14	Elgin, 29/8/'14.
"	Cumberland, 25/6/'10 ..	Gironde, 28/3/'14.
Common Tern	" 14/7/'10	Huelva, Spain, 28/10/'13.
"	Northumberland, 27/6/'14	Portugal, 8/9/'14.

Of these the Sandwich Tern recovered on the Ivory Coast is particularly interesting, as it was presumably in its winter quarters, while the bird which reached Elgin a month after it was ringed at the Farnes had surely mistaken its direction.

Among those species which are partial migrants, the following recorded movements are interesting, especially when considered in conjunction with many other records showing that other individuals of the same species are sedentary. All the following were ringed as nestlings or juveniles.

	Ringed.	Recovered.
Starling ..	Lincs., Aug. ..	Lancs., Nov.
" ..	" ..	" Dec.
" ..	" ..	Kilkenny, Dec.
Meadow-Pipit ..	Lancs., July ..	Landes, Oct.
" ..	" ..	Portugal, Feb.
Blackbird ..	Lincs., Aug. ..	Finistère, Oct.
" ..	Derby., April ..	Waterford, Dec.
Song-Thrush ..	Lancs., May ..	Vendée, Nov.
" ..	" June ..	Dublin, Jan.
" ..	Dumfries, April ..	Cork, Jan.
Mistle-Thrush ..	" May ..	Manche, Nov.
Redbreast ..	Staffs., June ..	Gers, Oct.
Oystercatcher ..	Inverness, July ..	Cornwall, Sept.
Lapwing ..	Renfrew, June ..	Limerick, Nov.
" ..	Cheshire, June ..	Wexford, Jan.
" ..	Dumfries, May ..	Sligo, Feb.
* ..	Cheshire, 12/6/13 ..	Manche, 25/1/14.
* ..	Dumfries, 12/6/13 ..	Morbihan, 25/1/14.
" ..	Wilts., 13/6/12 ..	Finistère, 10/1/14.
" ..	Stirling, 31/5/11 ..	Asturias, 4/1/14.
" ..	Warwick, 22/6/11 ..	Morocco, 7/1/14.
Dunlin ..	Yorks., 5/6/13 ..	Morbihan, 10/5/14.
Woodcock ..	Dumfries, May ..	Cork, Dec.
" ..	" 1/5/12 ..	Galway, 30/1/14.
" ..	Nairn, 22/5/11 ..	Londonderry, 21/2/14.
" ..	Yorks., April ..	Landes, Nov.

Of adult birds ringed in this country in winter we have the following noteworthy records :—

	Ringed.	Recovered.
Starling ..	Berks., 16/1/11 ..	Friesland, 9/2/14.
" ..	" 29/1/12 ..	Pomerania, 8/3/14.
Mallard ..	Wigtown., 28/2/13 ..	Swedish Lapland, Nov., '13.
" ..	" ..	Wigtown., 4/12/13.
" ..	" 28/2/14 ..	Norbotten, Sweden, 12/8/14.
" ..	" 28/2/14 ..	Kaskö, Finland, 17/8/14.
Teal ..	Staffs., 30/12/12 ..	Schevenigen, Holland, Dec., '13.

The ringing of Lesser Black-backed Gulls in large numbers is providing us with a most valuable series of records. Since the form of this Gull breeding in the British Isles was separated by Dr. Lowe from that breeding in Scandinavia, many observers have paid particular attention to its *status*, and opinions are much divided as to whether our birds leave us entirely in winter or not. A brief summary, therefore, of the records so far obtained from ringing these birds may be of interest; unfortunately, however, we have not yet any records referring to adults. It need scarcely be insisted upon

* I cannot refrain from drawing attention to the remarkable coincidence of these two records.

that we must ring many hundreds more (the larger the number the better) and must wait several years before we are likely to get a sufficient number of recoveries on which to base conclusions of value. Of these Gulls ringed as nestlings in early August at the Farnes, individuals have been reported :—

1. In England in the same year chiefly in September, but also on Oct. 1st, 4th, 8th, 9th, and about 20th.
- 1A. In England in the year following on Sept. 12th and Oct. 1st in Durham.
2. In France in the same year on Sept. 18th and Oct. 2nd.
3. In Portugal in the same year on Sept. 28th (earliest), in Oct. and Nov. and the following Feb. to March 17th (latest).
4. On West African coast off Cape Juby (furthest south) on Nov. 13th in the same year, and at Lanzarote (Canary Islands) on Jan. 5th following.

Of the Lesser Black-backed Gulls ringed as nestlings at Foulshaw, Westmorland, in June and July, we have the following records :—

1. In England in the same year, most in August but one Sept. 11th, and one Oct. 1st.
2. In France in the same year on Aug. 23rd, end of Aug., Sept. 23rd and Oct. 2nd.
- 2A. In France when nearly three years old on April 26th.
3. In Portugal and Spain in the same year on Sept. 22nd and end of Sept., Dec., and the following Jan., Feb., and Mar. 19th.
- 3A. In Portugal and Spain when $2\frac{3}{4}$ years old on March 8th and 20th.

It may also be mentioned that we are gradually obtaining a valuable series of observations on the movements of Cormorants.

With reference to the percentage of recoveries, the total ringed from 1909-13 was 46,823, and the total reported

up to date of these birds is 1,554, or a percentage of 3.3. It is remarkable that this is precisely the same percentage as last year, notwithstanding the large increase in total. The percentages of individual species, however, change somewhat, as might be expected. In the following list I have added some species not included in the list given last year.

SOME PERCENTAGES OF RECOVERIES.

Species.	Number Ringed 1909-13.	Number of these Recovered to date.	Percentages of Recoveries.
Starling	4,160	275	6.6
Greenfinch	1,156	14	1.2
Linnet	360	6	1.6
Chaffinch	1,071	21	1.9
Meadow-Pipit	572	13	2.2
Pied Wagtail	297	8	2.6
Spotted Flycatcher	290	1	.3
Willow-Warbler	813	13	1.5
Whitethroat	172	2	1.1
Mistle-Thrush	255	9	3.5
Song-Thrush	3,325	50	1.5
Blackbird	2,083	75	3.6
Redbreast	1,217	39	3.2
Swallow	2,244	22	.9
Martin	478	7	1.4
Cuckoo	67	5	7.4
Sparrow-Hawk	40	6	15.0
Heron	103	13	12.6
Mallard	422	89	21.0
Cormorant	348	57	16.3
Gannet	134	5	3.7
Lapwing	1,824	40	2.1
Redshank	132	8	6.0
Curlew	128	8	6.2
Snipe	101	11	10.8
Woodcock	224	27	12.0
Sandwich Tern	385	4	1.0
Common Tern	2,722	68	2.4
Black-headed Gull	11,769	421	3.5
Common Gull	470	13	2.7
Herring-Gull	430	15	3.4
Lesser Black-backed Gull	787	38	4.8
Puffin	346	1	.2

NUMBER OF BIRDS "RINGED."

DR. H. J. MOON (2521), Miss A. Pease (1788), Messrs. A. Mayall (731), J. R. B. Masefield (652), H. W. Robinson (604), Miss A. and Mr. R. O. Blyth (505), Messrs. J. Bartholomew (430), A. W. Boyd (334), Miss C. M. Acland (319), Messrs. M. Portal (266), R. Burnier (261), T. C. Hobbs (260), D. A. J. and P. A., and Miss V. E. Buxton (253), Mr. R. E. Knowles (200), Dr. P. Gosse (170), Messrs. F. W. Smalley (160), E. W. Hendy (155), Mrs. Patteson (146), Mr. H. Bentham (142), Miss N. Taylor (140), Mr. J. S. Elliott (139), Dr. N. F. Ticehurst (134), London Natural History Society (Mr. W. E. Glegg, Hon. Sec.) (131), Mr. T. A. Coward (129), Miss S. M. Heysham (129), Messrs. A. T. Wallis (123), A. Bankes (113), T. F. Greenwood (103), A. E. Aldous (100), H. W. Ford-Lindsay (98), T. L. Johnston (97), Miss M. H. Greg (88), Messrs. W. T. Blackwood (82), E. de Hamel (77), A. G. Leigh (75), C. F. and M. F. D. Archibald (74), W. J. Ashford (71), C. H. Braid (65), H. H. Storey (64), N. Noble (61), A. B. Fletcher (60), S. K. Barnes (58), J. M. Campbell (56), T. Robinson (55), A. Greg (50), Captain W. Mackenzie (50), Messrs. B. Pickard (50), C. K. Parker (46), Miss J. Crookes (41), Messrs. Smith Whiting (40), F. E. Blagg (38), J. H. Milne-Home (36), A. O. Whitehead (35), Miller Christy (34), B. H. Fell (33), J. G. Gordon (31), N. H. Foster (30), H. T. Malcomson (28), G. Sanderson (25), B. Beetham (24), H. L. Popham (24), J. S. Allison (20), G. B. Hony (20), F. A. Rottenburg (20), and many others who have ringed under twenty each.

	'09	'10	'11	'12	'13	'14	Total
Rook	—	1	64	35	23	5	128
Jackdaw	11	5	15	6	15	33	85
Starling	21	428	1109	1469	1133	646	4806
Greenfinch	28	100	208	439	381	344	1500
Twite	—	—	—	—	24	18	42
Redpoll, Lesser	—	8	—	19	45	22	94
Linnet	20	65	63	64	148	151	511
Bullfinch	—	8	16	18	22	20	84
Chaffinch	6	103	271	360	331	397	1468
Sparrow, House	8	109	85	60	175	17	454
Sparrow, Tree	17	49	24	33	27	14	164
Bunting, Yellow	4	13	31	127	41	32	248
Bunting, Reed	2	8	40	17	39	49	155
Lark, Sky	1	20	39	138	390	253	841
Pipit, Tree	14	26	19	38	27	42	166
Pipit, Meadow	27	32	75	120	318	169	741
Wagtail, Yellow	1	—	—	—	22	28	51
Wagtail, Grey	5	6	13	23	17	22	86
Wagtail, Pied	12	29	42	100	114	110	407
Tit, Great	16	127	154	73	221	67	658
Tit, Blue	12	54	144	124	228	70	632
Tit, Coal	—	12	26	9	24	7	78
Tit, Marsh	—	25	3	3	17	1	49
Tit, Long-tailed	—	3	—	5	28	1	37

	'09	'10	'11	'12	'13	'14	Total
Wren, Golden-crested	—	16	15	—	1	—	32
Shrike, Red-backed...	2	15	13	9	8	14	61
Flycatcher, Spotted...	23	65	64	54	84	84	374
Chiffchaff ...	2	16	5	5	14	9	51
Warbler, Willow ...	50	107	139	266	251	271	1084
Warbler, Wood ...	—	12	27	7	20	9	75
Warbler, Reed ...	—	4	10	14	60	37	125
Warbler, Sedge ...	1	4	12	21	43	—	81
Warbler, Garden ...	3	9	13	17	20	9	71
Blackcap ...	—	7	12	4	7	23	53
Whitethroat ...	22	53	33	21	43	25	197
Whitethroat, Lesser	1	19	5	15	20	8	68
Fieldfare ...	—	48	30	7	—	—	85
Thrush, Mistle ...	2	48	40	83	82	85	340
Thrush, Song ...	71	625	693	739	1197	1818	5143
Redwing ...	—	7	20	4	5	4	40
Ouzel, Ring ...	—	—	9	22	20	22	73
Blackbird ...	83	505	421	448	626	975	3058
Wheatear ...	1	15	1	34	19	57	127
Whinchat ...	7	30	28	21	41	69	196
Stonechat ...	—	10	19	8	55	30	122
Redstart ...	1	15	35	26	31	42	150
Redbreast ...	41	217	322	282	355	471	1688
Sparrow, Hedge ...	18	117	198	226	268	269	1096
Wren ...	9	38	62	76	101	141	427
Dipper ...	4	9	22	23	15	23	96
Swallow ...	113	463	594	421	653	734	2978
Martin ...	13	128	73	104	160	275	753
Martin, Sand ...	—	25	66	1	118	182	392
Nightjar ...	3	—	3	11	4	9	30
Wryneck ...	14	16	1	12	11	31	85
Cuckoo ...	4	4	13	23	23	6	73
Owl, Barn ...	—	10	—	19	14	9	52
Owl, Tawny ...	—	13	6	18	7	13	57
Hawk, Sparrow ...	—	5	19	11	5	11	51
Heron, Common ...	14	13	22	30	24	2	105
Sheld-Duck ...	1	24	2	10	1	2	40
Mallard ...	11	20	139	52	200	76	498
Teal ...	1	21	3	1	22	10	58
Duck, Tufted ...	3	—	2	—	20	15	40
Cormorant ...	—	3	25	54	266	122	470
Shag ...	—	4	—	23	15	114	156
Gannet ...	—	—	—	—	134	56	190
Shearwater, Manx ...	—	—	—	60	9	—	69

	'09	'10	'11	'12	'13	'14	Total
Wood-Pigeon ...	3	20	22	33	26	18	122
Dove, Stock ...	1	4	6	7	9	9	36
Dove, Turtle ...	1	11	11	—	10	4	37
Oystercatcher ...	7	16	8	6	10	31	78
Plover, Ringed ...	—	35	12	20	28	20	115
Plover, Golden ...	—	2	2	13	7	6	30
Lapwing ...	56	254	280	676	558	1078	2902
Sandpiper, Common ...	5	10	29	36	24	23	127
Redshank ...	5	19	12	68	28	61	193
Curlew, Common ...	14	10	34	55	15	39	167
Snipe, Common ...	1	23	21	34	22	44	145
Woodcock ...	6	10	68	57	83	89	313
Tern, Sandwich ...	57	79	24	22	203	270	655
Tern, Common ...	786	836	669	380	51	195	2917
Tern, Arctic ...	25	—	1	1	3	47	77
Tern, Little ...	—	31	13	85	25	9	173
Gull, Black-headed	417	1828	2949	2660	3915	164	11933
Gull, Common ...	—	184	248	27	11	17	487
Gull, Herring ...	5	117	48	178	82	61	491
Gull, Lesser Blk.-bkd.	12	137	62	122	454	1317	2104
Gull, Great Blk.-bkd.	1	8	13	1	2	53	78
Kittiwake ...	4	11	—	—	2	16	33
Razorbill ...	—	31	3	—	2	24	60
Puffin ...	4	15	12	108	207	553	899
Moor-Hen ...	—	34	23	24	39	34	154

NOTE.—Forty-seven species, of which less than thirty individuals each have been ringed, are omitted from this list, as also are game-birds and those of which the identification was not certain.



NOTES

BIRDS MIGRATING NORTHWARDS IN OCTOBER.

UNDER the above heading Mr. J. H. Gurney in the November number of *British Birds* (p. 143), records a large migration of birds taking place over the parishes of Northrepps, Overstrand, and Cromer in Norfolk, on the morning of October 7th. Mr. Gurney states that the birds taking part in this movement were Lapwings, Gulls, Starlings, Redwings, Sky-Larks, and Finches, and that the direction of their flight was N. or N.N.W.

Now Cromer and Overstrand are villages upon the coast facing as nearly as possible N.E., so that if these birds were flying due north, they would have been going out to sea. Mr. Gurney, however, does not mention that they were doing this, and as lower down, in referring to a similar movement seen by Mr. Caton Haigh upon the coast of Lincolnshire, he says, "it seems evident therefore that the migrants were following the coast-line and made no attempt to cross the North Sea," I conclude that these birds were following the coast of Norfolk in a north-westerly direction.

Mr. Gurney attributes what he describes as this unusual direction to a light northerly wind, and adds, "one does not expect to see migrants going north in October without a reason." With very great respect to Mr. Gurney, whose opinion upon any ornithological matter must always be one of very great value, I should like to say that, according to my observations, this is a normal and much used line of flight for certain birds (and amongst them those mentioned by Mr. Gurney) during the late autumn migration upon the Norfolk coast, and that the direction of the wind has little, if any, bearing upon it. A northerly coasting movement of Sky-Larks takes place regularly upon the coast during the early mornings of October, and seems to be unaffected by the direction of the wind. I have numerous entries in my diary of Starlings coasting in the same direction during the early mornings, usually flying high. To take another species, and referring to my diary for the last fortnight, I find that Rooks were following the coast-line N.W. past Mundesley during the mornings of October 31st, November 1st, November 6th, November 7th, and November 8th, the direction of the wind on these days being E.S.E., S.E., S.W., S.W., and W.

At Hunstanton, which is situated at the point where the coast of Norfolk turns suddenly S.S.W. to form the south-east shore of the Wash, I have been fortunate enough, during the last few years, to witness three big autumnal migratory rushes—viz., on November 7th, 1912, and October 21st and October 22nd, 1913. The movement of November 7th, 1912, lasted from dawn till mid-day, and had been in progress during the previous night. The wind was S.W. and very light, and the migrating birds were:—Hooded Crows, Rooks, Jackdaws, Starlings, Lapwings, Fieldfares, Redwings, Blackbirds, Sky-Larks, Chaffinches, Greenfinches, and probably other finches which could not be identified.



On October 21st, 1913, I was not out till 9 a.m. when the migration was in full swing, and it lasted till mid-day. The wind was S.W., and the birds, Lapwings, Sky-Larks, and Starlings, with a few Rooks, and it is interesting to note that during the early hours of the same morning, birds of the same species, and probably the same birds, were observed by Mr. Pinchen passing Cley from east to west. On October 22nd, 1913, the movement again lasted from dawn till mid-day, the wind being S.W., but almost imperceptible, and the birds passing were Chaffinches, Greenfinches, Linnets, Sky-Larks, Starlings, Rooks, some Meadow-Pipits, and a few Mistle-Thrushes.

Now the point I wish to draw attention to is this:—On all these three occasions the migrating birds were coming along the coast-line of Norfolk from the east, and on passing Hunstanton, still following the coast-line, turned S.S.W., and disappeared from sight down the south-east shore of

the Wash (see Map). I consider therefore that the true explanation of this regular and at first sight somewhat puzzling north-westerly autumnal migration along the coast of Norfolk is that it is a route used by certain birds after crossing the North Sea from east to west, and that instead of passing straight inland, these birds continue their flight round the coast of Norfolk as far as Hunstanton, then turn down the shore of the Wash and proceed inland probably along the course either of the river Ouse or Nene. Not only so, but I also think it likely that some migrants which pass straight inland after reaching the coast by a flight from N.E. to S.W., and which, in the case of the Sky-Lark and the Rook, usually come to ground from a quarter to half a mile from the sea, may later on continue their flight by this same coast route.

B. B. RIVIERE.

SPOTTED FLYCATCHER'S METHOD OF EATING BUTTERFLIES.

IN Mr. J. H. Owen's note on Spotted Flycatchers (*antea*, p. 115), mention is made of both young and old birds feeding on white butterflies, the young having "to gulp several times to swallow completely." Some years ago in Hampshire I watched Spotted Flycatchers, both young and old, feeding on Small Whites, and noticed that whereas the young gulped the insect down wings and all, the old bird nipped the wings off before swallowing the body: I heard the click of the beak as it cut and I picked up the severed wing. As Mr. Owen mentions old birds swallowing butterflies, but says nothing about cutting off wings, I take it that the wings were swallowed. What is the evidence with regard to Flycatchers severing wings before feeding on the bodies of insects? Is it frequent with either butterflies or moths, and does it happen in the case of some species more than in others?

C. I. EVANS.

PROBABLE YELLOW-BROWED WARBLERS IN NOTTINGHAMSHIRE.

ON the morning of October 18th, 1914, my garden at Lowdham, Nottinghamshire, was visited by a pair of Warblers which were in my opinion Yellow-browed Warblers (*Phylloscopus s. superciliosus*). They were seen by my wife and son as well as by myself. The double alar bar was very well marked, and as we could none of us distinguish any median stripe on the crown, or the bright yellow bar on the rump, it is clear that they could not have been

Ph. proregulus. The only other species on the British list which possesses a double wing bar is Eversmann's Warbler, *Ph. borealis*, and a comparison with Dresser's plates and descriptions has convinced me that the birds seen were not of this species. They flitted about like Willow-Warblers, but at times circled a bough almost like the Tree-Creeper. My companions heard from time to time a pretty little song. This is the first time that any of the rarer *Phylloscopi* have been recorded from Nottinghamshire. CHAS. E. PEARSON.

WHITE'S THRUSH IN NORTHUMBERLAND.

ON November 2nd, 1914, when walking round Holy Island, I saw a curious looking bird feeding on a rock near some Starlings. There was a gale blowing and the rain made it impossible to use binoculars, but the bird was so tired that it allowed me to approach and stand within six feet of it and note down its appearance, so that glasses were fortunately unnecessary. It was without any doubt a White's Thrush (*Turdus d. aureus*); the back speckled with black, the buff edgings to the wing-coverts, and the black crescent-shaped spots on the flanks were its most conspicuous features. There had been a north-east gale blowing for two days and nights. There appears to be no previous record of White's Thrush for Northumberland.

E. L. TURNER.

NOTES FROM THE SCILLY ISLES.

WHEATEAR (*Enanthe æ. ænanthe*).—In the paper on the Birds of Scilly, by Messrs. Clark and Rodd (Zool., 1906, p. 243) it is stated that this bird "breeds sparingly, but is common during autumn migration." It also occurs in numbers on the spring migration, and was a fairly common breeding species on St. Mary's during 1914.

GREENLAND WHEATEAR (*Enanthe æ. leucorrhœa*).—Messrs. Clark and Rodd make no mention at all of this bird, yet it occurs in large numbers on the spring migration, the passage lasting over a month, indeed towards the end of April they predominated over the British race. Dr. C. B. Ticehurst, in his paper on the Greenland Wheatear (*Brit. B.*, Vol. II., p. 271) mentions that he has seen specimens from this locality.

LITTLE AUK (*Alle alle*).—Mr. C. J. King writes me that he and others saw one diving in the Pool, St. Mary's, on October 14th, 1914. In the above-mentioned article on the *Birds of Scilly* only one occurrence is given, viz., found dead on St. Agnes, mid-winter 1900. H. W. ROBINSON.

CUCKOO LAYING IN HOUSE-SPARROW'S NEST.

WITH reference to Mr. H. E. Forrest's note (*antea*, p. 98), I may add that while staying at a house near Hollingbourne, Kent, in 1896, I noticed on two or three consecutive mornings, at about seven o'clock, a Cuckoo frequented the garden. On May 21st I saw it leaving a small yew-tree growing a few feet from my window, in which I found a Sparrow had built in and upon an old Blackbird's nest. The Sparrow's nest contained three eggs of *Passer domesticus* of a dull greyish ground-colour, uniformly and densely speckled with pale brown, and one Cuckoo's egg with the ground-colour pure white, blotched and spotted with different shades of brown and grey.

F. W. FROHAWK.

STONE-CURLEW BREEDING IN BUCKINGHAMSHIRE.

WITH reference to the editorial note on this subject on page 121, Dr. Hartert, when he wrote the article on birds for the *Victoria History of Buckinghamshire* (1905), was mistaken in supposing that the Stone-Curlew had not been heard in the county for years. At that time, one or two pairs bred annually on a portion of the Fawley Court estate just within the county boundary, and may do so still for all I know. A few years ago I saw a single bird when shooting the warren at Stonor, which is close to the Bucks march. In Berkshire the Thicknee breeds regularly, and seems to be slightly on the increase. HEATLEY NOBLE.

WHEN I came to Poynetts, Skirmett, fourteen and a half years ago, Stone-Curlews were numerous here. Each summer evening, after sunset, beginning late in May, they used to spend some hours flying backwards and forwards past the house, screaming all the time. Whether each bird's "beat" was more than two or three hundred yards I do not know, but they did just the same past Turville village, which is three-quarters of a mile further north-west. The birds also extended up the Chilterns to Turville Heath and into Oxfordshire, and in fact for a good many miles south-west, west and north; Saunderton, the parish in which the eggs mentioned by your correspondent in October were "procured," is some seven miles north, and a point or two east of the Hambleton valley which formed hereabouts roughly, to the best of my knowledge, their eastern boundary. For the last four or five summers, however, the birds have apparently quite deserted this valley, for what reason I do not know.

ALFRED H. COCKS.

AVOCET IN SUFFOLK.

ALTHOUGH the Avocet (*Recurvirostra avosetta*) is reported with fair regularity as a visitor to the Norfolk coast, it is not often recorded for Suffolk though some of those which visit Breydon could probably be claimed for Suffolk as well as Norfolk. It may therefore be of interest to note that I had the pleasure of watching one for some time in a marsh by the sea near Walberswick, Suffolk, on August 23rd, 1914. I was able to get within one hundred yards of the bird and to watch it from behind a bank with binoculars. It was a bird of the year, and considering this was very wild. It kept apart from other waders feeding in the same little marsh, and was most conspicuous both when on the ground and in the air. H. F. WITHERBY.

BAIRD'S SANDPIPER IN SUSSEX.

I HAVE to record the occurrence of an example of Baird's Sandpiper (*Erolia bairdii*), obtained at Rye Harbour, Sussex, on September 23rd, 1914. I examined it in the flesh, and it proved to be an adult male in very fine condition. It was in company with a very large number of waders, including Turnstones, Knots, Dunlin, Sanderling, Redshank, etc., that frequent the mud flats at this season. This is the fourth British example. H. W. FORD-LINDSAY.

BLACK-HEADED GULLS AND RAZORBILLS.

I HAVE recently noticed at Swanage that Black-headed Gulls frequently collect round a group of Razorbills or Guillemots fishing, and whenever one of the latter comes up to the surface with a fish in its mouth, the Gulls immediately hustle it. In order to see where the diving bird is coming to the surface, one of the Gulls hovers, Kestrel-wise, above. Apparently if the diving bird has got a fish it dives again immediately it reaches the surface to avoid the Gull's approach. Then all the Gulls get on the wing and keep a look-out for its next appearance. If the diving bird has not been successful it does not dive again instantaneously, but stays awhile on the surface; thus one can see Gulls and divers on the water, apparently resting quite happily together. I think it is only when the diver has been successful in catching a fish that the Gulls hustle it.

I have seen the same performance on three or four different days. The diving birds on one occasion were certainly Razorbills; on other occasions they were too far out for me to be quite certain. FRANK PENROSE.

BELIEFS REGARDING THE MATING OF
BLACKGAME.

I RECENTLY purchased a curious old book which, from the facts that it was unknown to the bibliographer Lowndes, and that no copy of it is to be found in the British Museum, I take to be of considerable rarity. The title of the book to which I refer is:—*An / History / of the / Wonderful Things of Nature : / Written by Johannes Jonstonus. / And now Rendred into / English ; / By / A Person of Quality.* [John Rowland.] 1657.

Johannes Jonstonus, otherwise John Johnstone, “of Scottish descent but by birth a Pole,”¹ was the author of the *Historia Naturalis* which has been described by Professor Alfred Newton as “little more than an epitome of the work of Aldrovandus.”² It is not my object to discuss the originality of Johnstone’s labours, but to draw attention to the curious statement which he makes when dealing with the *Urogallus*,³ quoting as his authority (Christopher Encelcius.

The following is the quotation from Encelcius (or Entzelt):—

“Gallus hujus speciei sperma ex ore, tempore coitus in uere, excreat et euomit, et uoce magna aduocat gallinas ipsas (sicut domesticus gallus aduocat gallinas, inuento aliquo grano) quæ cum aduenirent, sperma ejectum, et excreatum a gallo in terram, ore legunt, et reglutiunt, et tali modo concipiunt. . . . Nam super quas gallinas non ascendit, ipsæ oua hypneumia pariunt, ut domesticæ gallinæ.” (*De re Metallica, Hoc est, de origine, uarietate, et Natura Corporum* . . . Franc [ofurti 1551], pp. 245/6).

It is only fair on Ulysses Aldrovandus, who has been designated as Johnstone’s prototype, to state that he could not swallow⁴ the statement, put forward by Encelcius, which applied not only to the *Urogallus* but to *Bonosas* *et omnes fere Gallinas sylvestres*.⁵ When writing my *Birds of Dumfriesshire* I delicately hinted at the “impossible yet deep-rooted local ideas as to the mating of Blackgame,”⁶ and it was not till 1900, when Blackgame bred in captivity at Capenoch, Dumfriesshire, that certain old inhabitants were convinced that Johnstone’s allegation was erroneous. I do not wish to imply that these Dumfriesshire sages were

(1) *Dictionary of National Biography*, Vol. XXX., pp. 80/1.

(2) *A Dictionary of Birds*, 1893/6, p. 6.

(3) *Historiæ Naturalis de Avibus*, 1650, p. 61; Johnstone’s Latin has been “rendred” (none too accurately) by John Rowland in his *An History of the Wonderful Things of Nature*, 1657, p. 192.

(4) Ulysses Aldrovandus’ *Ornithologia*, lib., XIII., 1634, p. 66.

(5) *t.c. lib.*, XII., 1599, p. 699.

(6) *The Birds of Dumfriesshire*, 1910, p. 322.

conversant with the writings of the Scoto-Pole, but, as regards Blackgame, they certainly shared the same belief which he expressed in reference to *Urogallus* nearly three hundred years before their time.

The science of Ornithology has not been free from extravagant notions concerning the pro-creation of birds, and I venture to think that it is interesting to note that this ridiculous idea as to the mating of Blackgame should have continued, and for all I know may still continue among the uneducated, in this the twentieth century.

HUGH S. GLADSTONE.

CARRION-CROWS IN OUTER HEBRIDES.—Mr. F. S. Beveridge records (*Scot. Nat.*, 1914 p. 238) that a flock of eight *Corvus corone*, two of which were shot, were present in North Uist during August and September, 1914. We believe that the only previous record of this species in the Outer Hebrides is that of three on the Flannans in November, 1912.

FERRUGINOUS DUCK AND ORTOLAN BUNTING IN SUFFOLK.—In an ornithological diary from Lowestoft, Mr. F. C. Cook records (*Zool.*, 1914, p. 323) that a female *Nyroca nyroca* was shot at Hopton on September 1st, 1913, and that on September 3rd, Dr. C. B. Ticehurst received an example of *Emberiza hortulanus* amongst other birds captured on a fishing-smack. The Rev. J. G. Tuck (*Vict. Hist. Suffolk*, I., p. 188) only includes one specimen of this species from Suffolk, though it has frequently been taken in Norfolk.

DOTTERELS IN WIGTOWNSHIRE.—Mr. C. H. Braid reports (*Scot. Nat.*, 1914, p. 239) that on the night of August 29th-30th, he saw a flock of *Charadrius morinellus* flying round the lantern of the Mull of Galloway Lighthouse. Four of the birds struck the lantern and there were at least eleven other birds in the flock. On the same night and on the following night there were large numbers ("hundreds") round the Isle of May Lighthouse as recorded by Mr. S. Baigrie (*l.c.*). The Dotterel is rarely recorded from western Scotland.

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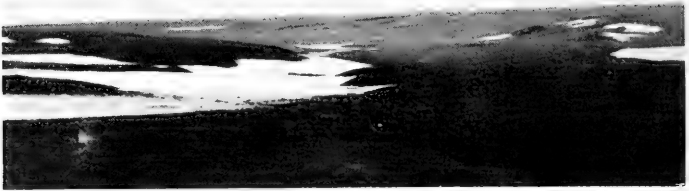
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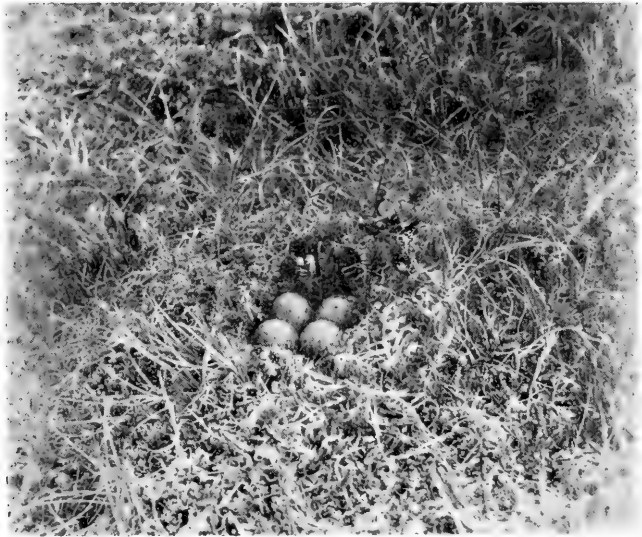
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THE NESTING-PLACE OF THE CURLEW-SANDPIPER.



NEST AND EGGS OF THE CURLEW-SANDPIPER.

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NOTES ON THE BREEDING-HABITS OF THE
CURLEW-SANDPIPER.

BY

MAUD D. HAVILAND.

(PLATE 3.)

IN July, 1914, I visited Golchika, at the mouth of the Yenesei River. I first noticed the Curlew-Sandpiper (*Erolia ferruginea*) on July 6th, when I was returning late in the evening from a nest-hunting expedition over the higher tundras that lie in the northern angle formed by the Golchika River and the Yenesei. On a rough grassy slope overlooking a little lake, a single bird was standing perfectly silently, observing me. Mr. H. L. Popham took his nest at the Krestovskiy Islands, which lie about two hundred versts further down the estuary; and as neither he in his expeditions of 1895 and 1897, nor Seebohm in 1877, mentioned that the Curlew-Sandpiper occurred as far south as Golchika, I was rather surprised to see it there. I lay down and watched it for a while; but as it made no demonstration at my approach, and did not appear to have a mate, I began to wonder whether after all it might not be a non-breeding bird. Nevertheless, I marked the place and determined to search the neighbourhood exhaustively on the following day.

I left the settlement early next morning, and covered the eight miles between Golchika and the tundra lake before noon. The way lay partly over swamps, and partly over grassy tundra. Possibly a list of the birds seen on that morning's walk may be of some interest: Snow-Bunting, Lapland-Bunting, Red-throated Pipit, Shore-Lark, Little Stint, Temminck's Stint, Grey Phalarope, Red-necked Phalarope, Asiatic Golden Plover, Ringed Plover, Dotterel, Dunlin, Siberian Gull, Long-tailed Skua, Arctic Tern, Long-tailed Duck, Reeve, Red-throated Diver, Snowy Owl.

I found the bird in the same neighbourhood, and still by herself, but this time she sprang up at my approach and whirled away down the slope, with a shrill three-fold call: "*wiek-a-wiek, wiek-a-wiek.*" I lay down among some broken ground about eighty yards from the place where the Sandpiper had appeared, and waited for about half-an-hour. At the end of this time, as there was no sign of the bird, I became suspicious, and reconnoitred behind me. There was the Sandpiper on a tussock about twenty yards away. She had been watching me all the time! I therefore moved to another spot about fifty yards further up the hill, and lay down again. The bird immediately flew over to the place where I had first seen her, but owing to her small size and the broken nature of the ground it was difficult to keep her under continual observation. I flushed her twice, but she never rose from the same place, and search failed to reveal the nest. I therefore marked the two planes of the area where I roughly estimated that the eggs might lie with white goose-feathers, pegged down of course with the ever useful hairpin! When working alone on the tundra, it was nearly always necessary to do this, for owing to the nature of the ground and the entire absence of land-marks, it was possible to flush a bird several times and then not arrive within yards of the nest.

By dint of putting up the Curlew-Sandpiper once or twice, and locating her position by the white feathers which were visible to the naked eye, I marked her down into a hollow behind a little ridge. I gave her a few minutes to settle herself while a sleet shower came driving over the tundra. All at once a Buffon's Skua flew overhead. I raised my gun and shot him, and as I did so I saw the Curlew-Sandpiper spring up from the very place that I had marked. As I approached she ran away, drooping a wing, and in half a minute the nest was at my feet. I must have walked right over the place on the

preceding day. The nest was just like that described by Mr. Popham: a small and rather deep hollow in the moss (see Plate 3). The four eggs were slightly incubated. Compared with the clutch in Mr. Popham's collection, the blotching, although similar, is less distinct and more confluent. The eggs average 35.1×25.1 mm. in size.

Howard Saunders, on the authority of Mr. Popham, says of the Curlew-Sandpiper at the river's mouth: "Even there the species was very scarce." As far as the Golchika district is concerned, from what I saw in 1914 it would be quite justifiable to describe it as frequent. It was certainly local, but wherever suitable habitat existed there it was to be found. I saw two more birds about half a mile from the first nest. They seemed to be breeding, but owing to their wildness, and the entire absence of covert on the flat tundra, I failed to mark down the nests. Later on, I picked up egg-shells and saw several of the birds on the tundra on the south side of the Golchika River. I found young in down on July 20th, out on the tundra about twenty miles east of Golchika. It was a very wet foggy day. I was driving on a reindeer-sledge with some natives, when the old bird jumped up almost under the hoofs of the deer, and I saw the chicks scuttling away through the grass. Without taking my eye from the spot, I jumped from the sledge, to the surprise of the Dolgan driver, and caught two young birds before they could hide.

These specimens, which are apparently two or three days old, much resemble the young of the Dunlin, except that the down of the throat and breast is more suffused with rufous.* Compared with a young Dunlin in my collection (which however is a good deal older) the pale mottling on the top of the head is also more buff in tint, but this may be an individual variation, for one of the skins is decidedly deeper in tone than the other.

* Since the above was written, I have compared more skins, and find that this distinction does not always hold good. But even at an early age the bill of the Curlew-Sandpiper differs from that of the Dunlin.

Except in size, they resemble the chicks of the Little Stint, both in the colouring of the down and of the legs and bill.

In 1897, Mr. H. L. Popham shot the female at the nest, and it may be perhaps worth mentioning that the skins I obtained are all those of female birds.

As soon as the young are hatched, the Curlew-Sandpipers leave the dry hilly slopes and go down to the flat sphagnum bogs that lie between the ridges of the tundra. This early migration into the swamps is also very characteristic of the Asiatic Golden Plover (*Charadrius fulvus*) which nests abundantly in similar situations, and as soon as both birds reach the marshes they begin to congregate into flocks. On August 1st I visited such a marsh about twelve miles from Golchika. It was only about a quarter of a mile square and contained as many as six pairs of Curlew-Sandpipers, and the same number of Asiatic Golden Plover. I shot a young Curlew-Sandpiper in first plumage there. There was a certain amount of association between the old birds of both species. A couple of each would wheel round me and then perch on a tussock just out of gunshot. Then, just as I was coming within range, they would spring up and dash, calling, overhead and again pitch side by side in another place. Sometimes a single Sandpiper would join a party of Golden Plover and skim hither and thither over the tundra, but neither Plover nor Sandpipers ever flocked in this manner with the Little Stints, which were also common on this sort of ground. There is no doubt that the young birds are not hatched in these wet places, but are brought to them afterwards. On July 15th, for instance, I carefully quartered one small bog while looking for Little Stints' nests and there was not a Curlew-Sandpiper to be seen. A week later, two birds appeared in the bog, and judging by their behaviour, they evidently had young ones close by. I do not know why both Curlew-Sandpipers and Asiatic Golden Plover move

their young so early, unless it may be that they need water which they cannot obtain on the hills. This habit made it rather difficult to take an exact census of the birds in the district. Until after the middle of July, I should have said that the birds were scarce. This was partly owing to their scattered arrangement—each pair breeding like Plover, a little apart from their fellows—and partly to their quiet behaviour at the nest, for it was possible to walk over the breeding-ground and not observe the birds at all, owing to their smallness and silence. This was changed when several broods met in the marshes, and the old birds then became very wild and demonstrative. Then the species seemed to be twice as abundant as before.

Mr. Popham (*Ibis*, 1898, p. 516) says of the bird's call: "At one time I thought I heard it make a sound like a Dunlin, but as I afterwards saw Dunlins close by I was probably mistaken." The alarm cry which I constantly heard was a shrill triple note, "*wiek-wiek-wiek*," or it might sometimes be syllabled, "*wiek-a-wiek*," two or three times repeated, both when the bird was at the nest and on the wing.

The Curlew-Sandpipers seem to leave the district about the middle of August. I cannot remember seeing one on the tundra after the 14th of the month, and neither did I see any on migration at the Breokoffsky Islands where I spent the first part of September.

With regard to the unexpected appearance of this bird, as far to the south-west as Golchika, I should say that this does not necessarily imply a regular extension of its breeding range in this direction, but rather is to be referred to the weather. The conditions of climate in those regions are different to those experienced further south. Up there it is quite possible that at one spot summer may prevail, and the tundra swarm with birds, while a hundred miles further on the snow may not melt until August. The limits of the arctic ice cap vary from year to year, and therefore birds such as the present

species, which breed furthest north, are bound to be more or less a shifting population. In the spring of 1914 exceptionally cold weather prevailed over the Taimyr. In August a number of Samoyedes who visited Golchika reported that east of Dickson Island the snow was still lying on the tundra and the lakes never thawed. In this connection it may be remarked that the Grey Phalarope (*Phalaropus fulicarius*)—another northerly ranging species which has only once been recorded at Golchika (by Mr. Popham in 1895)—was frequent there in 1914, and I took five nests. Is it permissible to deduce that the wintry conditions prevailing at the end of June, 1914, at the mouth of the Yenesei and on the Taimyr had, as it were, dammed up the stream of migratory birds and compelled them to breed to the south of their usual haunts?

A PRACTICAL STUDY OF BIRD ŒCOLOGY.

BY

H. G. ALEXANDER.

ŒCOLOGY, or ecology, is defined by Dr. H. F. Gadow as the relation of organisms to their environment. The relation of this science to the study of geographical distribution, from the ornithologist's point of view, was expounded by Mr. S. E. Brock in a recent number of *British Birds*. It is evident that a study of œcology, properly conducted, would reveal much that is still hidden with regard to the lives of birds. Perhaps, even, it may be said that the modern desire to learn something of the psychology of animals can only be satisfied by a thorough study of œcology.

Botanists have already done a good deal of research into the œcology of plant-life; for them the science is less difficult than it is for ornithologists. It is comparatively easy for a botanist to choose a certain piece of ground (perhaps only an acre or two), note all the plants growing there at each season of the year, observe which are the most abundant, whether they grow in patches or scattered here and there, what aspect they choose—exposed or sheltered from wind or rain,—the exact nature of the soil, the rainfall, and any other circumstance capable of modifying the plant-association. A similar study of birds is obviously much more difficult. Birds do not remain always in the same environment; this is the great difficulty. Moreover, the number of circumstances to be taken into account is far greater. Plants, it is true, occasionally depend on the presence of insects or birds or animals: everyone knows that nettles are common on a rabbit-warren; but birds habitually depend for food, nesting-sites, shelter, and other necessities of their life on the presence or absence of plants, and they frequently depend also on the abundance of insects. If, therefore, we wish to learn the œcology of any bird we must take into consideration

a vast number of circumstances ; we must inquire into its food and nesting requirements, into its comparative abundance in different types of country, different climates, and different latitudes : into the extent of its daily movements as well as the extent and even the causes of its migration. Indeed, in a sense, œcology includes the whole life of a bird ; for to understand the relation of a bird to its environment we must know not only everything about the environment but also everything about the bird. The only essential difference between the œcological study and any other study of birds is in the aim of the student.

The whole science, therefore, will not be compassed, even for any one species of bird (indeed, no species can be isolated from its fellows), in a short time. But it is on this account all the more worth while to consider by what methods of study we may expect to arrive at the most satisfactory results. So many ornithologists have provided exact information on the nesting-habits of birds, including the position and structure of the nest, the number of eggs and the proportion hatched and reared in different parts of the range of each bird, the amount and kind of food brought by the parents, and all the circumstances of family life, that I do not propose to refer to this side of œcology at all. In some ways it is the easiest part of the study ; certainly it has been more adequately treated than any other part.

Very little, however, is known of what I might call the minutiae of bird-distribution and migration. We know, roughly—less roughly than a generation ago—the geographical limits of each species and the routes by which it travels from and to its breeding-quarters. A vast amount of exact information must still be discovered, however, before we can hope to understand the meaning of these things. In this country, for instance, we may set to work to discover whether each of our species is increasing or decreasing—such as the Land-Rail—hoping, as we pursue our investigations,

that in time we may arrive at the causes of such increase or decrease; we may study the comparative numbers of different birds in various localities—how many Warblers of each kind there are nesting in a wood, or in a larger, more arbitrarily chosen piece of country, including woods, fields, moors, lanes, and ponds; or, again, from the point of view of the environment rather than from that of the bird, we may take a census of some region, either of a particular wood or moor, or of some varied region, showing the numbers of every species nesting in it. The most useful results will probably be obtained from observations restricted to a piece of country of one type, in fact to a geological or topographical unit; and if a wider stretch of country is taken it is most desirable to note the extent and character of the woods, hedges, fields and meadows, and any other country included. It is not enough to know that a wood of ten acres contains a certain number of, say, Chiffchaffs, Willow-Wrens, and Wood-Wrens; for the proportion of these birds in woods of high forest trees, beech or larch or pine, in woods of oak and hazel, in woods of birch with open heathery glades, will be completely different; the birds to be found along the course of an open weed-covered stream flowing between flat green meadows will be very different from those found by a stream flowing between banks and overhung by dense bushes or by alders. Even such a small point as the cutting of hedges—are they closely clipped or do they grow unattended and loosely wander into the lanes and fields?—ought to be noticed.

It is not necessary to restrict such inquiry to the breeding-season; when birds are nesting it is, of course, much easier to compute their numbers, but in open country, and to some extent in woods, one may make very exact notes at any season; we may, for example, note the comparative number of each species of Finch in the flocks on the stubble or in other places during the winter; we may observe how many days

or weeks they remain, how much the flock varies from day to day, at what hour of the day they appear, whether they make a round of the fields each day or remain in one place all the time; what food they seem to prefer, and how far this varies during the season or even during the day; how far such changes of food are due to shortage of one sort or ripening of another; we may endeavour to watch the flocks flying to or from their roosting-places, and see whether they fly straight from all points or travel by well-defined routes—or ill-defined routes. Similar observations may be made with regard to Waders on the shore, and to the roving bands of Tits and other little birds in the woods.

How can such observations be made? To obtain exact information of the status of each species of bird nesting in any district, and of its comparative number from year to year, I think the mapping system explained by my brother and myself in an early number of *British Birds* (Vol. II., pp. 322-6) is probably as satisfactory as any. This may easily be done by obtaining an ordnance survey map of the district required, six inches to a mile scale, and placing a symbolical number or mark at any spot where a species is observed (seen or heard) daily during the breeding-season; this method is admirable for all birds that have a well-defined breeding-range, such as the Chats, Warblers, Wagtails, Pipits, Flycatchers, Buntings, Woodpeckers and other species. But some of the very common birds, such as Blue-Tits, Robins, Thrushes, Blackbirds, and Hedge-Sparrows (I am thinking of the south-east of England), are too numerous for any map short of the twenty-five inch to a mile scale. As regards species which nest in colonies, the most satisfactory method of discovering their number exactly is obtained by counting the nests; in his *Birds of Dumfriesshire*, Mr. H. S. Gladstone gives important results of such observations on Rooks, Herons, and Black-headed Gulls. There remain a number of species which are

neither strictly anti-social nor truly social in their breeding-habits; these include many of the Finches, Pigeons, Plovers, and other Limicoline birds, and other species. In localities where only a few occur they may be marked on a map; for instance, I have had no difficulty in mapping Redpolls, Goldfinches, Hawfinches, Lapwings, and Snipe in various parts of the south-eastern counties. But I should not care to map Chaffinches, Linnets, Wood-Pigeons, or (in some places) Lapwings, for they frequently fly long distances during the nesting-season, whilst on the other hand, several nests are sometimes very close together. A census of these birds cannot, perhaps, be very accurate, but a fair estimate may be obtained by means of careful observations. This census, however, will have no real œcological value unless the geology, as well as the topography, of the district is taken into account, and it is still more desirable to note the effect of the geology on the botany, and of the botany on the entomology of the district; moreover, if the comparison of one year with another is to have any value, the variation of climate from year to year and the effect of such variation on insect and plant-life must be taken into account.

As soon as the young begin to fly about, however, the difficulty of obtaining an exact idea of the birds inhabiting a district, to say nothing of those passing over or through, increases immensely. In fact, when the breeding-season is over and the birds begin to leave their nesting-places, a totally different method of study is necessary. Among the most important things to observe at this time are the movements of birds and the numbers involved in each movement. I carefully refrain from using the word migration, because I believe great confusion of thought exists among ornithologists as to what is and what is not migration. I believe it is quite impossible to draw any line, except an artificial one, between what is commonly called migration and all

other sorts of flighting; the flocking and other flights of birds in the early morning or late afternoon are not usually regarded as a part of migration, but it seems to me probable that their causes or motives are similar and in part the same. At any rate, no practical study of the movements of birds is likely to be satisfactory where such a distinction is permitted; as a rule one cannot possibly tell whether a bird seen flying over is or is not "migrating" in the stricter sense. Recent investigations, notably the "marking" schemes, have proved the great intricacy of bird movement; they also tend to show that a proper study of bird-movement must be restricted neither to the appearance and disappearance of certain particular species, nor to the passage of birds fortuitously known to be migrants, nor to flights tending north in spring and south in autumn. Every fact must be taken into account; many apparent changes in the number of species may be due only to inaccuracy of observation, but they must not be omitted on this account; many of the birds to be seen flying over in the morning and evening may appear to be going in an impossible direction for true "migration," and it may be that they are only flying to or from roosts. But we cannot judge of these things at the moment. No arbitrarily limited observations can have any real value. On the other hand, if everything in the nature of a movement is noted and the effect of the environment on such movements studied, we may in the course of time understand the phenomena of migration and at the same time the cognate phenomena of flocking.

For instance, very early in the summer, sometimes even during May, or at any rate June, family parties of Tits begin to appear all about the country, and even in our gardens. Many ornithologists indulge in nesting-boxes, which are perhaps inhabited by Blue-Tits as often as by any birds. No doubt the old birds are often watched feeding their young, but how many

observers notice exactly where the old birds collect their food, or what food they bring? How many see exactly how many young finally leave the box? And even if the young are counted, who tries to follow up the family when it has left the nest? Blue-Tits do not travel a great distance, and it should not be very difficult to keep them under observation. Which trees do they most frequent after leaving the nest, and what food do they get? How long do the old continue to feed the young? How long is there between the time when the first of the young is seen to find food for itself and the time when one of the parents is seen feeding the last of the young for the last time? In what way do the birds find the food? Is the food of such a nature that there is an advantage in the flock moving about together; for example, do the insects (or whatever it may be) occur in large numbers locally, so that when one bird finds one insect all the others can be sure of finding a number in the same tree or on the same branch? How soon does the family unite with other families of the same species, or with other kinds of Tits, or with Golderests or Willow-Wrens? Does such a union take place by chance, and do the families unite and divide up again during the course of the day? Do the old birds remain with their family for a long time, even till the next spring, or do the young of several families go about together, and do the old birds form separate parties? Is it possible to see whether the pairs remain together all the time till the next spring? Do many family-parties roost in one place, and what places do they choose for the roost? Supposing that the parties remain together for a number of months, when do they begin to split up into pairs? Do the old birds begin pairing and nesting earlier in the spring than the young?

These questions are easy to ask but not to answer. Yet the answer depends, not on a deep scientific knowledge of the structure and classification of birds, nor

on wide reading of bird-books and journeys to Heligoland and South America. It depends on careful, accurate and persistent watching in one place.

Observations on similar lines with regard to less sedentary species than Tits may be conducted throughout the year, and at all times of day and night, for at every time of year and at every time of day some birds are moving, even though there may be brief seasons when no great migratory flights are in progress. It is not sufficient, however, to note the species seen on the move or to note increase or decrease of species. The exact number involved should be noted as far as possible, also the direction of flight in the case of all birds flying a considerable distance, as well as weather conditions, type of country and any other circumstances, especially botanical and entomological, likely to be of value. What I would emphasize particularly is that every flock of birds seen must be, as far as possible, accurately counted. If it is a large flock a portion should be counted and the total number estimated from this; or if occasional parties of one species continue to pass for a long period, the obvious method is to count for five minutes and later to count for another five, and perhaps later repeat the process a third time. The tendency to exaggerate can only be checked in this way. My own experience is that a thousand birds are very rarely to be seen together. One may see many thousands of Guillemots and other sea-birds at their breeding-haunts, and of Starlings at a large roost; otherwise I have never to my knowledge seen a thousand birds at a glance.

The lines of investigation which I have suggested are of an ideal nature. No one could make such thorough investigations without being able to devote every moment of time to the matter. What is wanted is, of course, that those who have any time which they are anxious to devote to such study should direct their exertions in such a way as to obtain the best results

which limited opportunities or capacity or patience permit. Those who are prepared to forego the excitement of meeting with new birds and observing thrilling phenomena may, by constantly going the same walks, perhaps over rather uninteresting country, gain an insight into the lives of birds which will never be obtained by those who are perpetually travelling from one end of the earth to the other.

“Every kingdom, every province,” wrote Gilbert White, “should have its own monographer”; at the present time it might be held that most kingdoms and some provinces have many monographers; but in his “advertisement” he also wrote: “If stationary men would pay some attention to the districts on which they reside, and would publish their thoughts respecting the objects that surround them, from such materials might be drawn the most complete county-histories.” I expect every author of a county avifauna would admit that most of this work is still undone. The *Natural History of Selborne* is unique not only because Gilbert White was Gilbert White, but because so few ornithologists have been content to work at the birds of their own parish or district. Yet with the knowledge we have gained since Gilbert White lived, we ought at least to be able to do what he did, and finally to excel him.

NOTES ON THE FOOD AND HABITS OF THE SPARROW-HAWK.

BY

J. H. OWEN.

THE following notes made from time to time on the habits of the Sparrow-Hawk may be of interest as supplementing or corroborating the observations recently published in these pages. In connexion with some of the observations, I have to acknowledge assistance from A. P. Adams, one of the boys at Felsted School.

Curiously enough I have never seen a nest of a Sparrow-Hawk which had as its foundation the old nest of another bird, though my brother, O. R. Owen, says that he often finds Sparrow-Hawks' nests built upon old nests of Wood-Pigeons. In 1914, however, I knew of two cases of Sparrow-Hawks laying in nests from which the hen birds had been shot in 1913. One of these was a second laying after the eggs had been robbed from a new nest; the other was a first laying, and suggests that the cock has some choice in the nesting-site.

It is hard to say when incubation commences; in some nests I have watched, the eggs have hatched at intervals, but in one case all four eggs hatched during the course of one day. The incubation-period is practically thirty-five days. During incubation the nest gets well flecked with down from the female, and is often a very pretty sight. When the young are hatched this disappears at once, being, I believe, removed by the female after feeding the young the first time. Later on the nest gets flecked with down from the young as they get their feathers.

When the young are newly hatched the eyes are open and the iris is very dark brown, the pupil being deep indigo. The iris then becomes greenish-grey, with a black outer line. Later this line disappears and the

iris gets much more yellow. At birth the head is entirely covered with short, thick, white down. Then a space becomes clear of down between the eye and nostril. This bare skin is at first nearly green and has a few hair-like down-filaments on it. As the skin becomes bare it becomes lighter (yellower), and afterwards gradually darkens. It is very noticeable that birds in the same nest, when fully feathered, vary very much in colour. The breast-markings in particular vary from quite a light brown to a very dark reddish-brown. It is possible to tell females from males before they lose the down at all by the greater length of limb, and especially of the tarsus.

Often the nest is built up as the nestling period proceeds, and is much flatter and some inches higher when the young leave than when they were hatched. The cup of the nest is lined with leaves or bark at the time these additions are made. I think the object is for sanitary purposes, to cover any small bit of food, or dung, or pellets not taken away by the female.

It is interesting to note a marked difference in the actual feeding of these and many other nestlings: whereas it is usual for a nestling not to swallow until the food touches the back of the throat, these Hawks make a grab for the food and jerk it into position in the throat before swallowing. I do not think the young begin to peck for themselves until seventeen days old, but after that they can do a little self-feeding.

In a nest a boy and I watched last summer young Starlings were brought most often; Blue Tits were also brought more often than might be expected. The birds were always plucked before being brought to the nest, and I think this was often done on big limbs of the neighbouring trees, as we climbed several and found traces in most of the trees. Except for legs and feet, all bones were cleared away until the young had left the nest. After they leave the nest the young come back to feed, and then bones are allowed to accumulate.

They probably use the nest as a feeding-place, partly for reasons of safety.

I have personally never seen Partridge, Pheasant, or chick brought to the nest, or seen remains of either at any nest I have watched, or at a dining-table. On the other hand, I have known young hens take very large Pheasants along rides and eat them where they killed them. Last April on an island in a large pool, I found the remains of three Teal that had evidently been eaten by Sparrow-Hawks. The same day I saw a cock Sparrow-Hawk dash at a Teal that was coming to the pool. The Teal went headlong into the nearest rushes, and when it reached them the Hawk was barely a yard behind it. This is especially interesting as the Sparrow-Hawk usually leaves a bird passing over water. At the same time, I have known one pick up a young Moorhen as it swam across an open pool. I have only once seen a Sparrow-Hawk with a Wood-Pigeon; it was trying to carry the Pigeon (a young one about three months old) away, but could not get far at each attempt. The Pigeon was not dead, and I went to examine it, and found it horribly mutilated on the back and neck, and with one eye out. In most of the woods round Felsted I find skeletons of Wood-Pigeons clean-picked by Sparrow-Hawks, sometimes right under the nests, as if the Hawk had been unable to lift the bird to the nest. I think these must be wounded Pigeons, finished off by the Hawks. I have also known Sparrow-Hawks take Turtle-Doves, Partridges, Great and Lesser Spotted Woodpeckers, and Cuckoos, besides many common smaller birds.

NOTES

CARRION-CROWS IN THE OUTER HEBRIDES.

WITH reference to the note on this subject (*antea*, p. 176), it is perhaps worth recording that I saw some of these birds at Barvas (Island of Lewis) in early July, 1914. Unfortunately I did not realise that this record was of any special interest, and therefore did not make a detailed note as to how many were seen, but merely added "Carrion-Crow" to my list of the birds of the district.

G. BATHURST HONY.

UNUSUAL SITE FOR NEST OF LINNET.

ON August 7th, 1914, I found the nest of a Linnet (*Carduelis c. cannabina*) in a small plantation in a garden on Carnarvon Bay. It was built at the top of a dwarf alder tree at least eleven feet from the ground, and contained four unfledged young. The Linnet—unlike the Redpoll—generally selects a low position for its nest, sometimes placing it on or very close to the ground when gorse or other bushes are not available. The nest was composed entirely of dried grass-stems and roots, and lined only with sheep's wool and a few horse-hairs.

S. G. CUMMINGS.

FOLK-LORE OF THE YELLOW BUNTING.

THE Yellowhammer (*Emberiza c. citrinella*) is known in western Carnarvonshire indifferently as Penfelen (i.e. Yellow-head) or Gwas y neidr (i.e. Servant of the Adder). The latter name is also applied to the Adder-bolt or Dragonfly. A common Welsh name for the Meadow-Pipit is Gwas y gog (i.e. Servant of the Cuckoo) and it is alleged that the Yellowhammer cherishes and feeds an adder just as the Meadow-Pipit cherishes and feeds a Cuckoo. Opinions differ as to whether an adder is actually hatched from an egg in the Yellowhammer's nest or whether it is merely fed in the open as a young Cuckoo is, as a matter of common observation, known to be; but the significance of the writhing serpents depicted on the eggs cannot be disregarded. The Yellowhammer is persecuted and its nest destroyed whenever occasion offers, not only because of its supposed association with adders but because, as some aver, it has poisonous properties itself. So bad indeed is its character that boys who catch birds with line and riddle in the winter

stack-yards kill the Yellowhammer with sticks, and I was told by one man, who took some interest in birds, that although he did not think that the Penfelen was as black as it was painted, his ingrained repugnance for the bird was such that he would not care to touch one with his naked hands. I heard this strange tale from a Nevin resident when I was in North Wales a short time ago. It was confirmed in its essentials by fishermen and peasants at Aberdaron and Abersoch, and evidently has wide credence in the Lleyn Peninsula. It would be interesting to know whether the belief obtains in other parts of Wales, or elsewhere. In many parts of Scotland the Yellow Yite or Yellow Yeoring is persecuted, for, so it is said, it drinks a drop of the deil's blood every May morning, but the connection—if there be one—between this libel and the one current in Lleyn is obscure.

CHAS. OLDHAM.

CHIFFCHAFF IN DORSETSHIRE IN DECEMBER.

THERE was a Chiffchaff (*Phylloscopus collybita*) in the garden of the Royal Victoria Hotel at Swanage for about an hour during the middle of the day on Thursday, December 10th, 1914. The previous night had been a very wild one with an easterly gale. I noticed a distinct increase also in the number of Song-Thrushes on the coast that morning.

F. G. PENROSE.

LITTLE OWLS IN ESSEX.

IN November, 1914, a neighbour of mine at Bradfield, north-east Essex, told me he had watched a small Owl in an ivy-covered pollard about seven feet above ground level. The bird allowed him to approach within a few feet, and from his careful description it must have been a Little Owl (*Athene n. noctua*).

WALTER B. NICHOLS.

Mr. W. W. Hartwell informs me that he observed two young Little Owls at Chingford on August 1st, 1914.

WILLIAM E. GLEGG.

[The above records, taken in conjunction with those published in Vol. VI., p. 63, Vol. VII., p. 85, and previous volumes, show that the Little Owl has now spread over most of the county.—EDS.]

HONEY-BUZZARD IN IRELAND.

ON November 15th, 1914, I shot a Honey-Buzzard (*Pernis a. apivorus*) at Knock, Belfast. The strong north-easterly winds which were then prevalent may have accounted for

its presence here. It is now in the hands of Messrs. Sheals, taxidermists, Belfast, who identified it and who inform me that it is a young male. In its stomach were found the remains of bees and other insects, and it was in excellent condition.

HERBERT T. MALCOMSON.

FORK-TAILED PETREL IN SHROPSHIRE.

ON September 18th, 1914, a Leach's Fork-tailed Petrel (*Oceanodroma leucorhoa*) was picked up in a helpless condition on the high road at Montford Bridge (on the Severn) four miles west of Shrewsbury. The local postmaster, Mr. Thomas, brought it in for me to see, but I was out of town at the time. He then showed it to a Mr. Lewis, who recognised it as a Petrel. This gentleman afterwards put it down on his lawn, and presently the bird took wing and flew off down the river. I showed Mr. Thomas the different species of Petrel in the local museum, and he readily identified his bird as a Fork-tailed. It was much larger than the Storm-Petrel. As a matter of fact, the former is much more often met with in Shropshire than the latter.

H. E. FORREST.

ROSEATE TERN IN SHROPSHIRE.

I RECENTLY identified (at a Shrewsbury taxidermist's) an immature example of the Roseate Tern (*Sterna d. dougallii*) obtained about September 21st, 1914, near Llanymynech, on the Montgomeryshire border of Shropshire. This species has only once before been recorded in the county—by Eyton, about 1830. The specimen had been taken for an Arctic Tern, but I recognised it as a Roseate by the lighter colour, and by the white borders of the inner webs of the primaries extending to the tips of the feathers. At this age—it is a bird of the year—the tail is so much shorter than in the adult that it does not reach to the end of the wings when closed.

I may add that a Lesser Tern was obtained on the Shropshire side of the Teme at Knighton on September 14th, 1914, whilst a larger Tern (species?) was seen flying about over the Severn at Shrewsbury on September 20th. Doubtless all three were migrating.

H. E. FORREST.

GULLS WORRYING DIVING BIRDS.

DR. F. PENROSE'S observations (*antea*, p. 174) are interesting, and it may be worth putting on record that the Great Black-backed Gull (*Larus marinus*) is a constant and unpleasant source of annoyance to Eiders and Long-tailed Ducks when

feeding; in fact you can often, when sailing, locate a flock of ducks by watching the behaviour of this Gull.

F. W. SMALLEY.

LITTLE GULL IN LANCASHIRE.

ON November 12th, 1914, a Little Gull (*Larus minutus*) was shot off Gibraltar Point, Silverdale, by Mr. Murray junior, son of Mr. H. Murray, taxidermist, Carnforth. I saw the bird, which was an adult female in winter plumage, just after being set up, also the body and contents of the crop, which appeared to consist entirely of some species of fly, producing a deep purple stain on paper. This makes, I believe, the eighth record of this species for Lancashire.

F. W. SMALLEY.

[Besides the five records mentioned in Mitchell and Saunders' *Birds of Lancashire*, three other records have been published, so that the present instance is the ninth.—F.C.R.J.]

RARE BIRDS IN SUSSEX.

YELLOW-BROWED WARBLER (*Phylloscopus s. superciliosus*).—On October 24th, 1914, I examined in the flesh an example of the Yellow-browed Warbler that had been shot at Hollington the previous day. It was a female, and is the first to be recorded for the county.

WHITE'S THRUSH (*Turdus d. aureus*).—On November 10th, 1914, I was shown a specimen of White's Thrush that had been shot the previous day at Brede. Although a good many have been obtained previously in the British Isles, this is only the second record for the county (*cf. supra*, p. 55).

WILSON'S PETREL (*Oceanites oceanicus*).—During the severe gales that have been raging along the south coast during the end of November and beginning of December, many birds have been washed ashore, various Gulls, Puffins, Guillemot, etc. Amongst others washed ashore at Bopeep, St. Leonards, on December 2nd, 1914, was a specimen of Wilson's Petrel. I noticed at once the length of the legs, and also that the webs between the toes were of a deep orange colour. The specimen was a male, and quite fresh.

H. W. FORD-LINDSAY.

TREE-PIBIT IN IRELAND.—Mr. W. J. Williams (*Irish Nat.*, 1914, p. 239) reports that on May 21st, 1914, he listened for some time to a Pipit singing in a tree near Portumna Bridge (co. Galway) on the Shannon, and was satisfied that

the bird was a Tree-Pipit (*Anthus trivialis*)—a very rare visitor to Ireland.

GREY WAGTAILS NESTING IN SUSSEX.—Mr. R. Morris records (*Zool.*, 1914, p. 432) that in June, 1914, he saw two broods of *Motacilla b. boarula* in the neighbourhood of Uckfield. For previous notes on the nesting of this species in Sussex see Vol. VI., pp. 17 and 101.

SWALLOW BREEDING IN SHETLAND.—In *Bird Notes and News* (Vol. VI., No. 3, p. 43) it is announced that a pair of Swallows (*Chelidon r. rustica*) nested and reared a brood in the summer of 1914 under a bridge at Sellafirth, near Gutter. By the kindness of the Secretary of the Royal Society for the Protection of Birds we have been permitted to see a letter, in which the correspondent who made the observation so accurately describes the bird and nest that there can be no doubt as to the correctness of the identification. The Swallow has very rarely been recorded as breeding in Shetland.

“THE ‘BLUE FULMAR’: ITS PLUMAGE AND DISTRIBUTION.”—In a paper under this title (*Scot. Nat.*, 1914, pp. 221-5), Mr. W. E. Clarke gives a detailed description of a specimen of *Fulmarus g. glacialis* in the dark phase of plumage, procured by the Duchess of Bedford in May on St. Kilda. The dark form, which is no doubt a dimorphism, is very rare in British seas, and seems to be confined to St. Kilda, where a few are found each year. This dark variety has been discussed at some length by Dr. O. le Roi in Professor Koenig's *Avifauna Spitzbergensis* and his conclusions are quoted by Mr. Clarke. In Spitsbergen and Bear Island Dr. le Roi found not only both phases, but many intermediate in colour, and he made the very interesting observation that the young in down also varied in colour. Mr. Eagle Clarke also refers to Herr A. L. V. Manniche's observations which, put briefly, showed that the light form predominated from the Shetlands northwards to about 74° 30' N., and that north of that on the Greenland coast the dark form predominated (*cf. antea*, Vol. IV., p. 345). The fact that the proportions of the two forms should be so exactly opposite in the north and south extremes of the range of the species is of great interest.

VERTEBRATE FAUNA OF NORTH WALES.—Mr. H. E. Forrest writes that he hopes shortly to issue a supplement to his *Vertebrate Fauna of North Wales*, and will be glad to receive additional records or observations from any naturalists who are able to assist in this way. Communications should be addressed to Mr. Forrest at Bayston Hill, Shrewsbury.

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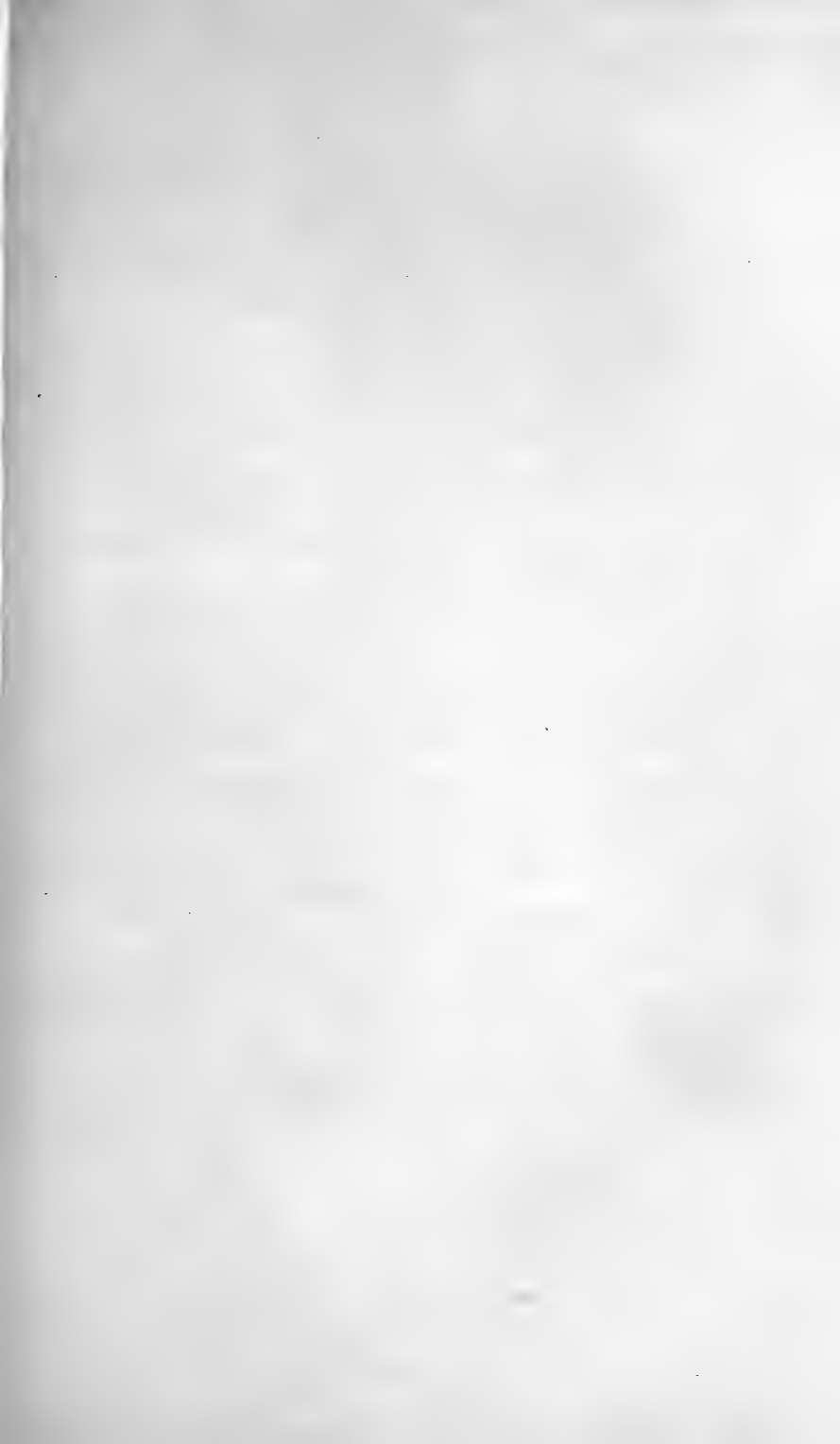
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LITTLE STINT FEEDING IN MELTING SNOW. Maud D. Haviland.

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NOTES ON THE BREEDING-HABITS OF THE
LITTLE STINT.

BY

MAUD D. HAVILAND.

(PLATE 4.)

AT Golchika, at the mouth of the Yenesei river, where I had the opportunity of observing it in the summer of 1914, the Little Stint (*Erolia m. minuta*) is not only common, but is also one of the most widely distributed of the waders. The Golden Plover nest on the tundras, the Phalaropes breed in the marshes, and the Temminck's Stints breed by the water side; but the Little Stint is ubiquitous, and the bird may be found everywhere in the district, except only in such places as are either very wet or very dry—though there are few enough of the latter at Golchika in July when the snow is melting.

At the end of June, the birds which had not yet begun to breed, and had probably arrived only recently from the south, were common on the snow-drifts round the houses, where they fed in company with many Temminck's Stints. The latter were rather shy and quarrelsome, and each one drove any other bird from his own particular puddle, but the Little Stints were very quiet, and so tame that they scarcely troubled to trip out of the way of the sledge dogs which wandered about the settlement.

On July 1st and 2nd, I noticed solitary birds in such patches of marshland as were already free from snow, and I spent a good deal of time in looking for eggs; but it was not until July 3rd that I flushed a bird from a nest in a little marsh on the left bank of the Golchika river. The bird drooped his wing as he ran away, so I sat down to watch him, and in half a minute he returned to the eggs.

After that, between July 3rd and July 17th, I found a good many nests. The birds were very partial to the

little knee-high willow scrub that grew at the edge of the marshes; and unlike those of the Temminck's Stints, their nests were frequently lined with the dead leaves, as is seen in the accompanying photograph. This nest, together with the parent bird, was photographed on Golchika Island itself. No hiding shelter was required, of course. The tameness of the Little Stint during the nesting-season is quite extraordinary and



THE DELTA OF THE GOLCHIKA RIVER AND YENESEI, LOOKING NORTH.

Copyright.

Maud D. Haviland.

even uncanny. I sat down within three feet of the nest, and within half an hour exposed two dozen plates upon the bird as she ran round her eggs. The chief difficulty was to remain far enough away to focus her accurately. Once or twice when I touched the nest, she fluttered up as if she would have flown at me, and then ran distractedly round my feet, feigning a broken wing, but otherwise she made no demonstration whatever at my presence. This passion to brood which is found exceptionally in the individuals of many species, but which is the rule with the Little Stint, becomes so



NEST AND EGGS OF LITTLE STINT.



FEMALE LITTLE STINT MALINGERING NEAR NEST.

Copyright.

Maud D. Haviland.



FEMALE LITTLE STINT APPROACHING NEST.

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FEMALE LITTLE STINT BROODING.

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Maud D. Haviland.

intense as the hatching time approaches that the sitting bird may be caught in the hand. On July 16th, I watched a cock Little Stint flying to and fro between a certain piece of marsh and the bank of a little stream about fifty yards away. Each time he carried in his bill something which I presently made out to be an egg-shell. His nest, which was on a little ridge among the willows, contained three moist chicks. The light was too poor for photography, so I sat down by the nest to watch the bird. When I laid my cap over the chicks, he crept underneath it and brooded quite contentedly. Presently I put out my hand gently, and caught him where he sat. He fluttered a little, but when I released him he returned at once to the young.

I procured both male and female Little Stints at the nest, but out of eight nests of which I have records, six of the birds were cocks. I do not know whether the work of incubation is shared between the sexes, or whether one parent undertakes the whole task. I saw only one bird near the nest, but later on, when the young were hatched, both parents appeared. When the breeding-ground was approached the old birds became rather wild and demonstrative, flying round and round the intruder while they uttered their sharp "*drrrt drrrt*" note.

Before the young were able to fly, the family joined with other broods, until by the first week in August flocks were formed. It was difficult to say when the return migration took place. The bulk of the birds had gone by August 25th when a severe south-easterly gale swept over the river, but on September 1st I saw two or three Little Stints in almost complete winter plumage feeding on the sand-flats in company with some Dunlins. The two species looked rather comic, paddling side by side—like quarto and pocket editions of the same work. As Seebohm says, the Little Stint is much more like a Dunlin than a Stint. The young in down resemble Dunlin chicks and not those of the Temminck's

Stint, which are much greyer in colour, and the eggs are miniature Dunlin's eggs. I have, however, one clutch of eggs of *Erolia m. minuta* which approximates to the type of *E. temminckii*. It is rather remarkable that Seebohm makes so little mention of the Little Stint in his account of his visit to Golchika in 1877. He says merely: "I shot a couple of female Little Stints, the first I had seen in the valley of the Yenesei," and again: "On the hills I shot a male Little Stint." We are left to infer that these were the only birds he saw, and yet he spent six days in the place and made two or three excursions over the tundra. Owing to a series of accidents, he did not reach Golchika until July 17th, by which time all the eggs would be hatched; but the birds must have been feeding their young, and ought to have been in evidence for some time after that date. It seems incredible that such a great ornithologist could have overlooked this species, and yet, judging from its occurrence at Golchika in 1914, it would be impossible to go ashore, either on the island or on the mainland, and not see half a dozen birds.

REPORT ON THE RESULTS OF RINGING BLACK-HEADED GULLS.

BY

H. W. ROBINSON, M.B.O.U., F.Z.S.S.

DURING the five years 1909-1913, 11,769 Black-headed Gulls (*Larus ridibundus*) were marked as nestlings under the auspices of the *British Birds* Ringing Scheme, and of these 414, or 3.51 per cent., have come to hand. By far the largest number—8,096 (68.79 per cent.)—were marked at Ravenglass on the Cumberland coast, so it is not surprising that 345 (83.3 per cent.) out of the total of 414 returns, were Ravenglass-bred birds. The movement of these young birds from their birthplace is best described as a scattering—a scattering with a decided southward tendency along both the west and east coastlines, independent of the situation of the gulleries whether on the west or east side. Recoveries were reported of nestlings marked at fifteen different gulleries, of which three were in Scotland, one in Ireland, one in Wales, and the rest in England.

1. RAVENGLASS, CUMBERLAND.

8,096 ringed. 345 Recovered. (4.26 per cent.)

As by far the largest numbers have been marked at this gullery, and a reliable percentage of these has been recovered, the results from this centre of ringing must form the basis of this report. It may be said at once that the recoveries do not reveal any one definite line of movement. In the case of a bird such as the Black-headed Gull, which probably has to move over a considerable area to obtain its food in autumn and winter, it seems fair to assume that movements within a fairly large area are of little real importance. With this in view I have arbitrarily taken the area between the

Solway and the Dee as "home-quarters" and have grouped the recoveries as follows:—

	July and Aug.	Percentage of total re- covered in July-Aug.	Sept. to Feb. (inclusive)	Percentage of total re- covered Sept.-Feb.
Solway to Dee ..	94	73.4	84	42.6
South of Dee ..	9	7.03	35	17.7
North of Solway ..	5	3.9	7	3.5
Berwick to Humber ..	15	11.6	44	22.3
South of Humber ..	1	.7	24	12.1
North of Berwick ..	4	3.1	3	1.5
	128		197	

In this table the returns for July and August are separated because in these months there is no doubt a large proportion of birds not old enough to travel any considerable distance, and though we have records of forward individuals having reached even as far as Dorset and France as early as July, over 73 per cent. are reported from "home-quarters" in July and August. On the other hand, although the returns clearly show that many birds stay in their "home-quarters" throughout the winter, it will be seen by a glance at the second set of figures in the table that many (and judging by the actual figures the larger proportion) move away.

A few go northward on the west coast, but their number is small and with two exceptions they are birds of the year. Most of these have appeared in south-west Scotland and northern Ireland, but two have reached as far north as Dumbarton and one Argyllshire. The majority which move away on the western side go southward.

It will be noticed that even in July and August as many as 15 per cent. have reached the eastern side of Great Britain, while from September to February some 36 per cent. have travelled eastwards. It will also be noticed that of those recovered on the eastern side about the same proportion travel south as those found southwards on the western side. As regards those which go northward, their number is small, and they are with few exceptions birds of the year.

The following details of the returns of the Ravenglass ringed birds will perhaps prove of interest.

WESTERN SIDE.

Of those going due north on the west coast only three birds reached north of the Clyde, viz., six months later to Argyllshire, and two to Dumbarton three months later. Others occurred in Lanark, Renfrew and Ayr, and in the neighbouring counties of Dumfries and Kirkcudbright within from one to seven months; another, one year three months later in Dumfries, and another, eleven months later in the same county: the latter being found close to two gulleries during the breeding-season was possibly nesting there.

Three birds at least were nesting at the Ravenglass Gullery where they were hatched, for they were found dead there in the nesting-season, two of them two years and the third three years later. Four other birds were probably nesting in their parent gullery, for they were found dead in the breeding-season only a few miles away, three years, two years and two months, one year and one month, and one year respectively after marking. I might also say that I have seen, feeding their young, several nesting birds at Ravenglass which bore rings, but as I could not examine the numbers of these it is impossible to say whether the birds were bred there or not. Another bird was found dead in the nesting-season two years later close to a gullery near Carlisle. Eleven others were obtained within the parent-county at periods varying from one year three months to three years and four months after being marked there as nestlings.

In the neighbouring county of Westmorland one was obtained one year five months later, and three others within three months.

The largest percentage of returns, 28.9, came from Lancashire, and of these 27 per cent. were from the Furness district of north Lancashire, 46 per cent. from

the rest of north Lancashire, and 27 per cent. from south Lancashire. Of the Furness recoveries one occurred over two years, and three over one year, after marking. Of the rest of north Lancashire recoveries, five had carried their rings over one year, five over two years, and one for three years and seven months, and one south Lancashire recovery just over a year; 83 per cent. of these Lancashire recoveries occurred within seven months of marking.

Cheshire furnished eleven returns, the most interesting of which was a bird found dead a year later in the nesting-season on the Delamere Forest Gullery and was evidently breeding there. All the others occurred within five months, except one at nine months, one at two years and five months, and one at one year and six months.

North Wales shows six returns, an interesting one being that of a bird found dead in the nesting season, thirteen months later, on the Llanfairpwll Gullery, Anglesey, and in all probability breeding there. One was found in Flint one year and seven months later, and two at Pwllheli, Carnarvon, picked up on the beach on the same day one year and eight months later, were marked within two days of one another. Anglesey (six months) and Carnarvon (five months) account for the remaining couple.

From South Wales came nine returns: one one year and four months later from Pembroke, and the other eight from one to nine months later from Cardigan, Carmarthen, Glamorgan (two 1913 birds), and four from Monmouth, all four being, curiously enough, birds of different years, viz., 1910, 1911, 1912, and 1913.

Gloucester shows two returns: one four months later, and the other, thirteen months later in the nesting-season, was possibly nesting in the vicinity.

From northern Ireland came six returns, viz., four from co. Down, fourteen, four, three, and three months

later, one from co. Londonderry (five months), and one from co. Mayo (three months).

Southern Ireland shows ten returns, viz., one from co. Dublin, four months later, three from co. Wicklow seven, six, and one month later (all 1913 bred birds), two from co. Waterford, three and a quarter years, and eight months later, one from co. Cork (four months), two from co. Limerick three and a half years and eight months later, and one from co. Galway two months later.

From Devon two returns came, one year and eight months, and one year and five months later, but Dorset shows five returns, nine, eight, three and two months and three weeks after being marked, the last having made great headway for so young a bird. Hampshire returned two rings one year and eight months, and six and a half months after marking.

The ten birds recovered in France probably journeyed by the west coast route, as none was recovered further north than Cherbourg. It seems probable that they travelled via the Channel Islands, since five returns came from Brittany and one from Normandy. The earliest return of the ten French recoveries was from Cherbourg in Normandy only a month after being marked as a nestling. Of those recovered in Brittany three were six months after ringing, one six and a half months, and the fifth one year and seven months. Three recoveries were made in the centre of the Bay of Biscay coast, two in Charente Inférieure, two years and ten months and one year and seven months later, and the third in Vendée five months later, and one in the south of the Bay, in Gironde, seven months later. Six of these French recoveries were 1912 birds, and five of them were made within seven months of marking.

One was recovered in Spain six months later in Vigo Bay (also a 1912 bird), and two in Portugal near Oporto eight months later, and near Lisbon two years and five months later, the latter also being a 1912 bird.

EASTERN SIDE.

Of those travelling north on the east coast, one was obtained as far as north Aberdeenshire at Fraserburgh (eight months) and another in Perthshire (three months). In the south-east of Scotland one was found dead in the breeding-season on the Harferrig Reservoir Gullery, in Midlothian, one year and eleven months later, and was undoubtedly nesting there. Five others were reported from the counties of Midlothian, Stirling, Kinross, and Selkirk, from one to three months after being marked.

Sixteen were recovered in Northumberland, all within six months of marking, except one which carried the ring for two years and seven months, and another for fifteen months. From Durham came thirteen returns, all within six months except two, one of one year eight months, and the other fifteen months. North Yorkshire showed nine returns, all within five and a half months. From the West Riding and centre of Yorkshire eleven returns were obtained, the most interesting being a bird found dead in the breeding-season four years and one month later on the Stanedge Moor Gullery in the West Riding, which was without doubt nesting there. Eight of the others were obtained within three months, and of the remaining two one carried the ring for one year and five months, and the other for ten months. From the south of Yorkshire ten returns were made, one two years and two months later, one one and a half years later, and the others within eight months. Four of these were recovered on the same day at the same place in south Yorkshire, and a fifth two days later.

Eleven turned up in Lincolnshire, one one year and three months after being marked, and the other ten from four to nine months later. A single return comes from Northamptonshire (seven months).

Six were recovered in Norfolk, all within five and a half months of marking. It may be of interest to state that three of these, all 1912 birds, were obtained

at the same place on the same day. Two journeyed inland into Cambridgeshire, five and five and a half months after marking, these also being 1912 birds. Suffolk furnishes one return, one and a half years after marking, and Essex also one, three months after being marked. Kent shows two returns at seven and five months later, and Sussex one, a three months' old bird.

From the Island of Heligoland comes a return in the breeding-season thirteen months later. From Ulrum, in the Province of Gröningen, Holland, a bird was captured two years and eight months after being marked on the Cumberland coast.

The returns of Black-headed Gulls marked at other colonies are in no case sufficiently large to warrant our basing any conclusion upon them. It may be said, however, that so far as they go these returns appear to bear out the facts proved by the returns from Ravenglass. The few recoveries of birds ringed on the east side of Great Britain would also seem to show that a certain proportion of these birds travel to our west coasts just as some of those bred on the west side travel to the east coast.

The details of the recoveries of birds ringed at other gulleries are as below.

(2) LOCH DURISDEER, DUMFRIESSHIRE, N.B.—Three recoveries. One went south-east to Darlington (eight months), one north-east to Perth (one month), and one north to Paisley (one month).

(3) PENPONT, DUMFRIESSHIRE, N.B.—Six recoveries. All these occurred in the parent county or the neighbouring counties of Northumberland, Cumberland, Lanark and Kirkcudbright within eight months, four of them within six weeks of marking.

(4) DENTON FELL, CUMBERLAND.—Seventeen recoveries. Three occurred in Annan, Dumfriesshire, two years ten months, two years seven months, and thirteen months afterwards. Two on the Humber, Yorks.-Lincs.

border, two years two months and two and a half months later, and one in Lincolnshire one year eight months later. The north coast of Yorkshire (one year and nine months) and Grandcamps les Bains, Calvados, France (one year and four months) furnish the only other occurrences of interest, unless we include one in Northumberland, one year and three months, and one in south Lancashire (six months). The rest were recovered in their parent-county and in the adjoining counties of Durham, Westmorland, and Dumfriesshire within three months. Three found dead in the nest are ignored altogether.

(5) GREYSTOKE PARK, MID-CUMBERLAND.—One out of 14 = 7.1 per cent. The only recovery from this gullery is a most interesting one, as the bird was picked up dead two years and eleven months later, in the breeding-season, on a gullery at Tentsmuir in Fife, N.B., and was evidently breeding there.

(6) WALNEY ISLAND, NORTH LANCASHIRE.—Eight out of 474 = 1.68 per cent. One occurred in Cornwall (two months) and one in co. Wexford, Ireland (eight months), and one in Norfolk (one year and seven months). The remaining five were reported from Lancashire, one one year four months later, and the others within three months, one of the latter in the south, and the other four in the north of the county.

(7) WINMARLEIGH MOSS, NORTH LANCASHIRE.—One out of 167 = .59 per cent. One return from north Lancashire two years and seven months later. This gullery is now practically extinct.

(8) DELAMERE FOREST, CHESHIRE.—Seven recovered. Two of these were obtained in Glamorganshire, south Wales, two years one month and ten months later, one in Monmouthshire, south Wales (three months), one each in Flint, Yorks. and south Lancashire, within from two to seven months, and one in co. Cork, Ireland, one year and four months later.

(9) **LLYN MYNYDDLOD, NEAR LAKE BALA, MERIONETHSHIRE.**—Six out of 150=4 per cent. One of these was found dead in the breeding-season on the Hebden Bridge Gullery, Yorks., three years afterwards, and was evidently nesting there. Another was reported from south Lancashire three years three months later. The remaining four occurred from one to seven months later in south Lancashire, Denbighshire, and Gloucestershire.

(10) **CORFE CASTLE AND SWANAGE, DORSET.**—Four recoveries. Three of these went due south on the Continent, two being found in Brittany, France, the one date unknown and the other three years and five months later, the third being reported from near Loures in Portugal eight months later. The fourth was found in its parent-county within a month.

(11) **LOCH SPYNIE, NEAR ELGIN, N.B.**—Four recoveries. One of these birds went due north, being recovered in Orkney five months later. Two were found in the parent county four years and two months and one month later. The fourth occurred in Aberdeenshire two months later.

(12) **HALLINGTON RESERVOIR, NORTHUMBERLAND.**—Five recoveries. One in Norfolk (seven months) and the other four in Durham (two and three months).

(13) **HEBDEN BRIDGE AND EGTON, YORKSHIRE.**—Two recoveries. The most wonderful of all the returns is that of a bird marked at Egton, which seven months later was found on the Island of Flores, in the Azores. The other record was from south Lancashire (two months).

(14) **SCAWBY, LINCOLNSHIRE.**—One recovery, Denbighshire, one year and seven months later.

(15) **LOWER LOUGH ERNE, CO. FERMANAGH, IRELAND.**—Three recoveries. One in co. Roscommon (seven months), the others in their parent county (five and two months).

RECOVERIES IN THE BREEDING-SEASON.

The return of birds which were certainly or possibly breeding in the place where they were recovered have already been mentioned, but as they are of considerable importance it seems advisable to group them in a separate table as below.

<i>Where bred and marked.</i>	<i>EIapse of time.</i>	<i>Where breeding.</i>
Greystoke, Mid-Cumberland	2 yrs. 11 mos.	Tentsmuir, Fife.
Llyn Mynyddlod, Merioneth	3 years ..	Hebden Bridge, Yorks.
Ravenglass, Cumberland ..	1 yr. 11 mos.	Kirknewton, Midlothian.
Do. do.	1 year ..	Delamere Forest, Cheshire.
Do. do.	1 yr. 1 mo.	Llanfairpwll, Anglesey.
Do. do.	4 yrs. 1 mo.	Stanedge Moor, S.W. Yorks
Do. do.	2 years ..	Ravenglass.
Do. do.	2 years ..	Do.
Do. do.	3 years ..	Do.
		<i>Where found (possibly breeding).</i>
Do. do.	2 years ..	A few miles from Raven-glass.
Do. do.	2 yrs. 2 mos.	Do.
Do. do.	1 yr. 1 mo.	Do.
Do. do.	1 year ..	Do.
Do. do.	2 years ..	Near Carlisle, close to a gullery.
Do. do.	11 months	Dumfriesshire, close to two gulleries.
Do. do.	13 months ..	Gloucestershire.
Denton Fell, Cumberland	13 months ..	Dumfriesshire.

NOTES

REMARKABLE TAMENESS IN A REDWING.

I AM indebted to Mr. E. W. Bawcock, schoolmaster, of Wem, Shropshire, for the following interesting note. He writes: "On New Year's Day, 1914, a friend asked me to identify a bird which had surprised him by its tameness. The bird was a Redwing, and was in close attendance on a man who was opening out heaps of sods in a recently flayed field near Tilley, Wem. For a fortnight the bird had met the man on coming to work at dawn, and had left him before dark quite regularly. It apparently knew no fear, and worked its way daily through a banquet of creeping things revealed on opening up the sod heaps. Often enough it was within a foot of the man working, and the approach of two strangers (my friend and myself) made no difference in this respect—indeed on leaving the field the bird followed me up to the main road, quite 150 yards. The weather was somewhat severe, but this would not altogether account for the extraordinary tameness of a bird usually somewhat shy. It showed none of the fluttering uncertainty which usually characterizes birds even in hard weather. I can only liken its tameness to that of a barn-door fowl, and this tameness was so surprising that one can only suppose that, as a young bird, it had been petted by some human of the Norwegian forests."

H. E. FORREST.

ROUGH-LEGGED BUZZARD AND GADWALLS IN BERKSHIRE.

I AM indebted to Mr. Topp, Taxidermist of Reading, for the following notes:—

A young female Rough-legged Buzzard (*Buteo l. lagopus*) was caught in a rabbit-trap at Moulsoford on November 22nd or 23rd, 1914. The only other records I have for the county are two killed and one seen.

A pair of Gadwall (*Anas strepera*) were shot at Maiden Erleigh on January 6th, 1915, another bird being seen at the same time. As far as I am aware this is the first recorded occurrence of Gadwall in Berkshire.

HEATLEY NOBLE.

[In addition to the records of the Rough-legged Buzzard referred to by Mr. Noble, Mr. N. H. Joy has also recorded this species as seen at Bradfield on October 19th, 1908, probably on July 27th, 1908, and at Beenham, near Reading, August 1st, 1900 (*Br. B.*, IV., p. 123).—F.C.R.J.]

FOOD OF SPARROW-HAWK.

I AM glad to see that several good field-ornithologists are speaking up for the Sparrow-Hawk. My own experience quite agrees with what Dr. Penrose, and Messrs. Heatley Noble and Meade-Waldo say, in recent numbers of *British Birds*, about this dashing little raptorial.

I believe that, as far as Partridges and wild Pheasants go, the Sparrow-Hawk need not be taken into account by the sportsman or the gamekeeper.

Tradition and prejudice die hard, but if those who have the opportunity will watch a breeding pair of Sparrow-Hawks, and will note what is brought to the young brood, they will find that the charge of destroying game is rarely supported by evidence. Some ten years ago, before I gave up hawking, a young friend learning land agency work in the neighbourhood, wanted some young Sparrow-Hawks to train and my falconer was instructed to help him. Three nests were located and kept under observation, my man constantly visiting each nest to see how the young progressed, and in order that he might by degrees single out the most promising female of each brood, so that by getting all the food she might become specially vigorous and well developed.

During the three weeks or thereabouts that the young were being watched, not a single game-bird's remains were found about any of these three nests, though there was a rearing-field within less than a mile of each of them, and the district is preserved and it is good Partridge land. The food brought to the three broods consisted mainly of young Blackbirds and Thrushes, the former largely predominating, with a few Finches.

Of course, as your correspondents remark, if an individual Sparrow-Hawk (or Kestrel) finds the artificial conditions of a rearing-field too tempting, that particular bird should be "removed," and the sooner the better!

W. H. ST. QUINTIN.

COLOURING OF SOFT PARTS OF
SLAVONIAN GREBE.

A SLAVONIAN Grebe (*Colymbus auritus*) was shot on Lake Windermere on December 19th, 1914. I received the bird later the same day. It was a male in winter plumage.

It may be of interest to note that the beak, while corresponding in other respects with the Duchess of Bedford's description (*British Birds*, III., p. 268), had the base

distinctly suffused with pink, a dark patch at the angle of the lower mandible, and was black at the base of the upper mandible. The iris was reddish-orange, a narrow white line encircling the pupil; the eyelid and the naked patch of skin extending from the eye to the mouth were pink. The outside of the leg and the under-surface of the toes were black; the inside of the leg and the two inside toes (upper-surface) pale bluish-grey, the outside toe and the hind toe very dark bluish-grey.

It was very fat and weighed just one pound. (Mr. Abel Chapman, in his *Bird-Life of the Borders*, gives the weights of a series of Slavonian Grebes as ranging from $11\frac{1}{2}$ ozs. to $13\frac{1}{4}$ ozs.). The stomach contained a mass of shredded water-weed and a few feathers. D. G. GARNETT.

[Mr. Garnett has kindly sent this bird for examination, and it appears to me to be a young one which has nearly completed the moult into first winter-plumage. In a female example (apparently an adult) sent to me by the Duchess of Bedford in November, 1913, the bill is described as "flesh-coloured at base, centre slaty-blue, tip colourless." The colouring of the soft parts of Grebes no doubt varies according to age and season (and perhaps also individually), and it is important in recording the colouring to make sure if possible of the age and sex of the individual in question. It is possible that the presence or absence of a pink suffusion at the base of the bill is dependent upon the mode of death and the position in which the bird lies or is carried immediately after death.—H.F.W.]

EIDER NESTING IN WOODS IN SCOTLAND.—Miss A. Balfour remarks (*Scot. Nat.*, 1914, p. 263) that at Tynninghame, East Lothian, many of the Eiders (*Somateria m. mollissima*) which formerly bred on the links, having been much harried by Rooks, are now nesting in the adjacent woods.

MOULT OF THE SCOTERS.—In the *Auk* (1914, pp. 293-308) Dr. Jonathan Dwight, Jun., discusses the moults and sequences of plumage of the American species of Scoter, *Oidemia nigra americana*, *O. perspicillata*, and *O. deglandi*, and he thinks it probable that the moults of our Common and Velvet-Scoters follow on the same lines. Dr. Dwight brings forward two points of considerable interest, one being that Scoters have a spring moult (March-May) confined to the body-feathers. the other, that in the Common Scoter the first (outermost) primary of the young bird has its inner web straight while in the old bird the inner web of this primary is very distinctly

emarginated. As the young bird does not moult its primaries until rather more than a year after it is hatched, the shape of this primary is an infallible distinction during its first winter and summer. A difference in the shape and size of the first primary in young and old birds will no doubt be found to occur in a number of species. It is now well known that such a difference exists in some of the game-birds, e.g. the Partridge. Dr. Hartert has pointed out (*Vög. pal. Fauna*, I., p. 403) that the first primary in the juvenile Bearded Tit is much longer than that in the adult, and I have recently noticed that a similar difference is well marked in the larks. Unlike the ducks and game-birds, however, the Bearded Tit and the Larks moult all the juvenile wing-feathers in the first autumn, and the new first primaries are like those of the adults.—H.F.W.

OCCASIONAL HIGH MORTALITY IN YOUNG COMMON TERNS.—Messrs. A. R. Galloway and A. L. Thomson give an interesting report (*Scot. Nat.*, 1914, pp. 271-8) on excessive mortality in the young of *Sterna hirundo* in a large colony at Forvie, Aberdeenshire, in the seasons 1910 and 1912. The writers come to the conclusion that the cause of this periodic high mortality is starvation and that "it seems certain that the food of the young is very restricted in kind, and that the supply is liable to be cut off." The adults do not seem to be affected. It is remarked, however, that in 1910 observations showed that the death-rate varied noticeably with the nature of the ground at different parts of the colony, and this fact remains unexplained.

In the "Report of the Blakeney Point Committee" (*Trans. Norf. and Norwich Nat. Soc.*, Vol. IX., part V., p. 707) it is stated that in 1913 there was great mortality in the young of the Common Terns in this colony, and it is said also in this case that the young died of starvation "as a consequence of the late arrival of whitebait." No proof, however, of this is afforded in the Report, and we think that such occurrences of abnormal mortality in birds are sufficiently important to warrant still further investigations of a searching nature.

LITTLE TEEN BREEDING IN EAST LOTHIAN.—Miss A. Balfour records (*Scot. Nat.*, 1914, p. 263) that a pair of *Sterna minuta* were constantly flying about one spot on the shore at Tynninghame, and the editors remark that they had seen an egg taken from this locality in June, 1908.



REVIEWS

The Food of Birds. Report for the years 1911-12. By Laura Florence, M.A., B.Sc. (*Transactions of the Highland and Agric. Soc. of Scotland, 1914.*)

WE have already noticed (Vol. VI., p. 262) a first paper on this subject by Miss Florence, and this second paper is drawn up on the same lines as the first. It contains details of the examination of the stomach-contents of no less than 1,390 birds of 81 different species. Of a number of these species, as might be expected, only a few individuals have been examined, but the results from the following should be of value to economists, viz., Blackbird (67 examples), Greenfinch (78), House-Sparrow (81), Chaffinch (64), Starling (107), Rook (288), Black-headed Gull (137), Common Gull (78), Herring-Gull (53). With regard to the Starling and the Rook, Miss Florence comes to the same conclusion as other investigators, namely, that when either of these birds grows too numerous in a district its normal diet changes and it becomes harmful to agriculturists. With regard to the Gulls, Miss Florence concludes that while the Black-headed Gull is undoubtedly beneficial, the Common Gull, and more especially the Herring-Gull are harmful, at all events in Aberdeenshire at the present time, and probably this is due to their having become too numerous. On page 73 we may point to a slip where ichneumon flies are referred to as diptera. Apart from their economic value, the details of the stomach-contents are of very considerable interest to ornithologists on account of the information given regarding many species the nature of whose food is seldom properly investigated.—H.F.W.

Some Observations on the Food of Nestling Sparrows. By Walter E. Collinge, M.Sc. Reprinted from the *Journal of the Board of Agriculture*, Vol. XXI., No. 7, October, 1914.

Some further Observations on the Dispersal of Weed Seeds by Wild Birds. By Walter E. Collinge. Reprinted from the *Journal of Economic Biology*, Vol. IX., No. 2, June, 1914.

MR. COLLINGE adds to his reputation as a careful student of the economic status of birds by these two papers. We have had such convincing proof from time to time of the

destructiveness of the House-Sparrow that no one has had a good word to say for the bird. Mr. Collinge has, however, attacked the problem from a new standpoint, and in making an investigation into the food of the nestling, has found that, except for a few spiders and earthworms, it consists entirely of injurious insects. According to Mr. Collinge, the adults are also feeding upon the same food when they have young in the nest, so that during this period the House-Sparrow is of considerable economic importance. Mr. Collinge writes specially of fruit-growing districts, and he concludes as a result of his examination of 404 adults and 329 nestlings, that if the House-Sparrow were considerably reduced in numbers, it would probably do more good than harm in such districts. Mr. Collinge has certainly shed a surprising new light upon an old problem.

The second paper deals with a subject which the author has already touched upon, and he now shows as the result of preliminary experiments that, at all events in the case of the Rook, Starling, and House-Sparrow, a number of weed-seeds eaten are passed through the intestinal canal uninjured, and thus the bird, which from the mere examination of its stomach-contents may be shown to be beneficial, is in reality a disperser of weeds! This is especially so in dry years, when a much smaller quantity of grit and soil appears to be swallowed than in wet years, and as a consequence more of the seeds in the stomach pass through uninjured and capable of germinating and growing into healthy and normal plants.

Mr. Collinge's investigations show how extremely difficult it is to come to a right conclusion as to the economic status of a bird, and how dangerous it may be from an economic point of view to attempt any drastic interference with nature.

H.F.W.

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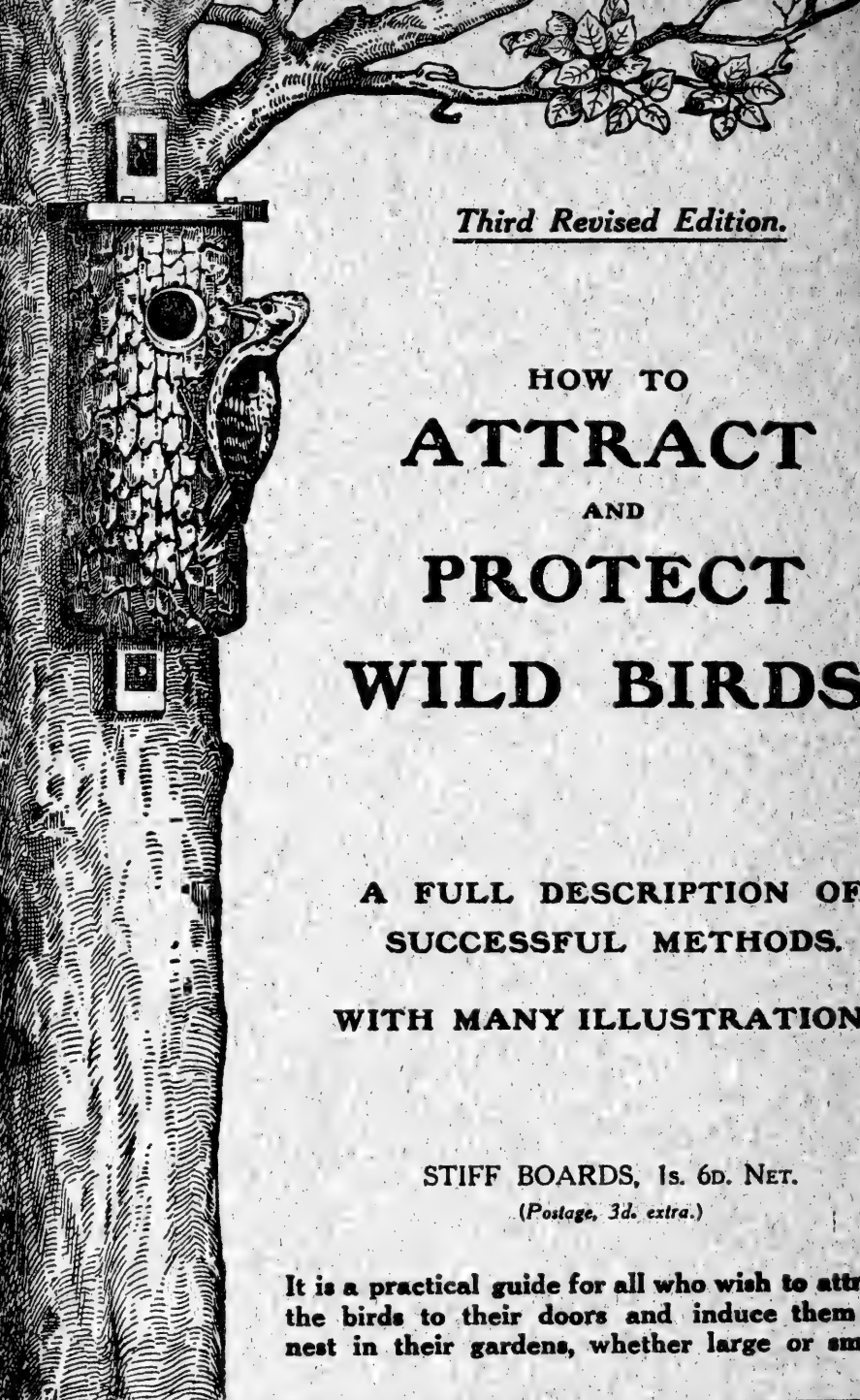
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NOTES ON MIGRATION AT DUNGENESS, KENT,
AUTUMN 1914.

BY

H. G. ALEXANDER.

I WAS at Dungeness from October 15th to November 5th, 1914. Apart from a few observations on birds whose occurrence was sufficiently unusual to deserve special record, it may be interesting to give a short account of the chief migratory movements seen during the three weeks. I was usually observing for an hour or less before 8 a.m., from about 10.0 to 12.0, and again from 3.0 to 4.0, or for a short time before sunset. I was not often more than a mile from Dungeness Point. It is important to bear in mind that the coast runs a trifle *north* of west from Dungeness towards Rye, and a trifle *west* of north towards Littlestone.

In general, the immigration of birds took place soon after dawn and in the late afternoon; but a few immigrants were liable to appear at any time of day. *Skylarks* and *Starlings* came across the sea in numbers, and I saw a good many *Chaffinches* in the first week and a few *Swallows*, *Greenfinches*, *Linnets*, *Meadow-Pipits* and *Pied Wagtails* from time to time. All were flying east or north of east, some almost due north. They arrived on various parts of the coast, but I think mostly quite near the point. The large flocks seen in the early morning and less frequently in the late afternoon showed no signs of fatigue, but I saw single Finches at various times of day that dropped on to the shingle the moment they arrived.

The emigration, chiefly of Finches, was far more striking. Day after day flocks of small birds—*Linnets*, *Greenfinches*, *Goldfinches*, *Redpolls*, *Wagtails*, *Pipits*, *Swallows* and less frequently *Skylarks*, *House-* and *Tree-Sparrows*, *Bramblings*, *Siskins* and *Martins*—came flying over the shingle in the first few hours of daylight. The strength of the wind seemed to affect their numbers, but although the wind was often disagreeably strong, I only once or twice observed no early morning departure.

The direction of the wind affected the direction of the flight to a remarkable extent. For several days after my arrival there was a moderate north-east wind blowing, and every day migrants came over the shingle from the west or north-west, the majority flying parallel to the coast and within one or two hundred yards of it until they reached the point. Then a few, even when it was windy (chiefly *Greenfinches*), continued across the sea, to east and to south-east, whilst many *Linnets* and others flew round and round in the air, finally departing from a fair altitude; others rested in the bushes, and quite a large proportion turned the point and continued to fly parallel to the coast, northwards. In some cases these flocks, that had been flying east, merged with flocks that had arrived from the sea flying west, and the two flew north together!

Later, when the wind changed and for several days blew from points between south and west, the majority of departing birds came from the north along the coast from Littlestone, and a smaller number from between north and north-west, over the shingle. On windy days some of these, similarly, turned the point and continued their flight along the coast westward, so that the flight of the previous few days was exactly reversed, although the same species were involved. Those that departed from the point, however, flew nearly south-east, but more to the south of south-east than to the east of it.

Apart from the day movements it was evident that some migration occurred at night. The numbers of the various *Thrushes* seen among the bushes fluctuated daily, and I frequently heard them at night. On October 17th there were at least twenty-five *Ring-Ouzels*, which seems to be a rather remarkable number for that species.

Small numbers of *Great Tits*, *Robins*, *Hedge-Sparrows*, *Firecrests* and *Black Redstarts* occurred, and larger numbers of *Wrens*, *Goldcrests* and *Stonechats*. It was not easy to tell where these birds came from: twice

I saw *Goldcrests* arrive as if from the east in the early morning; once I saw a *Great Tit* fly about half-a-mile due west at a single flight, and I noticed that the bushes nearest the east coast most often contained *Wrens* and *Goldcrests*, particularly in the morning. The *Black Redstarts* and *Firecrests* must have come from the east; so I think all or most of these small bush-haunting birds may have come from that direction. Every day there were some *Wrens*, but the number was getting smaller by early November; hardly any *Goldcrests* or *Stonechats* were passing after the end of October; early in the month I have seen both species in abundance at Dungeness.

It may be worth while to give exact particulars of the occurrence of *Firecrests*. On October 15th I saw one near Lydd, in the company of a *Chiffchaff*; the rest were near Dungeness Point:—October 18th, one; 23rd, one; 25th, one (possibly the same, but I think not); 28th, one; 29th, one (possibly the same, but at a different part); November 1st, four (two together, one with a *Goldcrest* and one with four *Goldcrests*); 3rd, one (probably one of the two); 4th, one (the same). Only the two mentioned were with *Goldcrests*, and several were on days when I saw no *Goldcrest*.

On October 28th the wind dropped completely, and late the same day a period of strong easterly winds, chiefly south-east, set in. In the few hours of absolute calm I had the good fortune to hear a *Dartford Warbler's* harsh note from some distance; on any other day I should have missed it. For some time I could not get near the bird, but eventually I had excellent views of it; apparently it was a female. It moved west at each flight while I watched it; this was not necessary, as it was some way from the sea, and it might have moved various other ways to avoid me. This is the only evidence with regard to its point of arrival. No *Dartford Warbler* has been recorded from Kent since 1891, according to Dr. N. F. Ticehurst.

The south-east winds were coincident with the appearance of several birds which I suspected had come from the east, in addition to the *Firecrests* of November 1st. On October 29th a *Great Grey Shrike* appeared, and stayed till the 31st. On the 30th I saw a *Chiffchaff*, the first since the 15th, and on November 1st another (or the same); if it was the same it had moved a mile west-north-west. Neither of these was *Ph. c. tristis*. November 2nd was a fearfully stormy day, huge seas being hurled on to the point by the south-east gale, and in the afternoon a crowd of *Gannets* was sitting just off the point, occasionally plunging for fish. In a very bad light I put a small Warbler out of a bush, and after wearily following it backwards and forwards and several times almost losing it I saw it really well. To all appearances it was a *Reed-Warbler*, but of course there is a chance that it was *Blyth's Reed-Warbler*.

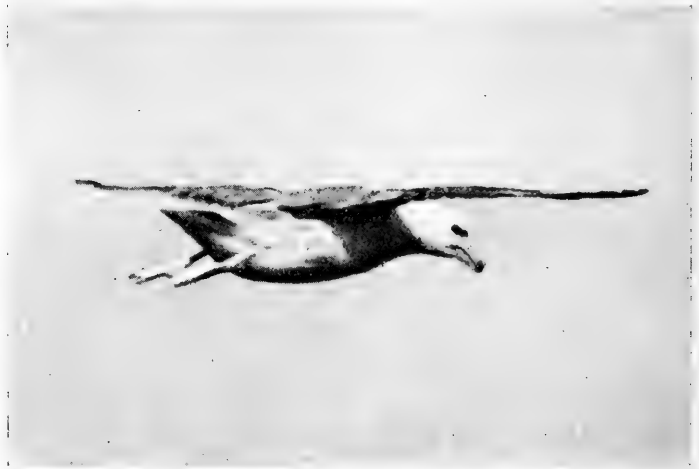
I have said nothing of the sea-birds, whose movements off Dungeness are always interesting to watch, but rather puzzling. In watching them one realises the absurdity of trying to make a hard and fast division between migration and other bird-movements. I doubt if most sea-birds know when they are migrating and when they are not doing so, although they cover such a vast area from season to season. *Velvet-Scoters* were far more plentiful than I have known them near Dungeness in other winters. On October 18th and 19th I saw a *Great Northern Diver* among the Red-throats (some of which were still in summer dress); on the 29th a *Little Gull* flew past the point early in the morning; on November 1st and 3rd I saw what must, I think, have been an immature *Eider*. On the 1st it flew past the point with some *Scoters*, and looked a good deal larger than they. On the 3rd it came over me, flying along the coast, and just at the last moment I noticed the shape of its beak. On October 24th a bird that I took to be a *Lapland Bunting* flew past, going due south, during the early morning departure of migrants.

NOTES ON THE HABITS OF THE FULMAR
PETREL.

BY

OLIVER G. PIKE, F.R.P.S., F.Z.S.

THE first time that I became acquainted with the Fulmar Petrel (*Fulmarus g. glacialis*) in a wild state was on a steep cliff on one of the Orkney Islands. There were less than half-a-dozen pairs there, but on a second visit three years later they had largely increased, and with



FULMAR PETREL GLIDING.
(Photographed by O. G. Pike.)

a vast flock of other sea-birds flying around it was not easy to estimate the number. However, the chief breeding-place of the Fulmar Petrel in the British Islands is the wild and lonely island of St. Kilda, and the two fortnights I have spent there have given me fairly good opportunities of studying this interesting bird.

On my first visit, there was only one day, during the fortnight, that I was able to get a boat to take me across

the bay to the great cliff on which the Petrels nested, and I made the most of that day by spending the whole time amongst the birds. To see this cliff at its best one should be on the sea. It was one of the steepest cliffs I had ever seen. It towered high above our small boat—a great frowning precipice, the lower part for three hundred feet composed of vast black rocks, washed bare and polished by the great waves of the winter storms. The higher portion for about one thousand feet was covered with grass and flowers. As we sailed slowly towards this gigantic cliff we noticed that high up on its grass-covered sides there were thousands of tiny white dots, like little specks of snow, while floating in a slow dreamy movement, thousands of the same white dots were passing and repassing before the face of the cliff. Hardly a sound was there—just the lap, lap of the water as our boat pushed its way through, or the cry of a startled sea-bird as it hurriedly left its nest. This vast precipice that towered above us was the home of the Fulmar Petrel that I had for so long wanted to visit; but now that I had at last reached it, I began to wonder how it was possible for an ordinary human being to scale those great slopes with a camera. But my guide, one of the best of the St. Kildan climbers, assured me that it was quite easy! However, I had many doubts, for the landing was a risky job, as we had to jump from a boat that was rising and falling with a heavy swell, and endeavour to land on the slippery rocks. This was safely accomplished, and the cameras were passed up from the boat on a line with a running noose, and we began the ascent. About two hours later we were right amongst the birds, and the view from above, although not so grand as that from below, was nevertheless very wonderful. Thousands of the graceful birds were flying about before me, and going to or from their nests. The flight is distinct, and unlike that of any other sea-bird I have seen. The bird gives three, four, and sometimes five rapid flaps

of the wings, then floats on for about ten or twenty yards, then flaps again. Its flight is as noiseless as that of the Owl, and exceedingly graceful.

It was the second week of July that I visited the Fulmars, and most of the eggs had hatched, which was



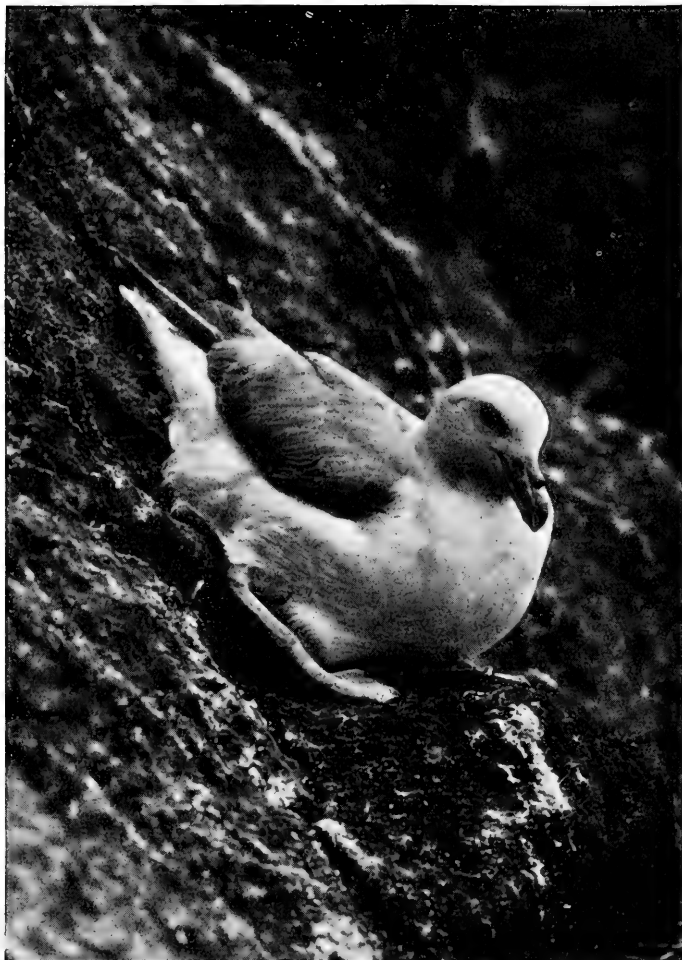
FULMAR PETREL TURNING OR "BANKING" AGAINST THE WIND.

(*Photographed by O. G. Pike.*)

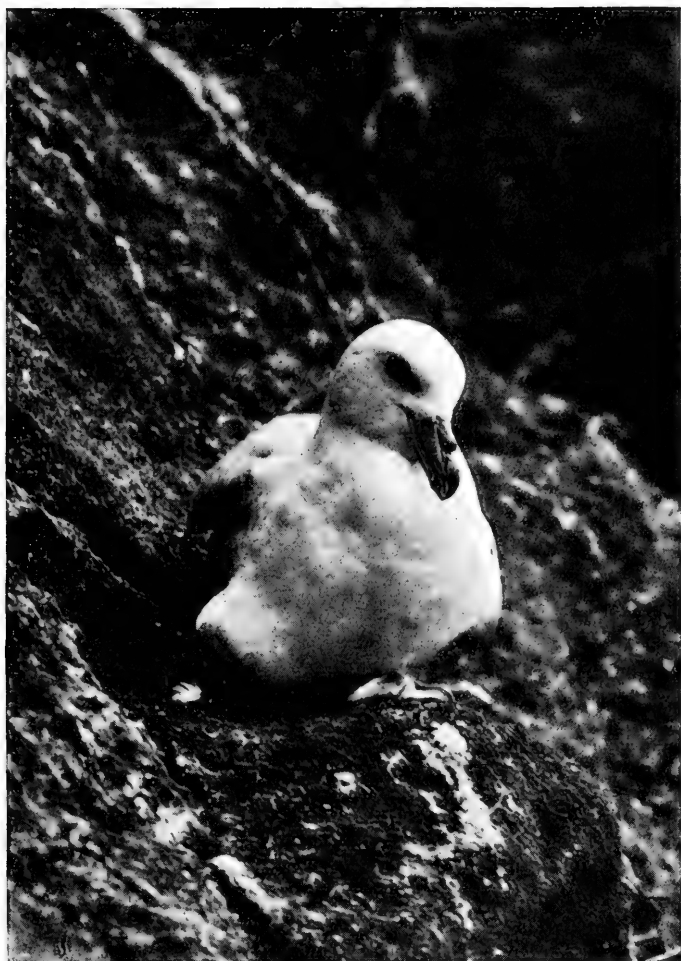
unfortunate so far as photographing the birds was concerned, for while the Fulmar has an egg in the nest she is easy to approach—that is if you can traverse the slippery and difficult cliffs—but as soon as the young leaves the shell, the mother-bird will fly off long before you are near enough to expose a plate. This seemed

rather strange, for one would have thought that the bird would have protected her young and left her egg, but I found it very difficult to get near enough to a bird to photograph it if it had a young one in the nest: in fact, I was only able to photograph one such, and that was on my second visit. The native who accompanied me told me that the birds are always difficult to snare while they have young, while if they have eggs it is a comparatively easy matter. They are captured with a small horsehair noose at the end of a long bamboo rod, the noose is slipped over their head, a jerk of the wrist is given, and the bird is pulled up by the climber above.

The nest is not a large one; if on the rocks, a few grasses suffice, while on the grassy parts, just a scratching in the ground with grasses added as incubation proceeds forms the home. I made many attempts to photograph the birds, and climbed about for several hours with no success. It was heavy work with a camera and bioscope, a large supply of plates, and many hundred feet of film. I spotted one bird on a sloping piece of rock and made great efforts to reach her; each time that she showed the slightest signs of moving I kept perfectly still, waited until she settled down, and then again went forward. By doing this I was able to get to within twelve feet of her and fixed up my cameras and proceeded to expose all the film and plates that I desired. I found it almost impossible to dislodge her, and discovered that she had an egg. Other birds much farther away, with young, left long before I got into range. There were a few other birds here with eggs, and two left their nests in a great hurry owing to the sudden approach of my companion, and I noticed on both visits to this cliff that if a bird left its nest suddenly, it carried its egg with it for several feet. When the bird settles at her nest she seems to be a long time in settling upon her egg. She shuffles about the nest until she has one leg each side of the egg, and then with her beak she will



FULMAR PETREL TURNING ON ITS EGG.
(Photographed by O. G. Pike.)



FULMAR PETREL SHOWING EGG ALMOST ENCLOSED IN THE
FEATHERS OF THE BREAST.

(Photographed by O. G. Pike.)



FULMAR PETREL ABOUT EIGHT DAYS OLD.
(Photographed by O. G. Pike.)

push it under her feathers, arranging and rearranging these until the egg is firmly amongst them; she also turns round and round in the nest until in a perfectly comfortable position, and not until all this is accomplished will she settle down. After she has been sitting for some time, the egg is so firmly embedded in the thick feathers, that if she leaves hurriedly she is not able to dislodge the egg before leaving. On one occasion I found this out to my cost. I was climbing round a difficult corner, with my camera on my back, when a bird above me became startled, left her nest in a great hurry, and when she had proceeded about a yard the egg dropped from her feathers and came tumbling down towards me. As fortune would have it, this happened to be an addled egg, and it struck a piece of rock a few inches from my face! I could not move quickly, as I might have followed the rest of the egg down the cliff if I had attempted to do so; all I could do was to hold tight, close my eyes and wait for the result! It was the very worst egg I ever had anything to do with, and it will be a long time before I forget the smell and the contents that were scattered over my face and clothes!

Only one egg is laid, and the majority of the young leave their shells about the last week of June. As soon as they are hatched they have a remarkable method of defending themselves. When a supposed enemy approaches them, they open their beaks and shoot at the intruder a quantity of evil-smelling green oil; the first charge will carry about a yard, but the second and third charges fall short of this. One youngster made a very successful shot at my camera, and succeeded in placing the best part of one charge right in the centre of my lens! The old birds are able to shoot a greater distance than the young, and during the several hours that I spent with the birds I had a good quantity of this oil on my clothes, and it was many weeks before the smell finally left them.

The young Fulmars form the chief food supply of the natives of St. Kilda, and it is about the 12th of August that they commence to collect them. Each family has a certain piece of cliff allotted to it, and the harvest of birds from each plot varies rather considerably in each season. I should like to have stayed on the island to see the collecting of the birds, but so late in the season it is rather a risky proceeding to remain, for the weather might happen to be stormy when the last boat was due and in that case it would not call, and you would be stranded until the following May—not a pleasant outlook with a busy lecture season just approaching! So I did not risk it. When my boat was due it was so late that we did not think it would call, especially as a strong wind was blowing, and I had made arrangements to leave by a trawler that had put into the bay, but happily the steamer arrived.

NOTES

NUTHATCH'S NEST IN A HAYSTACK.

MR. HOWARD SAUNDERS, in his *Manual*, records a nest of the Nuthatch which was placed in the side of a haystack. The nest measured 13 inches by 8, the weight of clay being 11 pounds. This nest was presented to the British Museum by the late Mr. F. Bond. I am indebted to Miss Luck, of Wadhurst, for the following particulars of a nest built in a similar position at The Olives, Wadhurst, Sussex, in 1914. This nest had a length of 13 inches; the breadth was



NUTHATCH'S NEST IN A HAYSTACK AT WADHURST, SUSSEX.

7 inches, but this was subsequently increased to $9\frac{1}{4}$ inches. The nest weighed $6\frac{1}{2}$ pounds. All the walls of the nest might be said to be made of clay, but in places the clay was not very solid. The cavity was lined in the usual way with scales of bark, and four eggs were laid. Two of these were taken, but the remaining two hatched out and the young birds flew in due course.

During and after the construction of the nest, Starlings were most troublesome in their efforts to obtain possession. They succeeded in making an excavation behind the thick layer of plaster. To prevent the Starlings from using this cavity,

one of the men on the estate placed a thick stick across the opening, and this the Nuthatches quickly plastered firmly in, quite closing the opening made by the Starlings. The birds were seen carrying the mud from a duck pond some distance away and also from a cow-yard and rubbish heap close by. The nest has been preserved.

R. OSWALD BLYTH.

[Mr. Bond's nest was found at East Grinstead (*cf.*, *Zool.*, 1871, p. 2850), and it is curious that this second record should be from the same county.—Eds.]

GREAT GREY SHRIKES IN SURREY AND KENT.

ON January 30th, 1915, I shot an adult female Great Grey Shrike (*Lanius e. excubitor*) in Surrey, on a bit of moorland dotted about with trees. It is of the form known as Pallas's Grey Shrike with one white bar on the wing.

G. K. BAYNES.

ON January 26th, while walking within two miles of Tunbridge Wells, I saw and watched for half-an-hour a Great Grey Shrike.

S. KENDALL BARNES.

BREEDING-HABITS OF THE MISTLE-THRUSH.

I HAVE recently come across a most excellent paper on "The Nesting of a Pair of Mistle-Thrushes," by N. M. Richardson (*Proc. Dorset Nat. Hist. and Ant. Field Club*, XXIII., pp. 67-86). As this is somewhat inaccessible to many ornithologists I give a résumé of it. The nest was started on March 8th, 1901, and finished on March 11th; the eggs were laid on March 17th, 18th, and 19th, and the hen commenced to sit on March 20th. The young hatched on April 3rd (fourteen days), and the old birds swallowed the pieces of eggshell. The cock did practically all the feeding and the hen *all* the sitting; they both cleaned the nest (but usually the cock), swallowing the fæces until the last day or two, when they carried them away. The first two young flew on April 18th, and the third the next day. The hen regularly left the nest at 10 a.m. and 6 p.m. for 15 or 20 minutes.

There are detailed lists of the times of feeding and the food brought; these show that the average intervals between the feedings decreased irregularly from 18¾ and 19 minutes on the first two days to 7¾ and 5¼ minutes on the last two. The longest interval was 33 minutes, and the shortest one minute.

G. BATHURST HONY.

[Careful observations such as those given above are always valuable even where facts may be regarded as

established. In the incubation-period there is nearly always some variation. Thus Mr. S. E. Brock gives the incubation period as 13-14 days and the fledging-period as 13-14 days (*Zool.*, 1910, p. 117). An egg hatched out in an incubator on the 15th day (W. Evans). Naumann's statement that incubation lasts 16-17 days is evidently too high an estimate. He states that the male relieves the female on the nest during the mid-day hours, and further observations in this particular are desirable.—F.C.R.J.]

SURF-SCOTER IN KENT.

ON January 12th, 1914, I obtained an excellent view of a Surf-Scoter (*Oidemia perspicillata*) on a pool near the sea not far from Lydd, in Romney Marsh. During the previous days a number of Scoters of both the commoner species (*O. nigra* and *O. fusca*) had come ashore, hardly able to fly, with their feathers full of oil and tar. On every pool near the sea, and in various parts of the sand and shingle, stranded Scoters were at the mercy of the local gunners, and I saw numbers that had been shot. The Surf-Scoter was beyond the region of the shooting, and was in company with Common and Velvet. I first saw it sitting on a bank with its head tucked away under its scapulars, the white patch on the back of the neck showing at some distance. It did not move till several birds on the water shuffled away, and I got within fifty yards before it walked down into the pool and scuttled across the water. Consequently I could see all the markings near the beak very distinctly, and its red legs were remarkably conspicuous as it splashed along the water. The oval patch of white on the back of the neck gave the bird a very absurd appearance, or so it seemed to me.

H. G. ALEXANDER.

ADULT SMEW IN SURREY.

AMONGST a lot of Pochard and Tufted Ducks on Frensham Great Pond, on January 10th, 1915, I noted a beautiful male Smew (*Mergus albellus*) in adult plumage, diving incessantly.

M. V. WENNER.

ON THE METHOD OF PROGRESSION ON LAND OF A YOUNG RED-THROATED DIVER.

IN August, 1914, when at Golchika on the River Yenesei, Siberia, I was given a young Red-throated Diver (*Gavia stellata*) in down. Requiring a photograph of the bird in

the water, I took it down to a marsh near the river bank, and put it into a small shallow pool. Instead of diving, as my experience of the adult bird had led me to expect that it would do, it promptly turned ashore, landed, and set off across the mud at a pace that gave me some trouble to catch it, encumbered as I was with a camera and wading-boots. The bird did not move in an upright position as a dabchick does on shore, but propelled itself along on its breast by rapid jerks with its legs, assisted in a lesser degree by the wings. Each time that it was placed in the water it crawled ashore at once, and when, to test its powers of movement, I followed without touching it, it crossed a strip of mud thirty feet wide without difficulty. Mr. A. Trevor-Battye, writing of the young of this species, says: "A bird in down was brought me by a Samoyede, who declared that it ran out on to the ground when pressed. If it had not been told me by a man whose word I had the strongest reason to trust, I should not have quoted the statement." (*Icebound on Kolguev*, p. 440.)

That the young of a species should possess activities not known in the adult is not surprising, as, for instance, the fledglings of Stints if pressed can take to the water and swim like Phalaropes; but I spent some time in watching the Red-throated Diver, which was common in the district, and was quite at a loss to see how the young, before they were able to fly, reached the river, which in some cases was a considerable distance from the pools where they were hatched. I wondered whether the activity of the chicks out of water was not due merely to accident, but was of positive use to them. Towards the end of August, a flapper only half-feathered appeared in the river. It certainly was not hatched on the bank, for I had patrolled every inch of it for two or three versts round, but I am pretty sure that it was the nest-fellow of the bird mentioned above. Both were hatched out on a marshy pool about half-a-mile from the river bank, and I visited the remaining youngster several times, until about ten days later it disappeared. The pool was completely isolated, and although the ground was marshy all the way and intersected with pools, it would have been necessary, in order to reach the river, to cross considerable stretches of sphagnum. The alternative is to suppose that the old bird carried the young—a feat of which I do not think this Diver would be capable, having regard to its structural peculiarities.

MAUD D. HAVILAND.

[Many adult birds will depart from their normal habits when pressed; thus adult Waders have frequently been seen

to swim, and we have heard of an adult Great Northern Diver progressing in much the same way as that described above. One of us has seen adult Guillemots progressing in much the same way when left by a falling tide in narrow creeks in a saltmarsh.—EDS.]

FEEDING HABIT OF RED-NECKED PHALAROPE.

SOME photographs of mine of the Red-necked Phalarope (*Phalaropus lobatus*) appeared in the June issue of BRITISH BIRDS (Vol. VIII., pp. 9-12). As an appendix to the notes that accompanied them, I venture to record the following:—

Last summer I spent some time in watching some of this species, which were feeding in small parties in the shallow pools in a large marsh by the River Yenesei, Siberia. My attention was called to a curious custom of two of the birds, which, remaining stationary, would suddenly begin to pivot rapidly round and round on their own axis. After half-a-dozen turns they stopped, and snapped up floating particles from the surface of the water. Twice subsequently I saw single birds behave in the same way. It occurred to me that a possible explanation might be that the bottom was just beyond the reach of the birds, and that by creating a circular eddy with their bodies, the mud might be swirled to the top of the water, in the same way that tea-leaves can be drawn to the surface of a cup by stirring it with a spoon. Of course, Ducks can often be seen turning round and round when feeding with the head submerged, but this is incidental only to their position, and is not analogous to the action of the Phalaropes, which was performed when the birds were resting on the water.

MAUD D. HAVILAND.

[The above is an interesting confirmation of a habit noted by Dr. P. H. Bahr in Scotland some years ago, and recorded in our first volume, pages 204-5.—EDS.]

GLAUCOUS GULLS INLAND IN AYRSHIRE.

ALTHOUGH the appearances of Glaucous Gulls (*Larus glaucus*) are fairly regular on our coasts, it may be of interest to note that on January 4th, 1915, I saw a white Gull together with four Herring-Gulls at the Kilmarnock waterworks. This bird, which proved to be a Glaucous Gull reaching the mature stage, was not obtained until February 4th, having remained about for a month. On February 5th another was noticed near on the ploughed land, and still remains as I write. The lochs are situated about fourteen miles from the sea. The weather during January was not unusually stormy.

E. RICHMOND PATON.

DAMAGE TO TAIL-FEATHERS OF POMATORHINE SKUA.

ON October 22nd, 1912, an adult male Pomatorhine Skua (*Stercorarius pomarinus*) was shot by the Light-keeper and forwarded to me in the flesh from Mutton Island, Galway.

The ends of the two long tail-feathers were broken off about an inch shorter than the others. This defect I attributed to the Light-keeper's anxiety to make the bird "look tidy"—for the quills had not the appearance of being shot away.

In reply to a letter the Light-keeper wrote that he had not broken them off. Mentioning the subject to a well-known taxidermist, he said that in two or three instances he had received Skuas injured in the same way, and that he had heard this injury attributed to the Great Skua, which, while chasing the Pomatorhine, nipped off the long ends of the tail-feathers.

This explanation is a remarkable one, which without corroboration I hesitate to accept.

Since writing the above I remembered another adult Pomatorhine Skua shot November 1st, 1908, on Tory Island, co. Donegal, whose two central tail-feathers were similarly broken. Can the vertical twisting weaken the shafts so much that winter gales break the ends off? Both specimens are in my collection.

RICHARD M. BARRINGTON.

[There is evidence that the Pomatorhine Skua will snip off the ends of the tail-feathers of its companions and also the tips of the tail-feathers of Buffon's Skua. Mr. A. Roberts observed several at Scarborough in October, 1879, pursuing the Buffon's Skuas and snipping off their elongated tail-feathers, as well as acting in a similar way to their own species (*B. of Yorks.*, II., p. 701). Mr. T. H. Nelson also notes that this defect was noticeable in several specimens examined by him (*loc. cit.*).—F.C.R.J.]

BLACK-HEADED BUNTING IN YORKSHIRE—*Correction.*—In our July issue (*antea*, p. 55) we referred to a Black-headed Bunting (*Emberiza melanocephala*) which was exhibited at a meeting of the British Ornithologists' Club by Mr. A. F. Griffith, who stated that the bird had been presented to the Booth Museum at Brighton and that it was said to have been caught near Halifax, Yorkshire, in December, 1910, and subsequently kept in an aviary at Hove by Major Johnson until its death in 1912. Since the publication of the record in the Club's *Bulletin*, the editors of the *Naturalist* have been inquiring into its authenticity and

have drawn the admission from the Halifax dealer who supplied the bird that his information regarding "localities" is, at all events sometimes, made for business purposes (*cf.*, *Naturalist*, 1915, pp. 3-5 and 60). The record must therefore be cancelled, and ornithologists will be duly thankful to the editors of the *Naturalist* for disposing of a bad record. The editors' conclusion (p. 60) that having proved this one record wrong therefore other recent "new records" from other sources should be deleted can scarcely be deemed judicial, to say the least.

NOTES ON SOME PASSERINE BIRDS FOUND MIGRATING IN MOULT.—Under this title Miss L. J. Rintoul and Miss E. V. Baxter contribute an article of considerable interest to the *Scottish Naturalist* (1914, pp. 245-252). The authors have examined a large number of specimens taken at lighthouses and isolated islands on migration, and have found that a good many examples of various species show signs of moult in the body-plumage, while in rare cases some tail- or wing-feathers were partly in quill. From the details given it would seem that at all events the majority of these birds were not commencing a moult, but had not quite completed it, before they migrated.

GREAT TITS IN SHETLAND.—Mr. J. S. Tulloch notes (*Scot. Nat.*, 1914, p. 287) that two Great Tits were procured in Lerwick at the end of October, 1914. The Great Tit is only an occasional visitor to the Shetlands, and it is possible that these were of the Continental form.

BLACKBIRD AND SONG-THRUSH FEEDING ON DAISIES.—Mr. W. Evans writes (*Scot. Nat.*, 1914, p. 289) that he has watched a Blackbird on several days greedily devouring daisies, and Mr. J. K. Nash states in the same number (p. 290) that he has seen a Song-Thrush in two different seasons (1913 and 1914) feeding a fully-fledged young one with daisies. In both cases only the flower-heads were eaten, the full length of stalk being left standing in the ground.

BLACK REDSTART IN SHETLAND.—Mr. J. S. Tulloch records (*Scot. Nat.*, 1914, p. 287) that an immature male *Phœnicurus o. gibraltariensis* obtained in Bressay was given to him on October 30th, 1914.

SPOTTED CRAKE IN SHETLAND.—Mr. A. J. Nicholson reports (*Scot. Nat.*, 1914, p. 288) that an example of *Porzana porzana* (which the Editors state has only occurred on three previous occasions in Shetland) was shot at Fetlar on October 19th, 1914.



REVIEWS

The British Warblers: A History with Problems of their Lives. By E. Eliot Howard, F.Z.S., M.B.O.U. Parts VII., VIII., IX. Coloured and Photogravure Plates. (R. H. Porter.) 2ls. net per Part.*

MR. HOWARD'S work, commenced eight years ago, is now completed with the publication of the ninth part, except for two coloured plates which are to be sent separately to subscribers as soon as they are ready. The great value of the work as a whole lies in the fact that it represents the results of a wonderful series of persistent and close observations recorded with great care and detail. These observations are concerned with the breeding habits (or habits intimately connected with breeding) of the eleven species of Warblers which are regular summer immigrants to this country. Of the Dartford Warbler (Part IX.), owing to lack of opportunity, the author has not much to say.

Mr. H. Grönvold's beautiful plates, drawn, we believe, from the author's careful sketches from life, are an important feature of the work, in that they represent special attitudes and actions of the birds assumed chiefly during sexual emotion. Mr. Howard's theories and explanations connected with the habits he has so carefully noted, although extremely interesting, must be reckoned, we think, of secondary importance as compared with the observations themselves. Had the author stopped here and not loaded the work with descriptions and plates of fourteen other species which have visited this country at irregular intervals he would have been well advised. The details given of these species are so scanty that the work fails entirely as a monograph of the British Warblers, if that was the intention, and it seems rather hard that the student of avian biology, to whom the work must be of extreme value, should have to pay for so much that is of little use to him.

*For previous notices of this work see Vol. II., pp. 67-8; Vol. III. pp. 62-4; Vol. IV., pp. 62-4, 320; Vol. VI., pp. 31-2.

Of the parts under review, the first contains an account of the Marsh-Warbler, in the course of which interesting comparisons are made between the habits of this bird and that of its near ally the Reed-Warbler. Although the two birds are so much alike in form and colour, Mr. Howard finds that their habits, and especially their emotional behaviour, are easily differentiated though they have rudiments in common. He also gives an interesting account of the vocal powers of the Marsh-Warbler and its extraordinary imitative faculty, in which it probably surpasses all other British species. The construction of the nest and its variability is discussed at length, and finally reasons are given for suggesting that the evolutionary development of the Marsh-Warbler is of more recent occurrence than that of the Reed-Warbler, and that it has not yet completely adapted itself to its environment.

Part VIII. treats of the Garden-Warbler, whose behaviour is very similar to that of the Blackcap, but here again there are points of difference, though these are not so marked as in the cases of the Reed- and Marsh-Warblers or Willow-Warbler and Chiffchaff. It is curious to note that the male betrays more antagonism when a male Blackcap enters his territory than when a male of any other species does so: indeed this antagonism is nearly equal to that exhibited when a male of his own species intrudes. The two species no doubt require similar conditions of existence, and when they come into touch with each other there is the inevitable struggle for existence.

The Dartford and Icterine Warblers are briefly described in Part IX., but the bulk of the part is devoted to a summary of the chief observations made in the course of the whole work. Here we find that in the species dealt with, the males arrive before the females, that they take up a breeding "territory," an idea which leads to a discussion as to whether the struggles which ensue have as a primary cause the possession of a female or the possession of a "territory." With the advent of a female in the "territory," a period of sexual activity producing striking emotional behaviour commences, and the variations and meaning of these are discussed at some length. The construction of the nest

and its trueness to type, the share of the sexes in the care of the young, the methods adopted for the feeding of the young and the sanitation of the nest are other subjects reviewed. Finally we have an interesting discussion on vocal powers—whether song is a matter of tradition or congenital endowment, and the meaning of imitative powers and variations in different districts.

It should be mentioned that an excellent index to the whole work also appears in this final part. It only remains for us to congratulate Mr. Howard on bringing to a successful conclusion a work which will always bear testimony to the great powers of observation, persistent effort and originality of its author.

H.F.W.

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THE BLAKENEY POINT TERNERY.*

BY
WM. ROWAN.

BLAKENEY POINT, Norfolk, a shingle-spit now owned by the National Trust, is familiar in name, at all events, to the readers of BRITISH BIRDS, for it has of recent years been the scene of much botanical and zoological activity and has figured prominently in many of our daily papers. Not only is it famous as a resting-place for rare migratory birds and holds many unique records, but in the summer it is the home of a fine colony of Common Terns (*Sterna hirundo*). This colony has now been under my observation for several years and it forms one of the most interesting features of the Point.

Of the history of the colony I can find out little. It is generally believed to be very old. Till 1901, when Mr. R. Pinchin was engaged as bird-watcher, the colony was unprotected and the eggs were systematically taken. The birds were also freely shot, mostly for sport or for mounting, though Mr. H. N. Pashley, of Cley, tells me that he remembers an old wild-fowler, who died some twenty years ago at the age of ninety, recalling how he used to shoot the "Dip-ears" when a boy and eat them on the "smack."

In 1901 the estimate of the colony was 140 nests. Since then the numbers have increased more or less regularly. During the last season (1914) there were about 600, probably the largest number on record. But this was an exceptionally good year for all birds. The Oyster-Catchers which have nested there since 1906 also did better than in any previous season.

A short description of the Point is necessary here to give an idea of the area in which the colony is situated.†

* Blakeney Point Publication No. 13. The first of the series to appear in *British Birds*.

† For a more detailed description see the first part of the seventh of the Blakeney Point series of publications—"Topography and Vegetation of Blakeney Point, Norfolk," by Prof. F. W. Oliver and Dr. E. J. Salisbury.

The shingle-spit leaves the shore near Weybourne, on the north coast of Norfolk. From here it continues for nearly eight miles, diverging very gradually from the shore-line to end in a complicated hook bent landwards. This is one and a half miles from the opposite shore. On the accompanying cut (Fig. 1) the shingle is marked in solid black. The dunes are marked with perpendicular

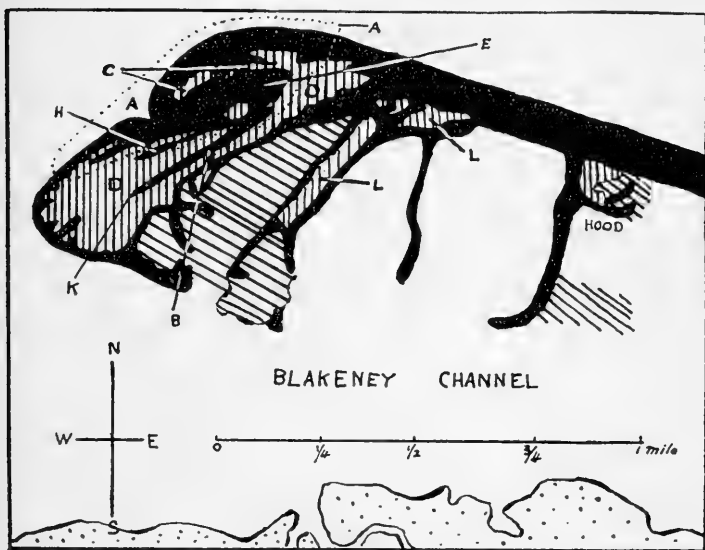


Fig. 1. THE HEAD-LAND, BLAKENEY POINT.

- | | |
|---|-------------------------|
| A. Area occupied by Common Tern Settlement in July, 1914. | E. Great Sandy Low. |
| B. Isolated Clutch of Eggs. | H. Glaux Lagoon. |
| C. Tern Dunes. | K. Long Hills. |
| D. Dunes. (Beacon Hills.) | L. Dunes. (Long Hills.) |

lines and the marshes with slanting lines. The area enclosed in dots indicates the ground occupied by the Common Tern in the summer of 1914.

From Cley onwards the shingle-bank is practically straight. At the termination it bends landwards and faces nearly due N.W. for a distance of over half-a-mile. Then it bends right back and is parallel with its original direction, finally ending in two small hooks again bent

inwards. Just before these are reached a narrow shingle bank branches off N.E. to join the main bank. A considerable area (over 100 acres) is thus enclosed by shingle. This is occupied by dunes in various stages of development, collectively known as the Beacon Hills. Adjoining the dunes, and only separated from them by the shingle bank before mentioned, is a large *Pelvetia** marsh, on the other side of which is another range of dunes called the Long Hills. These are considerably lower and older than the Beacon Hills, but are also enclosed by shingle. Beyond them lie two extensive mud-flats, divided by a shingle bank, and beyond these again, very nearly surrounded by shingle, and abutting on the main bank, are the Hood Dunes, the oldest of all the dunes and of the least interest as regards bird-life.

The Blakeney Point Ternery, as Mr. J. H. Gurney suggests,† is more correctly termed a settlement than a colony, for it has been there probably since the formation of the shingle-spit. But the ground on which the nests occur is never quite the same in any two successive years. At one time the birds used to nest in numbers on the south-east side of the Long Hills (Fig. 1, K), but since the advent of telephone poles and wires right along that strip not a Tern has laid there, with a single exception in 1914 (Fig. 1, B). This, incidentally, is the only Tern's nest I have ever seen at Blakeney or elsewhere that was completely isolated from others of its kind. It was fully an eighth of a mile from its nearest neighbours, and was separated from them by a high range of dunes.

In 1911 the Common Tern settlement was fairly scattered over the headland. In 1912 the area occupied was almost identical with that of 1914 (Fig. 1, A), except that it did not stretch so far to the east and west of the Tern Dunes. The embryo dunes designated by this

* This marsh derives its name from the abundance of the brown alga *P. canaliculata* belonging to the *Fucaceæ*. It is an unattached form, peculiar to Blakeney Point.

† Ornithological Report for Norfolk (1912); *Zoologist*, 1913, p. 172.

term derive their name from the fact that they are usually the headquarters of the Terns. During that summer (1912) the nests were very crowded here. The birds also laid in the dunes to the east and west of Great Sandy Low (Fig. 1, E). In 1913 the clutches were evenly scattered along the shingle front. Except on the little island of embryo dunes, constituting the western half of the Tern Dunes, no eggs at all were found in the sand-hills. There was also a small colony in a "low" in the Long Hills. In 1914 this spot was again deserted and the settlement was as indicated on the map (Fig. 1, A). There was also the single clutch, B. Once more the birds had taken freely to the dunes. It seems that the only area which this bird invariably patronizes is the Tern Dunes, with the surrounding shingle.

Two seasons prior to these are of interest. In 1898 the birds were so molested by Rooks and rats that they left the Point in a body and went to the Stiffkey side of the channel and nested on the turf. Mr. Pashley has a nest still in his possession, taken with the sod that year.

In 1911 rats again harassed the Terns, but they stayed on the ground, though the rats also remained throughout the season.*

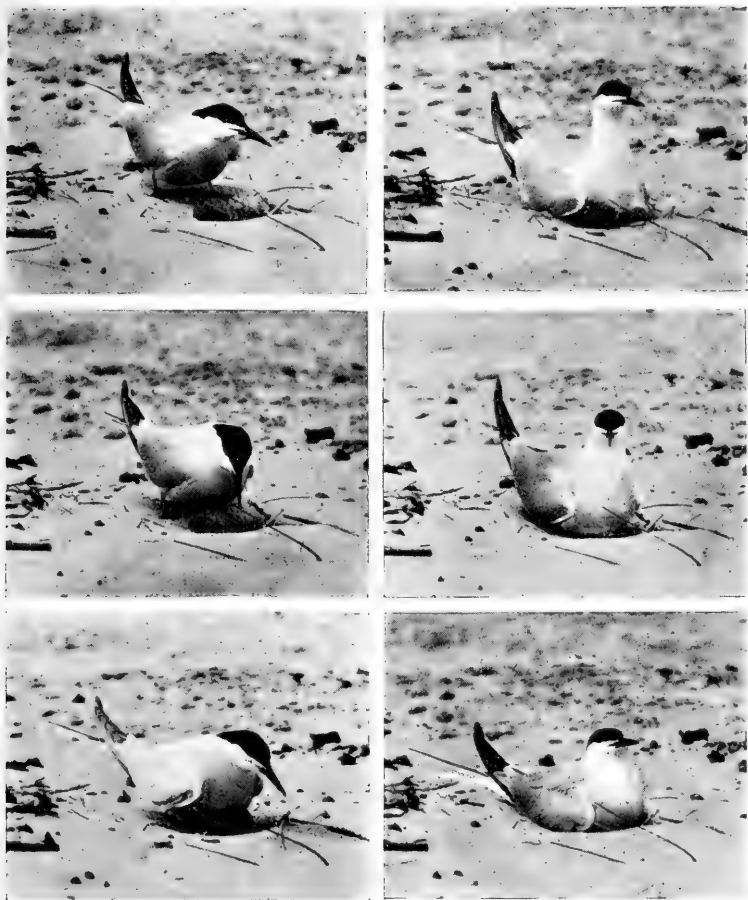
It is unnecessary to describe all the habits and behaviour of the birds during the nesting-season. They behave in a perfectly normal manner. There are, however, several traits of the Common Tern which I have seen particularly well illustrated at Blakeney. There is more often than not a wind in some direction or another on the exposed front, and if one hides for a few minutes on the crest of a commanding sand-hill, whence one can see perhaps a hundred or more nests, and watches the return of the birds, it is remarkable to see how they all drop to their eggs facing the wind, and instinctively settle down in that direction. Amongst them may be a Ringed Plover also incubating. If so, she is usually out of line with the Terns, for she is not so fastidious. The accompanying

* See *British Birds*, Vol. VI., p. 162.

photographs (Figs. 2—7) demonstrate rather well the inclination always to face windward. All six photographs were taken on the same morning, with a steady south-west breeze blowing. For each exposure the bird was scared off the nest, and snapped on her return. The direction is practically constant. The camera was on the same spot throughout.

Though I have never seen the Common Terns at Blakeney actually hurt a human intruder, they invariably intimate their feelings by diving at his head uttering their characteristic angry *pirre*. Half the colony usually rallies round and assists in the uproar. They do not hesitate to inflict injuries on smaller visitors. I have seen a rabbit set on by a cloud of birds and followed for a couple of hundred yards, and I have no doubt that had its burrow been at a greater distance it would never have survived. I have also watched a Heron being chivied right over to the mainland, though it merely met the Terns over their fishing waters. And yet I have seen the Ringed Plover nesting in perfect peace in the very centre of the colony.

Last July I slept one night on the top of a tall sand-hill overlooking the Tern Dunes. My object was to keep a watch on a small colony of mice (*Mus sylvaticus*) I had chanced to locate there the day before. It was a peaceful night, and when I rolled myself up in my blankets at about 12.30 the birds were very quiet. About an hour later I heard the death-cry of a young Tern on the edge of the settlement, probably killed by one of our few remaining stoats. In an instant the whole Tern settlement was in the air and concentrating on the spot. In the fitful light of a clouded moon one could see them, a dense surging mass, hovering in a great cloud over the place. Bird after bird darted to the ground and then rejoined the shrieking throng. Now to the right, now to the left it swayed, rising, falling, but all the time sending its lightning bolts to earth. Then it began to decrease in size as the birds returned whence they



Figs. 2—7. COMMON TERN WALKING ON TO ITS EGGS. CAMERA UNMOVED, FACING NORTH, SIX FEET FROM BIRD. WIND, S.W.

had come. The hubbub slowly subsided, and in twenty minutes one could hear nothing but the breakers pounding on the distant shingle. Never have I witnessed a more impressive scene.

This incident made me determine to keep a systematic watch on the colony for a couple of nights. Accordingly I arranged with two friends who were helping me with egg-measurements to take spells together. The birds were usually quiet soon after dark, and as I had frequently been within earshot up to midnight, I decided to commence the vigil at that hour. We took up the position I had occupied on the previous night. I reproduce the notes as made at the time. The first night was sultry with distant thunder.

A's watch, 12 to 2 a.m. :—Birds uneasy. Calling to each other. Alarm in centre of colony. Still uneasy. Alarm in centre of colony again. Screaming, much calling again.

My own watch :—2 a.m. Continual undercurrent of noise in the colony. All cries are discernible. A few birds are flying. 2.15. First signs of dawn. No effect on birds. 2.30. Can see plainly to write. 2.50. Red-shank called in Gt. Sy. Low. No effect. 3 a.m. Ringed Plover calling in Low. 3.5. Dead silence for a few moments. 3.8. Flying becoming general. 3.20. The colony waking up in earnest. The first Tern attacks us.

B's watch, 4 to 6 a.m. :—4 a.m. Terns are flying and making a respectable noise. 4.5. A few Terns go fishing and fly overhead with fish in their beaks. 4.30. Getting more noisy. Many flying. 4.45. Comparatively few Terns flying about. 5.5. Terns persistently attacking. 5.10. Large number of Terns fishing just beyond outermost sand-bank. 5.15. Many more birds flying seawards. 5.30. Terns more quiet.

On the second occasion we picked a quiet night. This time there was practically no sound till dawn, when the birds got noisy simultaneously and never quieted down again. It was curious to see the persistent way in which the birds attacked us as soon as it was light enough to

see. Though we were practically without movement of any kind, they found us without fail on each occasion.

The Common Tern usually arrives at Blakeney in the beginning of May. Last year they were exceptionally early. I was waked up on the morning of April 25th by the repeated cries of the Common Tern, and leaving my tent, instantly crossed the dunes, to see over a dozen of these birds flying aimlessly over the shore line. Later



Fig. 8. LARGEST NEST OF COMMON TERN FOUND ON BLAKENEY POINT, JULY, 1914.

in the day they disappeared again and the Little Terns with them. The first of the latter arrived on the 22nd. Nesting begins in June and second clutches are usually laid in July. The latest of these are seldom hatched out.

In the size of nests and their materials there is endless variety. The largest I have come across at Blakeney is shown in Fig. 8. It was on the drift-line and made of materials picked up on the spot. Except for the size, it is typical of the made nests. Some of the exceptions are interesting. I have seen them almost entirely

made of the following materials on the Point—shells, sea-weeds, sticks, wood-chips, crab-legs, pebbles and wood-shavings. A nice example of the last is depicted in Fig. 9. Only once have I seen one made entirely of pebbles. Finding it without the eggs one would have taken it to be a Little Tern's.

With the assistance of various friends we took a census of the eggs and nests of the Common Tern in the first

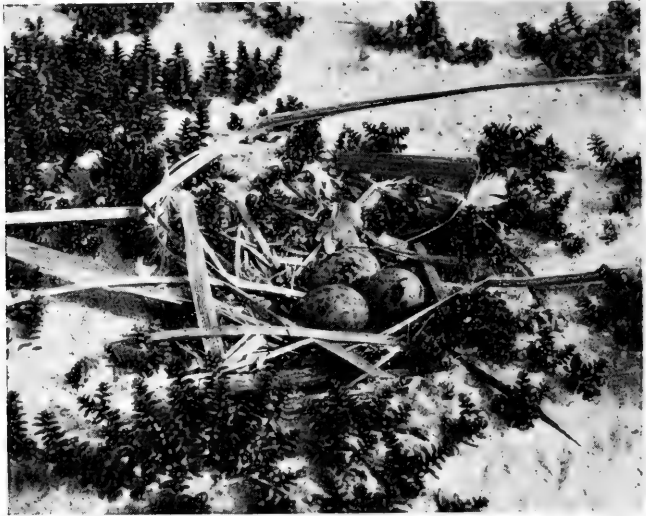


Fig. 9. COMMON TERN'S NEST OF WOOD-SHAVINGS.

fortnight of July in 1913 and 1914. We investigated the sizes, mottling, and ground-colour of the eggs, and the types of nest. Of the last we chose three—Type A: No materials, no depression. Type B: A depression without materials. Type C: Materials.

In 1913 the results were: A, 15. B, 38. C, 120. Abandoned 30.

We called a clutch abandoned when there were no materials and the eggs were scattered and half-buried. If material had been employed, we added it to type C,

abandoned or not ; so that the total of A & B, if these be considered as a single type, must be increased by 30.

In 1914 the results were : A, 0. B, 70. C, 450. There were a good many more nests that we did not touch, as time was limited.

In regard to the making of a nest. I was entertained whilst photographing a Common Tern last year by another bird of the same species making a nest within a few feet of the tent. I could watch all her movements through a convenient peep-hole. On the first day that I noticed her, she had deposited an egg in a slight excavation. Soon afterwards she began to fetch pieces of *Psamma* off my hiding tent and to place them all round the excavation. With the second day there came a second egg, and more maram* bents were rifled from my tent. In the morning they were all radiating unbroken from the centre. Later on in the day she began breaking them with her beak and tucking them in all round. On the following morning there was a third egg. More *Psamma* was added, and the nest was then in its most ragged stage. It was not till two more days had passed that she had all the bents tucked in. The final result was large but perfectly tidy.

The bird in this instance got her materials from my tent. There was a supply at hand and she used it—a supply that had been suddenly brought there after the bird that I was photographing had started incubating—and she had used no materials (Fig. 10). This illustrates an interesting characteristic of the bird which I have noticed to be very constant on the Point. If stuff is handy the Common Tern makes a nest. If it is not she refrains. There are, of course, exceptions. But if one wants to find a well-made nest, one goes at once to the drift-line or else to the Dunes. On the drift, out of some hundreds of clutches that I have seen there during several years, only two were found without any material.

* Maram grass is the popular name of the *Psamma arenaria*, the most effective of British dune-forming plants.

This habit is useful, in that eggs on the open beach are far less conspicuous when laid on the bare ground than on a mat of maram grass or drift.

The bird is most faithful to its eggs. By way of an experiment we chose a clutch of three eggs last year laid on the bare sand outside Glaux Lagoon, and moved them, a yard at a time, every three or four hours towards the Lagoon. Later we increased the distances and



Fig. 10. COMMON TERN ANGRY.

shortened the time intervals. The bird followed her eggs to the mouth of the Lagoon and then deserted. We repeated the experiment on a clutch at the far end of Great Sandy Low. We moved them towards the mouth of the Low and then across the Tern Dunes. They were half-way over these, and nearly 200 yards from the spot on which they were laid, when they hatched out.

I referred above to a "census" taken in 1913 and again in 1914. The object was partially to determine the total number of clutches and the average number

of eggs, but chiefly to try and correlate mottling, ground-colour and size. The results of last year's work have not been got out yet, though they should prove more valuable than those of the previous season. It would be waste of time and space to repeat here what has already been published with regard to 1913 results.*

Still, one or two conclusions are worthy of repetition. Quoting from *Biometrika* (Rowan, Parker and Bell): "A point seemed worth consideration: assuming the pigments to be deposited on the egg in its passage through the oviduct, it was conceivable that greater pressure might indicate greater intensity of pigmentation. We accordingly selected the *broader* egg in each clutch and investigated from every pair of eggs in the same clutch whether the broader or narrower egg had the larger mass of mottling and greater density of ground-colour. We reached the following results:—

"The broader egg in every possible clutch pair has—

Greater mottling in	26	cases.	|	More dense ground-colour in	25	cases.
The same	37	"	|	The same	39	"
Less	40	"	|	Less dense	37	"

Perhaps not very much stress is to be laid on these results, but they suggest that the total amount of pigment deposited is *less* the broader the egg, i.e. for the same bird a relatively smaller egg will be more pigmented. A solution of this rather unexpected result may, perhaps, be found in the suggestion that the total amount of pigment is the *same* in both eggs, but the mottling and ground-colour will *appear* denser on the smaller egg. The point deserves consideration on the basis of larger numbers and possibly better defined measures of pigmentation."

Variation in the ground-colour and mottling is infinite. It has often been maintained by some authorities that

* See *Biometrika*, Vol. X., No. 1, pp. 144-168, "On Homotyposis and allied characters in the eggs of the Common Tern." Also "Some observations on a Tern Colony," *Knowledge*, Vol. XXXVII., No. 547, pp. 52-54, reprinted in the *Journal of Ecology*, Vol. II., No. 1, pp. 18-20.

if two eggs are found in one clutch with the ground-colour completely different, the eggs could not have been laid by one and the same bird. To prove this theory definitely, it seems to me one must induce birds to lay in captivity, or else keep watch on a laying bird. This is possible only if the bird has some distinctive identification mark, e.g. one bird we watched had a white spot on the upper mandible on the left side. But how often can one put either of these two methods into practice? Practically never. Personally I am convinced that one bird *can* produce eggs of different colour. Supposing that a clutch of eggs of various colours has been laid by more than one bird, the inference is that the bird lays its eggs anywhere. Then why are clutches of four so exceedingly rare? Surely under the circumstances they should be frequent enough. Yet the only clutch of four we have found on Blakeney Point (July 1914) was without doubt laid by one bird. The measurements were: Length 4.45, 4.45, 4.55, 4.56 cms. Breadth 3.00, 3.05, 3.05, 3.09 cms. The ground-colour of all four was identical. The mottling came under one type (C) of our scale of mottling. This is convincing enough to anyone acquainted with the extraordinary variability of the eggs of this bird. The most conclusive proof of this theory I have had was a clutch of three eggs, found near the Tern Dunes in the same month as the above. The measurements are these: Length 3.31, 2.56, 3.66 cms. Breadth 2.86, 2.89, 2.90 cms. All three were quite different, both in ground-colour and mottling. Now the average length of egg at Blakeney is between 4.30 and 4.50 cms. Is it possible that three different birds laid the three smallest eggs, out of a total of 1,117 that we found and measured, in one nest? It might be a coincidence, but it would be a miracle at the same time.

Extremes in size for the last two years are:

			1913.	1914.
Largest	...	...	4.70	4.86 cms.
Smallest	...	...	3.60	3.31 ,,

The average number of a clutch is three.

The first young begin to fly usually during the second week of July, but a few are always earlier.

Reference was made in the February issue of the current volume (*antea*, p. 222) to the high mortality of the young Terns on Blakeney Point in 1913. Doubt was thrown on the statement that its cause was the absence of whitebait. I was on the grounds that season during the first fortnight of July and could find no support, in the face of local opinion, for the starvation theory, i.e. starvation through the lack of whitebait. What the situation was before July I am not competent to state. But all the young birds alive then were either a couple of days old or younger, or else nearly able to fly. Intermediate stages were almost entirely absent, so that earlier in the season there was food. Now shoals of fry, which were evidently there at the beginning of the season, having once come up to the shelter of Blakeney Point would not desert it again. But supposing they had, the first hatched birds would have died of starvation with the younger. Yet they were alive in July. Something happened then in the middle of June which killed off the newly-hatched but not the older birds. Throughout the first half of July, dead chicks and deserted eggs were met with at every turn. At one point we roughly made a circle of about forty yards diameter and collected the dead birds therein. We found over 40! All had died soon after hatching, though they were in various stages of decomposition. But what struck one as curious, after hearing local rumours, was that those birds which came in with food were not only numerous but were not attacked by the other birds, as they would have been had supplies been scarce. Moreover, on walking across the ground one found sand-eels and whitebait lying about among the dead nestlings.

The weather was rather fine that summer, but even then it was a surprise to me to see several parties of

visitors coming over in a single day, for Blakeney Point is troublesome to get at. My surprise was greater still to see them coming over daily. Pinchin told me that during the latter part of June they were even more numerous. Though there are notices up requesting visitors to treat the birds with consideration, that July I saw people on the nesting area for five or six hours on end. With no regulations to safeguard the birds the watcher is helpless. During the visitors' presence on the grounds, the old birds remain above and only leave for the fishing waters when the place is again in peace. When they eventually come back, though they bring food with them, they are too late. The absence of whitebait wherewith to feed the young does not explain wholesale desertion of eggs either, and it takes a considerable amount of worrying to make a Tern desert.

My view, therefore, is that the high rate of mortality that year was due to visitors. It is the only theory I can find to explain the survival of the early hatched young. Before the rush of sightseers came they had attained an age when they could stand some privation. It is significant that Mr. Pashley, who has been intimate with the settlement since 1855, is also opposed to the absence of whitebait theory.

In conclusion, a few remarks in regard to the accompanying photographs would not be out of place. Three years ago, when I made my first efforts at taking the bird itself, I used only one combination of the lens, in order to get a larger image at a greater distance. Amongst those I then got are Figs. 2—7. I was working at about six feet off the bird. Unfortunately my lens is a short focus one. The hiding tent consisted of a collapsible wooden frame, six feet long, three feet broad and two feet high. This was covered with a sheet of tough, tightly-stretched canvas, on the top of which were placed maram grass and sand in imitation of a *Psamma* hummock. Inside, the ground was dug out in the form of an armchair, with the camera on its tripod

in front. From the front one could see nothing but the lens peeping out from the maram grass. The advantage of this type of tent is that the camera can be moved right in so that the light is not reflected off the lens.

The bird proved to be very tame and took but scant notice of the little dune that had suddenly sprung up beside it. I did some water-colour sketches of her, passing the time whistling and singing and talking



Fig. 11. COMMON TERN ATTACKING HAND.
(*Photographed by E. P. Farrow.*)

to her. I feel sure she appreciated my efforts at entertainment.

Last year I thought it would be interesting to see if I could fill a quarter plate with the image of the Tern, using my full lens. I picked my bird and erected the tent at about ten feet away. Then I moved it up till it was eighteen inches distant, dug out the inside and inserted the camera. I then walked away to a neighbouring dune to time the return of the bird. The dune probably took me 45 seconds to reach. When I turned round there was the bird already on. As the light was good I went in at once and started work. My only

trouble was to get her off the nest. When I waved my hand at her she merely attacked it (Fig. 11). Fig. 10 shows the bird just recovering her sweet temper after one of these assaults.

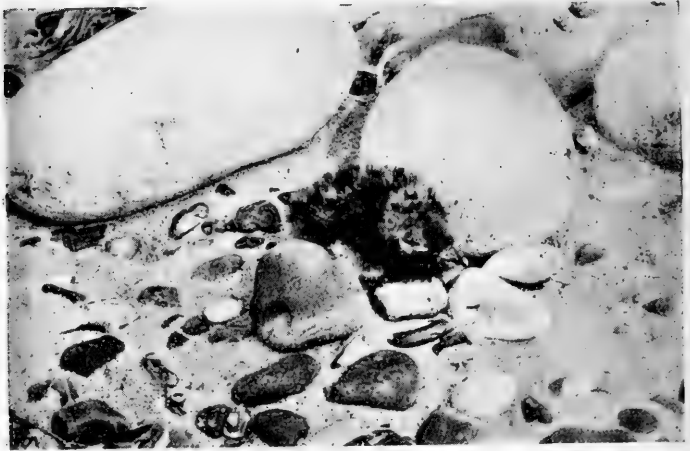


Fig. 12. YOUNG COMMON TERN "HIDING" BETWEEN TWO STONES.

NOTES

AQUATIC WARBLERS IN SUSSEX.

ON September 10th, 1914, a pair of Aquatic Warblers (*Acrocephalus aquaticus*) were obtained at Little Common, Sussex. I saw them in the flesh on the following day. Both appeared to be immature birds. H. W. FORD-LINDSAY.

DUSKY THRUSHES IN SUSSEX.

TOWARDS the end of January, 1915, I heard that some curious Thrushes were visiting certain clumps of hawthorn for the purpose of feeding on the berries.

They were described as being a cross between a Redwing and a Fieldfare. It was not long before I had the opportunity of examining one in the flesh, when I found it to be the Dusky Thrush (*Turdus fuscatus*).

Altogether I have examined six of these birds in the flesh, five of which were shot at the same spot. The dates and sex are as follows:—

January	25th.	Female,	Hollington.
February	7th.	„	„
„	20th.	Male,	„
„	22nd.	Female,	„
March	3rd.	Male,	„
„	3rd.	Female,	Crowhurst.

H. W. FORD-LINDSAY.

[The Dusky Thrush breeds in Siberia and winters in China and north-west India, only occasionally appears in Europe, and has only once before been recorded in the British Isles.—EDS.]

BLACK REDSTART IN HAMPSHIRE.

It may be worth recording that on February 26th, 1915, at Thorn's Beach, Beaulieu, I saw a Black Redstart (*Phœnicurus o. gibraltariensis*). E. M. IMRIE.

[Although there do not appear to be many recorded occurrences of the Black Redstart in Hampshire (*cf.*, Kelsall and Munn, *Birds of Hampshire*) the bird is not a very uncommon winter visitor to some parts of the south coast of England.—EDS.]

BLACK-THROATED DIVER IN MONMOUTHSHIRE.

A BLACK-THROATED Diver (*Gavia arctica*) was found dead in a garden in Newport on February 5th, 1915. I could not find any mark of injury, but the bird was very thin.

R. C. BANKS.

FEEDING HABIT OF RED-NECKED PHALAROPE.

THE interesting note by Miss Haviland in the March number of BRITISH BIRDS (*antea*, p. 243) on the feeding habit of the above birds, recalls the observations of Frank M. Chapman, published in *Camps and Cruises of an Ornithologist*, 1908, pp. 269-271. Mr. Chapman watched a number of Northern and Red Phalaropes on a large pond in the city of Monterey (California), and observed that about one-half of the birds were spinning round and round in the most remarkable manner, and he came to the same conclusion as Miss Haviland that the revolving birds were feeding. "A rotary movement of the shallow water was thus created, bringing to the surface small forms of aquatic life which the Phalaropes eagerly devoured, their slender bills darting rapidly two or three times during each revolution" (*l.c.*, p. 271). Dr. P. H. Bahr's observations to the same effect were published the year before those of Mr. Chapman.

J. WIGLESWORTH.

[As the Red-necked Phalarope goes through the spinning movement in deep and rapidly-flowing water as well as in shallow pools, it seems more probable that the movement attracts the insect life from the surface into the eddy rather than from the depths below.—F.C.R.J.]

"WOODCOCK EATING CORN." CORRECTION.

IN the June 1914 issue of *British Birds* (*antea*, p. 21) I recorded, on evidence which seemed at the time after careful inquiry, prolonged at the instance of the Editor, to be entirely reliable, that a Woodcock shot in January 1914 had its gullet full of grains of wheat. This much was a fact, but I very much regret to say that I have now discovered that my informant was the victim of a practical joke and that the grain was put down the Woodcock's throat after the bird was shot. I can only apologise sincerely to the Editors and to the readers of *British Birds* for being responsible for the publication of this entirely misleading and erroneous statement.

J. H. OWEN.

LITTLE GULL CAUGHT AND RINGED IN
LINCOLNSHIRE.

ON February 24th, 1915, a plover-catcher brought me a Little Gull (*Larus minutus*) which he had caught the morning before in his plover-net at Alvingham, near Louth, Lincolnshire. I take it to be an adult from its markings, and the tail was pure white with no bar. It enjoyed a bath and some worms; this afternoon I ringed it and set it at liberty.

Looking through the records in BRITISH BIRDS, I think this is the first Little Gull to be ringed under the scheme.

JOHN S. ALLISON.

GLAUCOUS GULL IN LONDON.

SHORTLY before nine o'clock on the morning of March 20th, I saw an adult Glaucous Gull (*Larus glaucus*) resting on the ice in St. James's Park.

Its great size and milky-white plumage were very noticeable in contrast to a number of Herring-Gulls which were surrounding it. When I returned in the afternoon I failed to see it again.

This is the first specimen of the rarer gulls which I have ever noticed in London, though I have kept a sharp look-out for many years, especially during such rough weather as was locally prevalent about the above date.

CLIFFORD BORRER.

DAMAGE TO TAIL-FEATHERS OF POMATORHINE
SKUAS.

THE footnote to my letter (*antea*, p. 244) relative to the damaged tail-feathers of the Pomatorhine Skua is interesting, but by no means convincing. If Mr. A. Roberts saw the Pomatorhine Skua snipping off the tail-feathers, he must have been near enough to see the nip, and therefore near enough to see the Pomatorhine either drop the feather or carry it away in its mouth. Did either of these things happen?

Then why is it that the central tail-feathers of the Pomatorhine Skua are more frequently broken off than those of any other British Skua? I believe it is because of the vertical twist, which places the feathers broadside on to the wind; this feature, combined with the blunt and truncated, non-tapering terminal webs, greatly increases the effect of a lateral gust of wind, and at the same time

weakens the power of resistance, especially in the case of feathers in which the twist is just at the point where they extend beyond the "shelter"—so to speak—of the other rectrices, and, moreover, it is here they are usually broken off.

Is it not the case that Pomatorhine Skuas with damaged tail-feathers are usually obtained after stormy weather? If this be so, is it merely a coincidence?

The two tapering central tail-feathers in Richardson's Skua project about three inches, those in the Pomatorhine about four inches, and those in Buffon's about seven or eight inches, but in Richardson's we find them rarely, if ever, broken, seldom in Buffon's, and I have since heard of so many instances in the case of the Pomatorhine, that it may be said they are *frequently* broken in this species, and until someone actually sees the tail-feather either falling after it has been snapped off, or being carried away by the chasing Skua, I shall not consider the evidence conclusive.

RICHARD M. BARRINGTON.

[Mr. Roberts has been dead for many years, so that it is impossible for us to obtain the details asked for by Mr. Barrington.—Eds.]

MOORHEN USING NEST OF SPARROW-HAWK.

DURING the early part of May, 1913, I found a Sparrow-Hawk's nest in a fir plantation a few miles from Maryport, Cumberland. The nest was built about fifteen feet from the ground, and contained three eggs. On visiting the nest a few weeks later I found the Hawk's eggs taken, and the nest occupied by a pair of Moorhens (*Gallinula ch. chloropus*). The nest, which had been made deeper and lined with the dried leaves of the yellow iris, contained seven eggs, from which I flushed the sitting bird. WILLIAM J. ANDREWS.

[Instances of Moorhens nesting in trees have frequently been recorded. I do not remember any case of a Sparrow-Hawk's nest having been utilized, but have notes of Moorhens breeding in nests of Rook, Magpie, and Wood-Pigeon.—F.C.R.J.]

INTRODUCTION OF BEARDED TITS IN YORKSHIRE.—In 1911 some Bearded Tits, imported from Holland, were liberated at Hornsea Mere, and at the time we strongly deprecated this interference with Nature (*cf.* Vol. V., p. 108). The experiment was at first apparently successful, but we

are glad to learn from the latest report (*Naturalist*, 1915, p. 82) that it is now deemed a failure, and presumably the birds have disappeared.

CHIFFCHAFFS AND LAND-RAILS IN WINTER IN THE BRITISH ISLES.—An example of *Phylloscopus collybita* was seen in December, 1914 (no date mentioned) by Mr. H. B. Rathborne (*Irish Nat.*, 1915, p. 15) on the shores of Lough Erne, co. Fermanagh. Another was heard on several occasions during the last week of January at Wadhurst, Sussex (C. Castellain, *Field*, 6.II.'15, p. 222).

A Land-Rail (*Crex crex*) was reported as seen in north Kildare on December 26th, 1914 (*t.c.*, 2.I.'15, p. 41) and another at Glasbury Church on January 22nd, 1915 (*t.c.*, 30.I.'15, p. 210).

SIBERIAN CHIFFCHAFF IN SHETLAND.—Mr. C. Kirk states (*Scot. Nat.*, 1915, p. 22) that Mr. T. Kay of Lerwick sent him on October 28th, 1914, two Chiffchaffs, one of which was a *Phylloscopus c. tristis*.

AQUATIC WARBLER AT FAIR ISLE.—Mr. W. E. Clarke records (*Scot. Nat.*, 1915, p. 5) that a male *Acrocephalus aquaticus* was shot at Fair Isle, Shetlands, on October 23rd, 1914. This is the first occurrence of the bird in Scotland.

ICTERINE WARBLER IN CO. WEXFORD.—Prof. C. J. Patten records (*Irish Nat.*, 1915, p. 42) that a specimen of *Hypolais icterina* was picked up on the Tuskar Rock by the Light-keeper, Mr. Glanville, on September 2nd, 1914. This is only the second recorded occurrence of the species in Ireland.

BREEDING-HABITS OF MERLIN.—Mr. F. H. Edmondson contributes to the *Naturalist* (1915, p. 61) some interesting notes on the habits of the Merlin (*Falco r. regulus*), in the course of which he states: "The birds were on the moor by the end of March; were pairing by April 21st; there were four eggs on May 22nd; the eggs were chipped on June 17th; young flew 200 yards on July 22nd; there were two large eggs and two small; two females were hatched, one male, and there was one small addled egg. Therefore the large eggs would seem to contain females, and the small ones males. Both the male and female sit on the eggs; both kill, though the male mostly; the female only once. The female only was at the nest after the eggs were hatched; the male hovered over once or twice but never alighted. Among the birds eaten were: Tit-lark, many Sky-larks,

young Thrush, Pied Wagtail, Sandpiper, and old Sky-lark, which was very tough.”

GREEN SANDPIPER IN STIRLINGSHIRE.—Mr. D. Macdonald records (*Glasgow Nat.*, VI., p. 100) the presence of a *Tringa ocropus* on the Allander from March 27th to April 3rd, 1914.

UNUSUAL NUMBER OF LITTLE AUKS IN SCOTLAND.—A considerable number of *Alle alle* appeared on the Scottish east coast and inland from December 12th to 17th, 1914 (*Scot. Nat.*, 1915, pp. 22-23).



REVIEWS

Report on the Immigration of Summer-residents in the Spring of 1913; also Notes on the Migratory Movements and Records received from Lighthouses and Light-vessels during the Autumn of 1912. By the Committee appointed by the British Ornithologists' Club (forming Vol. XXXIV., *Bull. B.O.C.*). 19 Maps. Witherby & Co. 6s. net.

THIS is the ninth and last but one of the annual Reports of the Migration Committee of the British Ornithologists' Club. The number of records again shows an increase, and this year the Committee has been fortunate in obtaining much information from the Caskets Lighthouse (Channel Islands)—an important point. The winter of 1912-13 was remarkable for the number of summer birds which appear to have passed the winter with us. In addition to those already recorded in our pages (*cf.* Vol. VI.), the following are mentioned in this Report:—Chiffchaff (*Ph. collybita*), Scilly Isles, one or two heard January; Willow-Warbler (*Ph. trochilus*), Hampshire, one end of January; Ring-Ouzel (*T. torquatus*), one Carmarthen, middle of February; Whinchat (*S. rubetra*), Yorkshire, one January 3rd; Turtle-Dove (*S. t. turtur*), Scilly Isles, one February 28th. Swifts (*A. a. apus*) stayed late in several districts in the autumn of 1912. Summer immigrants seem also to have arrived early in the spring of 1913, so that it is difficult to say in some cases whether an occurrence at an exceptionally early date refers to a bird which had wintered here or to one which had immigrated here perhaps from no great distance. Some of the following may come under either denomination:—

Pied Flycatcher (*M. h. hypoleuca*), Lancashire, April 3rd; Chiffchaff, Hampshire, February 25th, Cornwall and Cumberland, February 28th; Willow-Warbler, Scilly Isles, March 9th; Garden-Warbler (*S. borin*), Kent, March 25th; Wheatear (*Æ. æ. œnanthe*), Suffolk, March 6th; Greenland Wheatear (*Æ. æ. leucorrhœa*), Channel Isles and Isle of Wight, April 13th; Whinchat, Wiltshire, March 13th; Swallow (*Ch. r. rustica*), Scilly Isles, March 6th; Nightjar (*C. e. europæus*), Yorkshire, April 6th; Turtle-Dove, Berkshire, April 7th, Channel Isles and Suffolk, April 8th; Common Sandpiper (*T. hypoleuca*), Lancashire, March 5th; Common Tern (*S. h. hirundo*), Argyll, March 22nd. A Fieldfare (*T. p. p. p.*) in Kent on September 16th, 1912, and

another in Yorkshire on the 18th, were decidedly early arrivals, and Greenland Wheatears on the Pentland Skerries on August 7th and in Ross-shire on the 15th were exceptionally early, while two Waxwings (*A. g. garrulus*), in Westmorland on April 23rd and 24th, 1913, were staying late in winter quarters.

Among the uncommon visitors recorded most have been mentioned in our pages, but the following deserve notice:—Blue-headed Wagtail (*M. f. flava*), Thanet (Kent), one April 14th and 15th, 1913, Llandudno (Carnarvon), one April 25th, a pair 27th; Northern Willow-Warbler (*Ph. t. eversmanni*), Bardsey, April 10th, Channel Isles, May 6th and 9th; Blyth's Reed-Warbler (*A. dumetorum*), one at the Dudgeon Light-vessel (Norfolk) on the night of October 20th-21st, 1912, is an interesting addition to those already recorded in the same autumn (*cf.* Vol. VI.); a Nightingale (*L. m. megarhyncha*) at the Bishop Rock Light (Scilly Isles) on September 17th, 1912, and a Black Redstart (*Ph. o. gibraltariensis*) at the Skerries Light (Anglesey) on October 13th, 1912, are interesting occurrences owing to the localities; a Greenland Falcon (*F. r. candicans*), Scilly Isles, March 15th, 1913; a Temminck's Stint (*E. temminckii*), Aldringham (Suffolk), August 28th, 1912, is also an interesting occurrence.

Altogether the Report is well up to the standard of previous issues and deserves the hearty support of all those interested in the subject.—H.F.W.

A Summer on the Yenesei (1914). By Maud D. Haviland. Illustrated. Arnold. 10s. 6d. net.

MISS HAVILAND, who is well known to our readers as a most enthusiastic ornithologist and clever bird-photographer, and has already contributed to our pages very interesting articles on the nesting of Curlew-Sandpipers and Little Stints on the Yenesei, has now written a most entertaining volume, of considerable literary merit, on her adventurous journey. Miss Haviland joined a party of anthropologists consisting of Miss M. A. Czaplicka, Miss D. Curtis and Mr. H. U. Hall, and proceeded at the end of May, 1914, to Krasnoyarsk, where they took steamer for Yeneseisk. Here they embarked on June 12th on the first steamer to make the trip that year down the great river Yenesei. This river journey of fifteen hundred miles occupied more than a fortnight, and though unfortunately there was little opportunity for going ashore, Miss Haviland made the most of her

chances, and a number of interesting observations on the bird-life of the great forest region are interspersed in this portion of the narrative. For instance, Wood-Sandpipers were found breeding in the old nests of Fieldfares in confirmation of Mr. H. L. Popham's observation, and it was noted that in at least one case the sitting bird was the male. A number of other interesting birds seen during the short stoppages made on the river journey are commented upon, and Miss Haviland was able to see enough to make any ornithologist long to explore those vast regions of marsh and forest. At length the forest gave way to the open tundras, and on June 28th the mouth of the Golchika River—a tributary of the Yenesei—was reached. Here the party landed (not without adventure) and at this little fishing centre, composed of only three permanent houses, the author and her friends stayed until September 3rd.

The best part of the book is taken up with a description of the party's life and adventures at this isolated spot. Much is said of the people of the settlement, of their manner of living, of their good points and their bad points, of scandal and of gossip, for the latter are not absent even at this remote spot, and of the human migrants—Samoyedes, Dolgans and Yuraks. It is evident that Miss Haviland is as acute an observer of human nature as she is of birds. It must not be thought, however, that the latter have been neglected. Although the author followed in the footsteps of Seebohm and Mr. H. L. Popham, she was so fortunate as to strike a late season, and as a consequence some of the most interesting waders, such as the Curlew-Sandpiper and Grey Phalarope, were breeding on the tundras surrounding Golchika, apparently a good way to the south of their normal habitats. Of these and many other waders, such as Temminck's and Little Stints, Dotterels, Red-necked Phalaropes, Asiatic Golden Plovers and Grey Plovers, Miss Haviland has fascinating tales to tell, which we heartily commend to all British ornithologists.

After leaving Golchika, while the other two of the party went south to brave the severities of a Siberian winter in a native choom in order to study the Tungus tribes, Miss Curtis and Miss Haviland—no less adventurous—voyaged home through the dread Kara Sea, thus putting a fitting finish to a very plucky undertaking.

In conclusion, we must heartily congratulate the author upon her journey and the results achieved, and we are grateful for a book telling us more about the birds of a region which, since the publication of *Siberia in Asia*, has always had a great fascination for the ornithologist.—H.F.W.



LETTERS



MIGRANTS FLYING NORTH IN AUTUMN AT DUNGENESS.

To the Editors of BRITISH BIRDS.

SIRS,—Mr. Alexander's paper on migration (*antea*, p. 226) is very interesting. I should be very glad if he or any of your readers could explain what the birds that in late October are flying northwards are about? Are they making for Dover, intending to cross to the Continent where the straits are narrowest? F. W. HEADLEY.

HAILEYBURY COLLEGE, *March 4th*, 1915.

[Regarding Mr. Headley's question, any answer is bound to be merely speculative. I do not for a moment believe that birds flying north along the Kentish coast from Dungeness could be doing so with the purposeful object of crossing by the shortest sea-passage, particularly seeing that some of these birds had just arrived from across the Channel—from Cape Grisnez or thereabouts; these birds, if they re-crossed from Dover, would have migrated round a circle.

I should like to suggest that birds on migration in autumn have no *intention* except to arrive at some customary winter-quarters, or even, perhaps, only to move more or less towards such quarters without an overpowering impulse to go the whole way if circumstances happened to favour their winter residence in some nearer (or further) locality. Even the end of the journey is, I should say, partly determined by circumstance; the means of approaching that end are probably determined almost entirely by the circumstance of the moment—direction and force of wind, food-supply and other matters: thus the route followed in any instance may easily become very circuitous and complicated. At the same time, I am aware that there is a lot of evidence to suggest that birds follow the same migratory routes year after year with great precision. So that (without wishing to dogmatize) I would suggest that migration is carried out from generation to generation under a strong compulsion of conservative custom (without which it would be mere chaos); but whereas this might at any moment lead to great disaster, the migrating birds have, perhaps in varying degree, the power to modify this custom in such a way as to meet the circumstances of the moment.—H. G. ALEXANDER.]

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THE B.O.U. LIST OF BRITISH BIRDS.*

INTEREST in this *List* centres in its nomenclature, and before we proceed to discuss it in detail we must congratulate the Committee on having overcome many of the prejudices which have been responsible for delaying the advent of uniformity in nomenclature. That the *B.O.U. List* of 1915 has brought us one step nearer to this desired end there can be no doubt. In the preface we find the following admirable statement :—

“ The first aim of our system of nomenclature should undoubtedly be uniformity and fixity, and most zoologists are now agreed that this can only be attained by keeping to the strict law of priority.”

Now if the Committee had acted up to this precept and had kept to the strict law of priority throughout and had decided difficult questions by reference to the International Rules and Opinions, there would have been little need of criticism here, but unfortunately prejudice obtrudes its unwelcome presence here and there and the result is inconsistency.

Our sole interest in nomenclature is centred in the desire for uniformity and fixity. To discover and fix the correct names has become highly necessary to the unchecked progress of our science, but the labour involved is often great and almost always thankless and the time so occupied is naturally grudged by those who would far sooner be spending it over the birds themselves.

It is necessary, therefore, to discuss the differences in the names used in the *B.O.U. List* and our *Hand-List*, as it is only by such discussion that agreement can be reached and the two lists are not so far apart as to make this much desired end at all impossible of realization. In this connexion we may here quote from a review of the *B.O.U. List* in the last issue of the *Auk* the following :—

“ Comparing the present work with the original 1883 edition, we find 92 changes in specific and 51 in generic names; and yet the “ Hand-List ” of Hartert *et al.*, which seemed to some so impossible, contained only 111 specific changes and 72 generic ! ”

It must be noted that the manuscript of our *Hand-List* was more than half-finished before the new edition of the *B.O.U. List* was thought of, and since the publication of the *Hand-List* much has been written on the subject of nomenclature, and some of the new facts brought to light have caused some of the names used by us to be no longer tenable. This, of course, was only to be expected, as since

* *A List of British Birds compiled by a Committee of the British Ornithologists' Union. 2nd and Revised Edition, 1915. Wesley. 7s. 6d.*

it has been the united aim of zoologists during the last few years to attain uniformity by means of rigid priority, much attention and study has been bestowed upon the subject in many quarters.

It will be convenient to divide the differences in the names used in the two lists into various groups, which may be dealt with separately. First let us take the names, whether specific or generic, which we are agreed to accept and alter in our *Hand-List*. All these alterations are in accordance with the Rules and Opinions of the International Commission. These are as follow, the name which we accept being in small capitals, and the name rejected in italics, while the numbers refer to the *Hand-List*. In the next issue of BRITISH BIRDS, which commences a new volume, we shall give a list of all alterations in the *Hand-List* with brief reasons, and the names of the *Hand-List* so altered will be used in BRITISH BIRDS from that date.

Alauda arvensis CINERASCENS Ehmeke in place of No. 63, *A. a. cinerea* Ehmeke.

Anthus spinoletta PETROSUS Montagu, in place of No. 72, *A. s. obscurus*.

Motacilla flava FELDEGG (not *feldeggi*) in place of No. 78, *M. f. melanocephala*.

ERITHACUS r. rubecula and ERITHACUS r. melophilus in place of Nos. 184 and 185, *Dandalus* r. rubecula and *Dandalus* r. melophilus.

Egolius f. FUNEREUS in place of No. 221, *Æ. t. tengmalmi*.

Falco æ. ÆSALON Tunstall, in place of No. 236, *F. r. regulus*.

Aquila clanga Pall., in place of No. 241 *A. maculata*. *A. fusca* (adopted in the *B.O.U. List*) cannot be used, because it was anticipated by Dumont, as has been pointed out by Mr. T. Iredale (*Ibis*, 1915, p. 388). *A. clanga* is the next oldest available name.

Milvus migrans MIGRANS Boddaert, in place of No. 251, *M. k. korschun*.

PLEGADIS f. falcinellus in place of No. 259, *Egatheus* f. falcinellus.

PHŒNICOPTERUS ANTIQUORUM Temminck in place of No. 270, *Ph. roseus*.

ANSER ERYTHROPUS Linn. in place of No. 276, *A. finmarchicus*.

Limicola f. FALCINELLUS Pontoppidan in place of No. 385, *L. p. platyrhyncha*.

CHLAMYDOTIS u. macqueenii in place of No. 452, *Houbara* u. macqueenii.

The next group of differences to be considered is that under the heading *nomina conservanda*. The principle of suspending the Rules in certain cases was agreed upon at the Ninth International Congress in 1913, and certain definite rules for such cases were drawn up and passed (see BRITISH BIRDS, Vol. VII., pp. 7 and 8). The question having thus been very fully discussed at a congress of zoologists from all over the world and a definite resolution having been passed, no single society has any right to ignore that resolution and to adopt a list of *nomina conservanda* of its own without the sanction of the Congress. The names in this list make the unlucky total of thirteen, and we need hardly add that we shall accept no *nomina conservanda* other than those ordained by the International Commission, for it must be quite clear that if any one person or society suspends the law each will choose a different set of cases and chaos will again be the result. The names to be maintained are quite arbitrarily chosen; it is difficult to understand why, for example, the time honoured *luscinia* has been shifted from the Nightingale to the Sprosser and *graculus* from the Chough to the Alpine Chough if, for example, *fuscus* is to be retained at all costs for the Dusky Redshank.

A few names used by us are rejected on account of the status of the works in which they occur. These are:—

Pallas's names in Vroeg's Catalogue, namely, *Muscicapa s. striata*, *M. h. hypoleuca*, *Sylvia c. cantillans*, *Calidris leucophæa*, *Colymbus r. ruficollis*, and *Sterna tschegrava* and *Ænanthe pleschanka* of Lepechin, but the objections seem to us groundless, and there is no International Rule or Opinion under which the names proposed in that part of Vroeg's Catalogue which is known to have been written by Pallas or the names in Lepechin's article can be rejected.

The remaining differences depending upon questions of nomenclature alone are really very few. The following generic names used by us are rejected: *Ægolius*, *Athene*, *Tyto*, *Polysticta*, *Hydrobates*, *Eremophila*, *Apus*, because of the prior use of names which differ only in the termination, e.g., *Athena*, *Tyta*, *Apos*, etc. This point, however, has been provided for in the International Rules, the "Recommendation" attached to Article 36 being as follows:—

"It is well to avoid the introduction of new generic names which differ from generic names already in use only in termination or in a slight variation in spelling which might lead to confusion. But when once introduced, such names are not to be rejected on this account. Examples: *Picus*, *Pica*; *Polyodus*, *Polyodon*, *Polydonta*, *Polyodontas*, *Polyodontus*; *Macrodon*, *Microdon*."

We may add that this recommendation is supported by several "opinions" rendered by the Commission.

Hirundo is used in the *B.O.U. List* for the Swallows instead of *Chelidon* as used by us, and *Delichon* for the House-Martin instead of *Hirundo*. This is a vexed question and should be submitted to and settled by the International Commission. Hartert submits the following argument.

"Forster (1817) divided the British species of Linné's genus *Hirundo*, as far as they were Swallows, into three genera: *Hirundo*, *Riparia*, *Chelidon*, each monotypic. It is true that, rigidly construed, his name *Hir. urbica* as the only species of *Hirundo* is not 'fixing the type' but, on the other hand, *Riparia* has been generally accepted, and *Chelidon* must in my opinion be accepted; it has been rejected because Gray in 1840 designated its genotype as the type of *Hirundo*; I cannot follow this at all! Gray was wrong in the case of the Swallows. He was evidently unaware of Forster's action; he did not accept *Riparia*, but the much later *Cotyle*, he designated as the type of *Hirundo* the species *rustica*, which had already been made the monotype of *Chelidon* by Forster; he further designated as the type of *Chelidon* Boie a species which was not in Boie's genus at all, and which he therefore had no right to designate as the genotype! Gray's action must therefore be dismissed, as he disregarded Forster, and we must begin with Forster. His genera *Chelidon* and *Riparia* being accepted, we have no choice but to allow *Hirundo* to remain for the Martins, accepting *urbica* as its genotype."

Colymbus is used in the *B.O.U. List* for the Divers instead of for the Grebes. This again is a vexed question, but it has already been decided by a special committee appointed by the International Commission that *Colymbus* must be used for the Grebes (cf. IX. Congr. Intern. Zool., p. 862). The use of *Tringa* for *Erolia* is contrary to the Rules and Opinions. The name *borin* for the Garden-Warbler is considered by the B.O.U. Committee to be uncertain, and consequently *simplex* is used. The decision of the Committee in this case is arbitrary. It is stated (p. 363) that the name *borin* is "founded on Daubenton's pl. 579, and the Committee, after a careful examination of this plate, have failed to identify it with the Garden-Warbler." As there are three species figured on the Plate, and *borin* is founded on Fig. 2, it would seem that the Committee's investigation was not very careful. It cannot be doubted that Daubenton's plate—at least a properly coloured copy—together with the careful description referred to the Garden-Warbler; in fact, this has generally been admitted, though the name *borin* had been overlooked or disregarded.

Sterna anglica is used instead of *nilotica* for the Gull-billed Tern, because the description of the latter is considered inadequate and misleading and the feet are described as

“incarnati.” We, however, consider that the description of *nilotica* by Hasselquist, from which Gmelin took his diagnosis, is fully recognizable; the only objection is that he describes the feet as “incarnati”; this is certainly an error, but we cannot reject a name because of an error in the description, if we can make out from the latter that it refers to the species in question. If this practice were followed hundreds of well-known names would have to be rejected. We also hold that the diagnosis of *Falco rusticolus* to which is added “*Habitat in Svecia*” must be accepted for the Gyr-Falcon.

Finally there is the question of the correct name for the Little Dusky Shearwater, No. 324, of our *Hand-List*. This bird has had many names, and Mr. G. M. Mathews has argued (*Birds of Australia*, II. (1912), p. 54) that it should be called *baroli*, and this name has been adopted in the *B.O.U. List*, but with this we do not agree. On this point Hartert argues as follows:—

“Mr. Mathews (*B. Austr.*, II., p. 54) accepted the name *baroli* for the “Little Dusky Shearwater” (No. 324 of the *Hand-List of British Birds*), from the North Atlantic Islands, i.e. the Madeira group and Canary Islands. This was apparently done without full consideration of the diagnosis and quotations of Bonaparte, because the supposed type, No. 3202 (not 3203!) in the Turin Museum is a form of the “*Puffinus obscurus*,” or more correctly *assimilis* group. But Bonaparte did not base his new name only on that one specimen in the Turin Museum; he gave a number of quotations and synonyms, and a diagnosis. He first (*Consp. Gen. Av.*, II., p. 204, 1856) refers to the birds called *P. anglorum* from the Mediterranean—which are of course what we now call *P. puffinus yelkouan*; secondly he quotes *P. obscurus* Temminck 1840, which appears to be “*obscurus*” (or *assimilis*); thirdly, he cites Gerini’s plate 537, which is a caricature of *P. p. yelkouan*, then he gives some doubtful or nondescript names, he then mentions the unfortunate No. 3202 of Turin—and last, specimens in the collection of Baillon from the Desertas near Madeira, and others in the Paris Museum, brought by Berthelot from the Canary Islands, which were apparently *P. assimilis* subsp., though the large species occurs there as well. The chief point, however, is the diagnosis. If the latter agreed with the North Atlantic Little Shearwater, then the name *baroli* might be accepted, though the quotations were partly erroneous, but I cannot agree that the description is a clear one at all. The tarsus is said to be “*sesquipollicaris*,” which means an inch and a half long, French measure, while that of the tropical “*Puffinus obscurus*” is said to have the tarsus much shorter than $1\frac{1}{3}$ French inches; the length of the tarsus, however, is, if anything, greater than smaller in the tropical form; then Bonaparte says of the Paris specimens from the Canaries that they have a slenderer bill of $1\frac{3}{4}$ inches! Now the bill of the North Atlantic Little Dusky Shearwater can never be measured $1\frac{3}{4}$ French inches, which is 1.85 English inches or 48 mm. It must also not be overlooked that the supposed type of *P. baroli* has no locality, as the supposed locality “Mediterranean” is incorrect; this has all been pointed out in full by Salvadori in *Uccelli Fauna It.*, p. 299 (1872),

and again *Mem. Accad. Torino*, Ser. 2, LXV., No. 5, p. 6, 1915. The only logical conclusion is, therefore, that *P. baroli* is a "mixtum compositum" and cannot be made to antedate the undeniable name *godmani*. I agree, however, with Mr. Mathews, that the name *obscurus* is not acceptable for the North Atlantic Shearwater, and therefore it should be called *Puffinus assimilis godmani*."

A curious "idiosyncrasy" to which we must refer is that the typical subspecies of each species is given only two names. In the Preface (p. xiii.) the committee seem to be rather proud of having thus avoided the "cumbrous" repetition of the name. Yet all other subspecies are given three names, so that a distinction is made between the typical subspecies and other subspecies when there is no distinction, and no distinction is made between a species and a typical subspecies when, of course, there is a distinction. Is it more cumbrous to refer to the typical form of the Great Tit simply as "*Parus major major*" or in some such formula as "*Parus major* (meaning the typical form, not the species as a whole)"?

Another point to which attention must be drawn is that the original spelling of names is often altered where no alteration is justified. Article 19 of the Rules reads: "The original orthography of a name is to be preserved unless an error of transcription, a *lapsus calami*, or a typographical error is evident." Moreover the name in the quotation has sometimes been altered and sometimes not, e.g. p. 95, *megarhynchos* has been altered to *megarhyncha*, but on p. 27 *leucocephalos* is correctly printed as originally spelt; p. 87 *clarkei* is printed as originally written by Hartert, but on p. 44 we find *feldegg* altered to *feldeggi*. There are numerous similar instances, and initial capitals when used in the original have been disregarded, so that the quotations are sometimes unreliable.

We may draw special attention to Appendix III., in which are given the reasons for the change of each name and also the method of fixation of the types of the various genera used in the List. This is a valuable feature of the work.

With regard to those cases in which we differ owing to a different interpretation of the Rules or owing to an acceptance or rejection of a work or a diagnosis, we should be perfectly willing to submit to a ruling by the International Commission, and we think that if the *B.O.U. List* Committee would agree to do likewise the Commission would undoubtedly give its opinion on the points at issue.

The remaining points of difference in the two lists are taxonomic rather than nomenclatorial. Unfortunately our

knowledge of birds is not yet sufficiently advanced for definite rules to be laid down with regard to such questions as the limitation of genera or the grouping of subspecies. Some few months ago a most interesting paper was read by Dr. P. R. Lowe at the British Ornithologists' Club on "Coloration as a Factor in Family and Generic Differentiation" (see *Ibis*, 1915, pp. 320-346). In the discussion which followed, most diverse opinions were expressed as to what constituted generic characters. Genera are to a large extent artificial and a matter of convenience, and it must follow that their limitations are subject to personal opinion. The following differences in the two lists are due to this cause, the genera in the *Hand-List* being in capitals and those in the *B.O.U. List* in italics:—COLÆUS—*Corvus*; *Spinus* and *Acanthis*—CARDUELIS; HERBIVOCULA—*Luscinola*; *Cyanosylvia*—LUSCINIA; *Hierofalco*—FALCO; *Astur*—ACCIPITER; *Chen*—ANSER; CASARCA—*Tadorna*; *Querquedula* and *Mareca*—ANAS; *Netta* and *Glaucion*—NYROCA; *Mergellus* and *Lophodytes*—MERGUS; *Ædicnemus*—BURHINUS; *Eudromias* and *Ægialitis*—CHARADRIUS; CANUTUS—*Tringa*; *Tringytes*—EROLIA; *Catharacta*—STERCORARIUS. We see no necessity for the smaller divisions adopted in the *B.O.U. List*, except in the cases of *Netta* and "*Glaucion*," which we think are justified.

As to the grouping of subspecies, we have not space to discuss this, but we may point out that the *List* presents a number of extraordinary anomalies, for instance, the Pied Wagtail is considered a species, whereas all the other forms of the White Wagtail are considered as subspecies, the Rock-Pipit and Water-Pipits are considered to be distinct species, the British Willow-Tit and Northern Willow-Tit are subspecies, and yet apparently the American *Parus atricapillus* belongs to a different species, the Indian, African and European Stonechats, though so much alike, are considered to be distinct species.

There remain to be discussed species and subspecies admitted by us and not to the *B.O.U. List*. The Committee state that the Parrot-Crossbill only differs from the typical form "in the enlarged size of its bill," and therefore they consider it merely a variation or dimorphism. As a matter of fact, the bird is larger in all its measurements and lays larger eggs, and is only found in part of the range of the Common Crossbill. The Committee are clearly in error on this point and we fancy that few will agree with them. *Parus cristatus mitratus* is omitted altogether, and the

specimens of *Agrobates g. syriacus* are referred to *familiaris*, both of which cases seem to be due to carelessness. The name of the Red-necked Nightjar obtained at Killingworth is given as *ruficollis*, apparently because in his *Vögel pal. Fauna* Hartert referred it to the typical form, but in the *Hand-List* to *desertorum*. Yet the footnote in the *Hand-List* (p. 97) could surely not be clearer as the result of a careful examination of the bird and this was published in May, 1912, but the page referring to the bird in the *Vög. pal. Fauna* was closed for press in October, 1911 as is indicated on p. 849.

There is also the case of the Black-throated and Black-eared Wheatears; these we unite as dimorphisms of the same species, while the B.O.U. Committee separate them as distinct species. There can, perhaps, be no absolute proof of the correctness of our view until young reared from the same nest are proved to be dimorphic, but the birds have the same breeding range, migrate together, have the same actions, habits and notes, and the eastern representatives differ in the same way from the western.

With regard to the Committee's inability to recognise some of the British subspecies, we are hopeful that as they have been able to appreciate the differences in such closely-allied forms as the Dartford Warblers, the Willow-Warblers and Chiffchaffs, the Continental and British forms of the Willow-Tit, Jay and others, they will with further study and with perhaps better material be able to see the differences in most of the forms they reject.

The *List* is provided with notes on British and General Distribution, the former being much less detailed than in our *Hand-List*, and the latter slightly more so. No acknowledgment whatever is given of help received from the *Hand-List*, although it is clear that much assistance was derived from the information there collected. We are only too glad, of course, to see our work made use of, but it is customary to acknowledge such assistance, especially in a case of this kind where great labour was involved. In a good many instances the accounts in the *Hand-List* have not been brought up-to-date, e.g. Little Bunting occurrences in 1912 and 1913 at the Isle of May have not been added, a third occurrence of the Barred Warbler and seventh of the Wryneck in Ireland are omitted, a reported occurrence of the Alpine Swift in Scotland (see *Ann. Scot. Nat. Hist.*, 1897, p. 152) overlooked by us is not referred to, a third occurrence of Tengmalm's Owl in Scotland is omitted, the recent breeding of the Gadwall in Caithness is not referred to, etc. Mistakes made by us

have been copied, an occurrence of a Great Reed-Warbler in Norfolk being given as in May, whereas the correct month was August (see *Zool.*, 1907, p. 132), the breeding colony of Lesser Black-backed Gulls at Foulshaw is large and well-known but, by a slip, we omitted Westmorland from the list of counties in which the bird breeds, and it is also omitted in the *B.O.U. List*. It is stated that the Walney Island breeding colony of the Sandwich Tern is at present deserted and this was so as far as we knew when we wrote the *Hand-List*, but Mr. H. W. Robinson has since pointed out (*Brit. B.*, VI., p. 95) that the birds were breeding there in 1911 and 1912. The Pratincole is stated to have occurred in Fife, whereas it should have been Forfar, no one else but ourselves being responsible for making Montrose in Fifeshire !

We have shown where we can at once come into agreement with the *B.O.U. List*, and where we must still differ from it, and we may conclude by again expressing our gratification that the number of cases in the latter category are comparatively few, and, we feel sure, capable of future adjustment.

THE AUTHORS OF THE "HAND-LIST."

THE LATE LIEUT. FRANCIS A. MONCKTON.

THE study of Ornithology and especially of the birds of Staffordshire has recently sustained a great loss by the death of Lieut. Francis Algernon Monckton, 1st Battalion Scots Guards, who was killed in action on November 8th, 1914. He was the eldest son of Mr. Francis Monckton, of Stretton Hall, Stafford, and was born on the 6th of May, 1890, and educated at Eton and Christ Church, Oxford. He obtained his commission as 2nd Lieutenant in the Scots Guards in February, 1912, becoming Lieutenant in the following year. Around his home at Stretton, which is situated in a beautiful rural district, he had a great opportunity of studying the local birds and especially the wildfowl which frequent the lake in Stretton Park, the River Penk which runs through the estate, and a large sheet of water known as Bellfield's Reservoir. This part of the county of Stafford lies almost in a direct line with one of the great flight lines of our winter migrants coming in from the east coast to the south-west, and thus Staffordshire has obtained records, a great number of them being supplied by Monckton, of most of the rarer wild Geese, Ducks, Waders, etc. Here from his boyhood Monckton made a study of local birds, and especially of their various stages of plumage. The writer had the pleasure on April 8th, 1911, of staying with him at Stretton and of visiting Bellfield's Reservoir, on which occasion we observed many interesting birds. Since the year 1905 Monckton annually contributed valuable notes on the birds of Staffordshire, which appear in *The Transactions of the North Staffs. Field Club*, and amongst them are to be found records of some of the rarest Staffordshire species. He was always ready to impart his knowledge of wild bird-life to others, and spared neither time nor trouble in watching any rare species for days together so as to make sure of its identity and learn more of its habits. The writer has lost in Monckton a valued and sincere friend and correspondent, and the study of Staffordshire Ornithology will suffer much by his having given his life so nobly for his country.

J.R.B.M.

That Monckton was an extremely keen and enthusiastic ornithologist is shown by a letter dated October 22nd, 1914, from St. Nazaire, at the mouth of the Loire, where he was quartered before going to the front. In this letter to me he states that this place appeared to be an excellent one for

observing migration, and he proceeds to give some interesting details, some of which are quoted below.—H.F.W.

“ Both the Pied and White Wagtails are common here now ; the Pied if anything rather the more numerous. Grey Wagtails are scattered about in small numbers. Rooks, Jackdaws, and Starlings are rare here, but have been coming over in small flocks during the last few days. Stonechats seem to be sparsely distributed.

“ Chiffchaffs are swarming everywhere, and often sing in the early morning. I have been much struck by the absence of other small Warblers. When I was here in August I saw a few Whitethroats, but this month I have not seen a Whitethroat, Blackcap, or any bird of that sort. Robins, Hedge-Sparrows, and Wrens are common, but the Robins seem to have increased in numbers recently. Thrushes are mostly conspicuous by their absence. Blackbirds were uncommon until October 17th, after which date they have become more and more numerous in the gardens along the cliffs. Several nights I have heard them passing over. Chaffinches struck me as being very uncommon up till the 17th, since when they have come in in great numbers.

“ On the 17th there was a great rush of birds. I was out about 7.15 a.m. and the migration seemed to reach its height about 8.0 a.m. and had practically stopped by 10.30 a.m. It was a cold, overcast, hazy morning, with a fresh N.E. wind. The birds were flying up the river along the shore. They mostly passed straight on, but some dropped out here and there. The vast majority seemed to be Chaffinches, Linnets, Sky-Larks, and Goldfinches, with a certain number of Meadow-Pipits. There were also a few Rooks, Jackdaws, Swallows, Martins and Wagtails. As the birds were mostly passing overhead and in a dull light, it was very difficult to distinguish between species.

“ On the 18th I had not much opportunity of watching, but I think there was a slight migration, as I saw parties of Blue-Tits, Starlings and Swallows. Sky-Larks and Thrushes of some sort were passing over during the night 17th-18th. On the 19th the east wind still continued, and there was a remarkable rush of birds in the morning, dying away about 9.0 a.m., though birds were still coming in at 10.30 a.m. The vast majority of birds seemed to be Chaffinches, Linnets, Sky-Larks, and Meadow-Pipits. Many flocks of Blue-Tits were coming in ; I saw only one Great Tit actually coming in, though both these species seem common about here. Many Goldfinches, Wagtails and Starlings were coming in ; three flocks of Rooks, twelve Jackdaws, five Stock-Doves, and a very few Swallows and Martins.

“ On the 20th there was another strong migration, though hardly so many birds as on the day before. Mostly Chaffinches, Linnets, Sky-Larks and Goldfinches, but not so many Meadow-Pipits. A few Rooks, Starlings, Swallows, Martins, and Mistle-Thrushes, one Redwing (or possibly a Song-Thrush), a Wheatear, a Merlin, and a good many Blue-Tits.

“ Wednesday, 21st. I saw a Wheatear, and I think there was a slight migration ; but it was difficult to tell owing to the fog. To-day (22nd), all migration seems to have stopped.”

NOTES

ARRIVAL OF SUMMER MIGRANTS. EARLY APPEARANCES IN 1915.

THE Migration Committee of the British Ornithologists' Club completed that part of its work which entailed the systematic collection of records at the end of the Spring migration of 1914, having conducted its operations over a period of ten years. Every year recently a certain number of our readers have sent us notes on the early arrival or first appearance of our summer residents and these it has always been our practice to hand over for the use of the Migration Committee. We propose in the future to publish a brief summary of such notes on this subject as our readers send us, which relate to unusually early appearances. Up to the present we have received the following:—

SWALLOW (*Chelidon r. rustica*).—One, Llandeloy, Pembroke, March 24th and 25th (Rev. J. Lloyd); four, Tring Reservoirs, Herts, March 26th to 31st (Dr. E. Hartert); two, Sherborne Park, Dorset, March 30th (W. J. N. Ryan).

SAND-MARTIN (*Riparia r. riparia*).—Five or six, Tring Reservoirs, Herts, March 26th to 31st (Dr. E. Hartert).

Although a few early Swallows are reported from the west of England and Wales every year in the latter half of March, their appearance in Hertfordshire at so early a date is quite exceptional and is remarked on by Dr. Hartert who states that local residents whom he has consulted have never before seen one in March. The record of the Sand-Martins is, of course, hardly so exceptional.

CROSSBILLS BREEDING IN NORFOLK.

THE first notice I had of Crossbills (*Loxia curvirostra*) being in the neighbourhood was given to me by my friend Mr. L. Robinson, of Middleton, to whom I am greatly indebted for all the assistance he has given me. He first noticed Crossbills in the summer of 1912, when he saw two old birds feeding their young in his garden; a few birds remained during the winter, and during the next summer he again saw old birds feeding their young. These birds were still about in the spring and summer of 1914. In August large flocks began to appear and many remained during the winter.

Early in the morning of February 27th we saw a hen Crossbill cutting twigs off a larch and carrying them to a

branch about thirty feet up a Scotch fir on the opposite side of the road. Later on in the morning we saw another hen Crossbill building in a larch in the garden. While the hen was building, the cock was singing in the same tree ; soon another cock appeared, and settled about a foot off the first one. They both started calling, using the "chiking" note. They kept this up for about two minutes, the noise getting louder and louder, then they both flew into the air and tumbled over each other, and then settled on the branch again. They went through this performance several times until the intruder was put to flight. We also saw another hen bird stripping the bark off a silver birch and carrying it away, but this one we failed to track. The next morning the first two hens were busy building, and in another part of the garden we saw another hen bird building in a Scotch fir. This nest was on a lateral branch about twelve feet from the ground and four feet from the main trunk. The same day I visited a part of the wood about half a mile away, where I expected to find Crossbills, and saw a flock of eight, four cocks and four hens, feeding in a larch. I watched them for about an hour, when they flew off in pairs. I followed one hen bird and saw it pick up some small pieces of grass, and fly off with them, but I failed to find the nest. The next day broke very rough, with wind and snow, and the birds seemed to leave off building. I visited Middleton on the following Saturday, and found that the two nests in the Scotch firs had progressed considerably, but the one in the larch had blown down and the birds had gone elsewhere. On visiting the part of the wood mentioned above, I found a nest which I thought was a Crossbill's, and on climbing up to it the next morning found that it contained one egg, but this nest was afterwards deserted. On the same morning I visited the nest in the Scotch fir in the garden, but although the nest seemed quite finished it contained no eggs. This nest had larch twigs for a foundation, then a little moss, quantities of coarse grasses, and was lined with very fine grasses and a good many feathers, but as far as I could see, contained no horsehair. This was a very pretty nest, and the foundation of twigs was continued right up the sides and formed a platform right round the top of the nest. On March 10th I climbed up to both the nests in the Scotch firs, first of all visiting the one on the opposite side of the road, and found it contained three eggs. This nest, which was near a stable, was built on a platform of larch twigs and was made of moss, grass, quantities of horsehair, one or two

pieces of string and knitting wool and sheep's wool, and was lined with fine grass and one feather. On climbing up to the nest in the garden I found it contained four eggs, and the bird had begun to sit. While I was examining the nest the birds became very excited, and came quite close to me : at one time the hen settled within a foot of me. The cock birds seemed to take no part in the nest-building, as far as we could see, but in one case the cock accompanied the hen each time she came to the ground for nesting material and followed her back to the nest. At the time of writing, another nest is being built at the top of a larch tree in the garden, but is not finished yet.

The Crossbills are still in the Castle Rising district, but so far I have not found a nest there. On March 6th, in a little Scotch fir plantation there, I heard a cock bird singing, which seemed to indicate the presence of a nest, and this morning (March 21st) I saw a cock and hen Crossbill feeding on Scotch fir cones in the same plantation.

N. TRACY.

TREE-CREEPER IN LONDON.

ON March 25th, 1914, I saw a Tree-Creeper (*Certhia f. britannica*) in Kensington Gardens. D. EARDLEY-BEECHAM.

[With reference to this observation Mr. A. H. Macpherson writes us as follows :—

“I have seen the Tree-Creeper in Kensington Gardens about ten times during the last twenty-five years. I had never met with the bird in the heart of London except in Kensington Gardens until February 7th of this year, when one paid a short visit to the trunk of an old acacia tree in my little garden in Campden Hill Square.”]

BREEDING-HABITS OF THE MISTLE-THRUSH.

THE interesting notes on the breeding-habits of the Mistle-Thrush (*Turdus v. viscivorus*) supplied by Mr. G. Bathurst Hony in the March issue (*antea*, p. 240) induce me to record my own observations. In 1913, a pair built in a willow and reared three young in a garden adjoining mine at Upton Heath, Chester. The young left the nest on April 22nd ; on April 21st the same pair started a second nest (using my best rockery plants for a foundation !) this time in my garden, also in a willow and in close proximity to the house. It was practically finished on April 23rd and the first egg laid on April 27th ; five eggs were laid and three young

eventually flew on May 30th. I frequently saw the young of the first brood (sometimes two together) sitting on the second nest while the hen was incubating and the male fed them there, sometimes with holly berries as a change of diet. To get two broods off by the end of May seems to me to be very quick work. A point I should like to raise is: to what extent is the Mistle-Thrush double-brooded? Apart from the above instance I have no sure proof—at any rate in this immediate district—that the bird is otherwise than single brooded, though very occasionally young birds, not long flown, are seen in July in North Wales. Howard Saunders (*Manual*, 2nd Edition), gives two broods in the south, “but in the north the fine weather is too short for more than one;” but I doubt if weather has much to do with it considering how early the Mistle-Thrush as a rule breeds.

S. G. CUMMINGS.

[Many instances of two birds in a season came under my notice in Derbyshire: one within a few yards of my house.—F.C.R.J.]

MISTLE-THRUSH SINGING ON THE WING.

THE Rev. W. F. Johnson writes to the *Northern Whig*: “The other day I heard a Mistle-Thrush’s note and looked up at the trees, but my eye was caught by one on the wing, and as I watched I heard it give utterance to its song, or part of it, for it only gave a few notes, and as it flew on gave a few more. Three times as I followed its flight I heard its notes. I have never noticed this before, and should like to know if this is a habit of the Mistle-Thrush or only a vagary of this particular bird.” Never having heard the Mistle-Thrush utter its song whilst flying, I think this observation must be exceptional, and consider it worth the greater publicity afforded by *British Birds*.

NEVIN H. FOSTER.

DIPPER IN SURREY.

DURING the very cold weather on March 28th, 1915, I saw a Dipper (*Cinclus cinclus*? subsp.) on the River Mole, between Leatherhead and Cobham.

M. V. WENNER.

EARLY NESTING OF GREAT CRESTED GREBE.

ON March 27th, 1915, I found the nest of the Great Crested Grebe (*Colymbus c. cristatus*) on a small lake in Surrey. There were four eggs in the nest and these were very dark in colour, but they did not float when put into water and

were therefore comparatively newly laid. It is an interesting fact that last year on the same lake (not large enough to hold more than one pair of these birds) I found a nest of this species (presumably the same pair) on April 1st, also containing four much stained eggs. It is an early date and helps to bear out the theory that individual birds of a species consistently breed early, while others are probably equally consistent in breeding late. In both the above cases, the nests were in identically the same place. G. K. BAYNES.

[An instance of very early nesting has been recorded for Renfrew, where a nest with five eggs was reported on March 13th, 1906 (*Ann. Scot. N. H.*, 1907, p. 206).—EDS.]

FEEDING HABIT OF THE RED-NECKED PHALAROPE.

WITH reference to the notes on this subject (*antea*, pp. 243 and 268) the accompanying photograph of a Red-necked Phalarope is of interest as it shows the bird turning round



in the water and beating the surface with its wings, no doubt to disturb the mud at the bottom and bring up insects hiding there. In my book *Through Birdland Byways*, published six years ago, I gave a description of this exercise and mentioned that I thought it was a method of raising food from the bottom of the shallow water. Mr. Richmond Paton and I watched the birds doing this many times on our

first visit to the Orkney Islands, and I was able to obtain several photographs of the performance. The bird would revolve rapidly, beat the water with its wings, and often duck its head, and as soon as the water had been disturbed, would pick up minute objects from the surface. The bird also pays great attention to cleaning its feathers, by ducking its head and allowing the water to trickle down its back in the same way as a Duck, but the two performances are quite distinct.

OLIVER G. PIKE.

OCCASIONAL HIGH MORTALITY IN YOUNG COMMON TERNS.

I WAS interested to read the notes on this subject in your issues of February and April, 1915. On 12th July, 1914, I visited a colony of Common Terns near Formby, Lancs. I found plenty of eggs, but only four young birds, which I ringed. On 3rd August, 1914, I again visited the colony, intending to ring some more young, but to my surprise found it deserted. I discovered the dead bodies of several adults and one nestling, but apart from these saw no old birds and found no trace of either young or eggs, except a few egg shells. On enquiry I ascertained that there had been a severe gale since my last visit. It is probable that the eggs and newly-hatched young were overwhelmed by the sand, which among these dunes, clothed only with sparse vegetation, is always shifting. It is, of course, impossible that the whole of the eggs could have been hatched out and the young flown in the interval between 12th July and 3rd August. I may say that I visited the same place on July 27th, 1913, and at that date there were many birds, both adult and partly fledged young, at the colony.

E. W. HENDY.

CHIFFCHAFF IN WINTER.—Mr. P. E. B. Jourdain informs us that he heard a Chiffchaff (*Phylloscopus collybita*) at Cambridge on January 10th, 1915, and that it remained in the neighbourhood for about a week after that date.



LETTERS



THE BLAKENEY POINT TERNERY.

To the Editors of BRITISH BIRDS.

SIRS,—How long the Common Tern has nested at Blakeney there is probably no means of ascertaining now, but my father could speak to the settlement being in existence in 1830, or thereabouts, but probably it is much older than that. At that time there is reason to believe the chief breeding-place was not at Blakeney, but on the shingle beach at Cley, a mile to the east. It is, as Mr. Rowan says in his very interesting article (*antea*, p. 250), all a continuation of the same shingle spit, which begins at Weybourne and broadens as it goes westwards. My father, who was born in 1819, could also remember when Avocets still bred at Salthouse and Cley, but it is probable that there were never many of them and they soon became rare. I have seen a note written in 1838 which states that they were then very scarce at Salthouse, and mentions that two had been recently killed.

J. H. GURNEY.

KESWICK, NORFOLK, *April 16th*, 1915.

To the Editors of BRITISH BIRDS.

SIRS,—In Mr. Rowan's very interesting article it is stated that the Common Terns invariably intimate their feelings by uttering their characteristic angry "pirre" when diving at the head of a human intruder. This I submit is not quite correct. The notes "pee-er" and "kip, kip" (given in the late Howard Saunders's *Manual* as "pirre" and "kik-kik,") are often heard when the birds are fishing as well as at the Ternery. Their anger is expressed by a long-drawn "pee-er" and at times they hover over an intruder, but when stooping at his head the note is always "kuk-uk-uk-uk-uk," the bird sheering off when a foot or two above him and never actually striking. It is very curious that the note "kuk-uk-uk-uk-uk" is also uttered by the female when receiving dainty morsels from her partner. There being no noticeable sex-difference, I determined the gender of the birds by their behaviour. Lastly, the note "ker-er-er-er-er," not uncommonly heard, is invariably uttered when one bird is chasing another on the wing.

J. FEW.

SOUTHPORT AND WIGAN, *April 12th*, 1915.

To the Editors of BRITISH BIRDS.

SIRS,—Mr. Rowan in his article on the Blakeney Point ternery, referring to the Little Tern on p. 257, says “nesting begins in June.” My own experience, however, is that they nest considerably earlier than the Common Tern, and on referring to my notes I find my earliest record is a clutch of three eggs which I found in the sand at Blakeney Point on May 14th, 1911.

The “dip-ear,” to which allusion is made on page 250, is a common local name for the *Little Tern* in this neighbourhood, but is generally used to distinguish this species from “the” Tern.

I think Mr. Rowan misunderstood Pashley’s statement about the old wild-fowler eating the Terns. Pashley was referring to their eggs.

April, 1915.

CLIFFORD BORRER.

[May 14th is a remarkably early date for a full clutch of the Little Tern, which seldom has eggs earlier than May 17th. It is, as Mr. Borrer states, rather an earlier breeder as a rule than the Common Tern, but there is not a great deal of difference between the dates of the two species, as the Common Tern has been known to lay as early as May 16th on the Kentish coast.—F.C.R.J.]

CORRECTIONS.—Mr. Rowan states that on p. 251 the reference to K under the chart should be “Long Iow” not “Long Hills.” On page 262, 12 lines from bottom, the length of one egg is given as “2.56” instead of “3.56.”

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A Hand-List of British Birds (1912).

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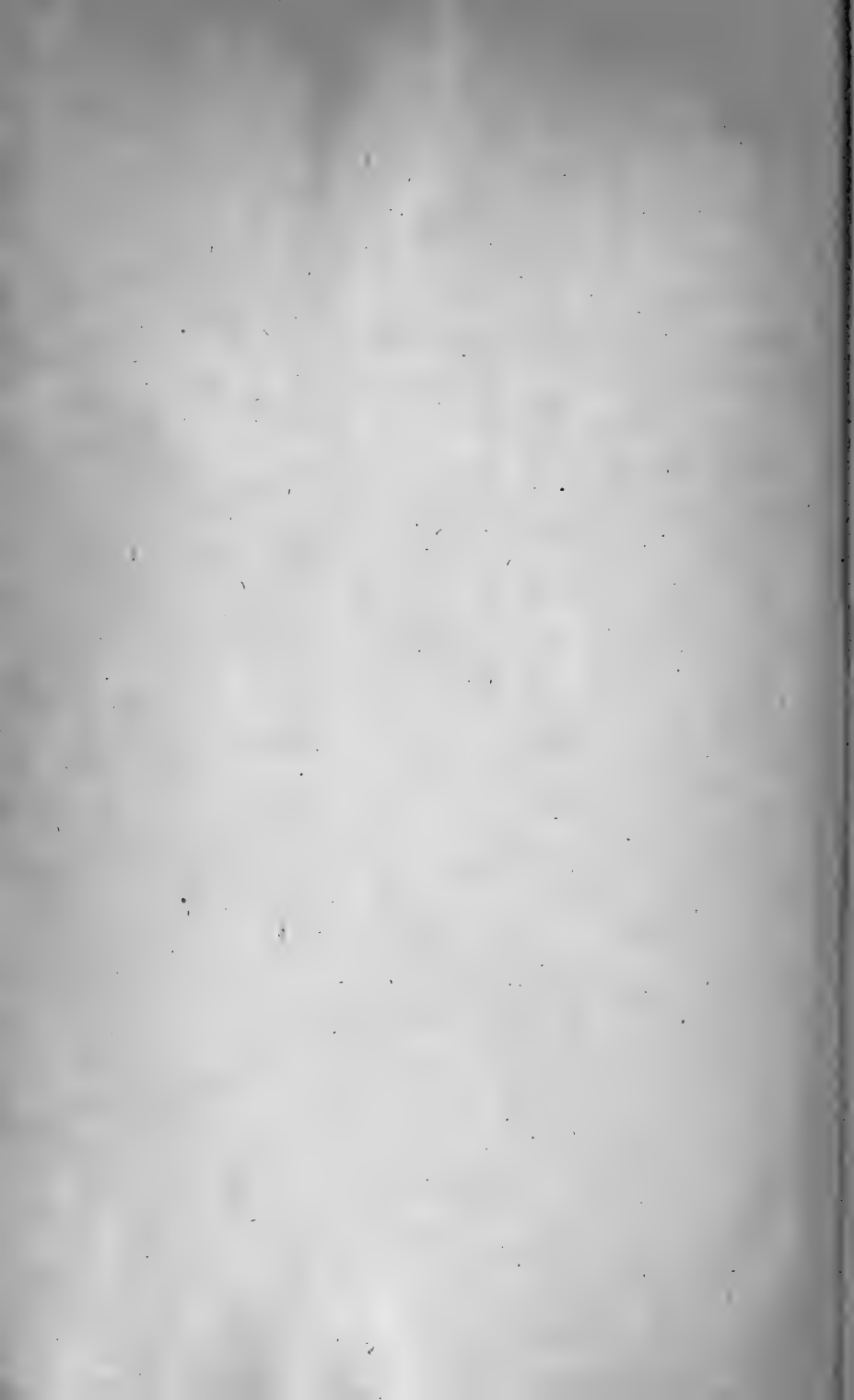
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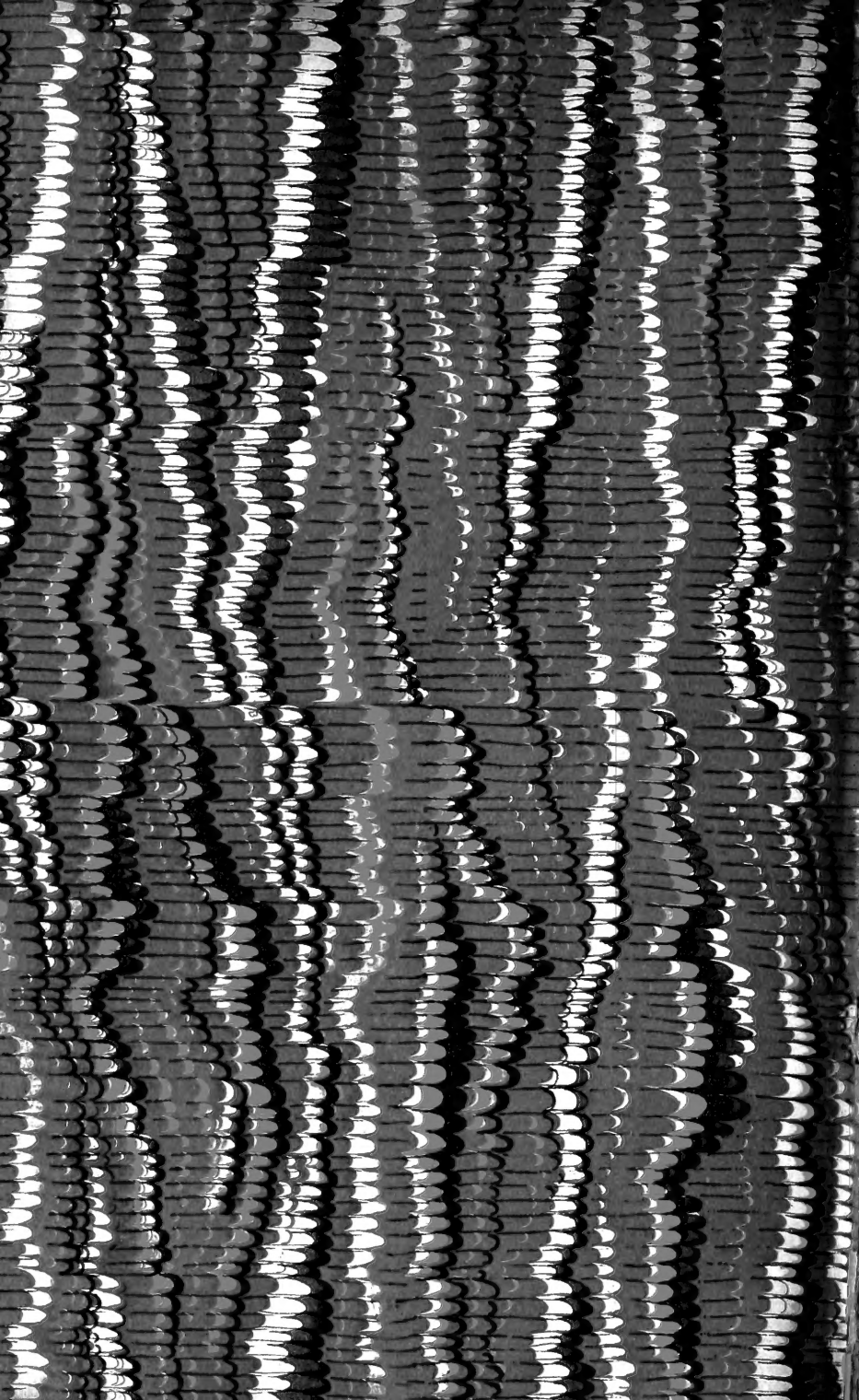
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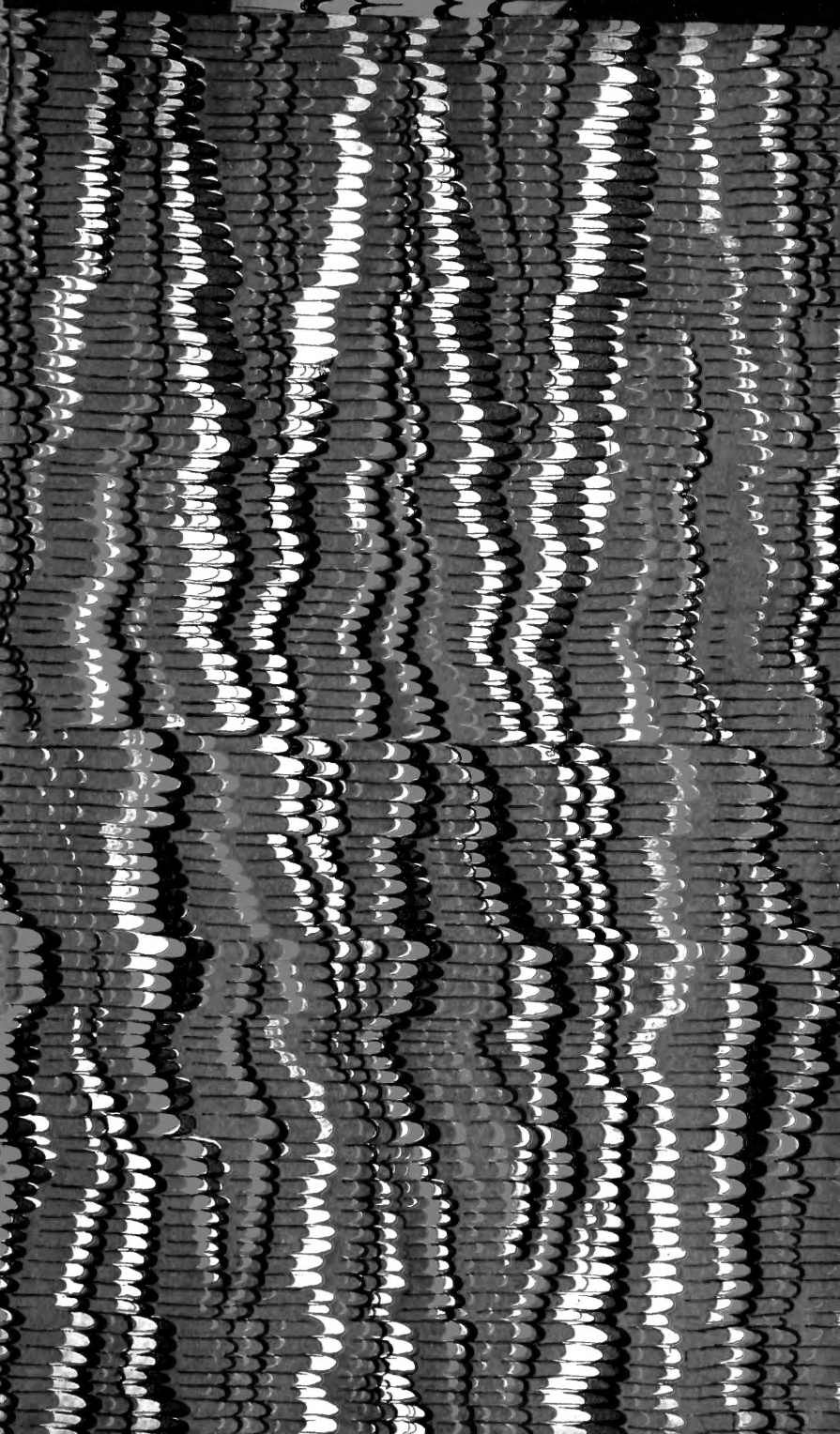
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