



9.12.06/47

FOR THE PEOPLE
FOR EDUCATION
FOR SCIENCE

LIBRARY
OF
THE AMERICAN MUSEUM
OF
NATURAL HISTORY

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.

ASSISTED BY

W. P. PYCRAFT A.L.S. M.B.O.U.

Volume I.

JUNE 1907—MAY 1908



WITHERBY & CO.

326 HIGH HOLBORN LONDON.

1907
1908
1909
1910
1911

09-40907-10016.

PREFACE.

It was not without some misgivings that we ventured to launch the first volume of BRITISH BIRDS, but the hearty support and kindly encouragement which we have received during the year have justified our conviction that there was an undoubted gap in the literature of British Ornithology, and that a Magazine entirely devoted to the study of British birds was required.

Our programme for the year has been successfully carried out, save only that we have been unable to complete the series of articles on "Additions to our Knowledge of British Birds since 1899," and this must be continued in our next volume.

The Wood-Pigeon enquiry, the results of which must also be published in Volume II., has met with an encouraging response; and we hope it will be but the first of many such enquiries to be carried out upon a systematic basis by the readers of BRITISH BIRDS. The importance of such co-operation cannot be exaggerated, and it is in the hands of the readers of this Magazine to add materially to our knowledge of the birds of this country by making observations contemporaneously on a common basis.

In thanking the host of contributors who, by giving ungrudgingly of their best, have done so much to ensure

the success of Volume I., we feel that we do but echo the feelings of our readers.

But we are ambitious, not only that contributors shall grow in numbers, but that their contributions shall be of even greater value, for the study of British birds is fraught with possibilities as yet unsuspected. We desire to supply a need, and to make that need so real, that it will gain in intensity as the years roll on.

It would be impossible to close this volume without reference to the deplorable loss to British Ornithology sustained by the deaths of Alfred Newton and Howard Saunders. Little did we think that before our first volume had run its course we should have to lament the departure of two such great authorities. To their advice and help, which was always so readily given, we had hoped to be able to turn, as occasion arose: for they were men of ripe judgment, and kindly sympathy.

THE EDITORS.

May 1st, 1908.

LIST OF ILLUSTRATIONS.

	PAGE
Male OSPREY descending with a small fish grasped in its talons. (<i>Photographed by P. H. Bahr.</i>) Plate 1. <i>Frontispiece.</i>	
OSPREY flying down to nest. (<i>Photographed by P. H. Bahr</i>)	19
OSPREY'S Nest on a rock out at sea. (<i>Photographed by P. H. Bahr</i>)	20
ALFRED NEWTON. Plate 2 facing	33
Female OSPREY calling with crest raised. (<i>Photographed by P. H. Bahr</i>)	41
Young OSPREYS making full use of their protective coloration. (<i>Photographed by P. H. Bahr</i>) . .	43
Tails of BRITISH WILLOW-TIT and BRITISH MARSH-TIT	45
REEVE going on to her nest. (<i>Photographed by Miss E. L. Turner.</i>) Plate 3 facing	65
Chins and Throats of males of the PACIFIC EIDER and COMMON EIDER	71
Nest of the WHITE-TAILED EAGLE on the borders of a salt lagoon in Asia Minor. (<i>Photographed by F. C. Selous</i>)	77
A nesting-place of the GREAT WHITE HERON in Central Hungary. (<i>Photographed by F. C. Selous</i>) . .	79
SARDINIAN WARBLER shot near Hastings	86
Nest of COMMON HERON at Dungeness. (<i>Photographed by N. F. Ticehurst</i>)	99
Young of GREAT CRESTED GREBE. (<i>Photographed by Miss E. L. Turner</i>)	104
LESSER BLACK-BACKED GULLS off Mogador. (<i>Photographed by F. W. Headley</i>)	116
Diagram illustrating gliding	117

	PAGE
PIGEON rising	119
Mouth of HEDGE-SPARROW, showing spots on the "spurs" of the tongue. (<i>Photographed by Miss E. L. Turner</i>)	130
Nestlings of the BEARDED TITS, showing spots on the tongue and palate. (<i>Photographed by Miss E. L. Turner</i>)	131
Nesting-place of the BLUE-HEADED WAGTAIL at Win- chelsea. (<i>Photographed by N. F. Ticehurst</i>) ..	140
Nest and young of the BLUE-HEADED WAGTAIL. (<i>Photo- graphed by N. F. Ticehurst</i>).. .. .	141
Diagrams illustrating flight	143, 145
Horny "crushing-pads" on the palate and lower jaw of the HAWFINCH	152
Nest of COMMON HERON on the ground in a wood near Scarborough. (<i>Photographed by W. J. Clarke</i>) ..	156
Stages in the plumage-growth of the BLUE TITMOUSE. (<i>Photographed by Miss E. L. Turner.</i>) Plate 4 facing	161
A <i>pre-penna</i> of a BARN-OWL, disintegrated, and being replaced by a contour-feather	163
A <i>mesoptyle</i> down feather of a nestling TAWNY OWL ..	164
HOWARD SAUNDERS. Plate 5 facing	197
Attitudes of RED-NECKED PHALAROPES. (<i>Drawn by P. H. Bahr</i>).. .. .	203, 204, 205
Male RED-NECKED PHALAROPE endeavouring to entice away the young. (<i>Photographed by P. H. Bahr</i>)..	207
Nest of "HEN-HARRIER" in Surrey	238
Young "HEN-HARRIERS" in Surrey	240
Male GREY-BACKED WARBLER shot at Hythe, Kent ..	257
Phases of flight. (<i>Photographed by F. W. Headley</i>) ..	262
Supposed Hybrid between a RED GROUSE and a PTARMIGAN shot in Perthshire	271
Supposed Hybrid between a RED GROUSE and a PTARMIGAN shot in Ross-shire	273
STONE-CURLEW—the crouching attitude of newly- hatched young. (<i>Photographed by W. Farren</i>) ..	303
STONE-CURLEW—the crouching attitude of young about 10 days old. (<i>Photographed by W. Farren</i>) ..	304

LIST OF ILLUSTRATIONS

vii.

	PAGE
STONE-CURLEW—the value of the crouching habit on sandy soil. (<i>Photographed by W. Farren</i>).. ..	306
STONE-CURLEW—conspicuous with unusually dark surroundings. (<i>Photographed by W. Farren</i>) ..	307
Nest of COMMON BITTERN, with young, on the fringe of a dense patch of rushes. (<i>Photographed by E. W. Wade</i> .) Plate 6 facing	329
Nest of COMMON BITTERN, with eggs, amongst dead Bulrushes. (<i>Photographed by E. W. Wade</i>) ..	331
Breast of COMMON HERON, showing the patch of powder-down feathers	344
Primaries of MONTAGU'S and HEN-HARRIERS	353
Nest of SWALLOW on a glass gas shade	355
Nest of HOUSE-MARTIN on a window pane	356
Male WHITE-WINGED LARK shot at Pevensey, Sussex ..	357
Stages in the Growth of a CUCKOO. (<i>Photographed by P. H. Bahr</i> .) Plate 7 facing	361
CUCKOO twenty-one days old in characteristic attitude. (<i>Photographed by P. H. Bahr</i>)	365
PIED WAGTAIL perched on the back of a CUCKOO while feeding it. (<i>Photographed by P. H. Bahr</i>).. ..	366
Nest of RINGED PLOVER: a hollow scooped out in shingle. (<i>Photographed by C. W. Colthrup</i>) ..	375
Nest of RINGED PLOVER: composed of small pebbles. (<i>Photographed by C. W. Colthrup</i>)	376
Nest of RINGED PLOVER: composed of small pieces of stone. (<i>Photographed by C. W. Colthrup</i>).. ..	377
Nest of RINGED PLOVER: composed of broken shells. (<i>Photographed by C. W. Colthrup</i>)	378
Nest of RINGED PLOVER: composed of small sticks. (<i>Photographed by C. W. Colthrup</i>)	379



FIG. 3.—MALE OSPREY DESCENDING WITH A SMALL FISH GRASPED IN ITS TALONS.

(*Photograph by P. H. Bahr.*)

BRITISH BIRDS

EDITED BY H. F. WITHERBY, F.Z.S., M.B.O.U.
ASSISTED BY W. P. PYCRAFT, A.L.S., M.B.O.U.

CONTENTS OF NUMBER 1. JUNE 1, 1907.

Editorial	Page 1
Additions to the List of British Birds since 1899, by Howard Saunders	4
A Study of the Home Life of the Osprey, by P. H. Bahr, B.A., M.B.O.U. (Figs. 1, 2 and 3)	17
Remarks on a supposed New British Tit of the Genus <i>Parus</i> , by P. L. Selater, D.Sc., F.R.S.	23
Nesting Habits observed abroad of some Rare British Birds, by F. C. Selous	25
Notes :—The Far Southern Winter Quarters of the Arctic Tern, by William Eagle Clarke. Birds struck by Lightning, by J. H. Gurney	28
Reviews and List of Books... ..	30
Letters :—J. L. Bonhote. Charles Whymper	32

EDITORIAL.

BEFORE setting forth our plans, our hopes, and our ambitions for BRITISH BIRDS, we must first express a deep sense of gratitude to all those who have so generously promised their support both in contributions to our pages and to our funds.

It has been impossible to answer individually the many letters of cordial encouragement which have been received, and in thanking those, who have so kindly given us help and promises of help, we can best express our appreciation by affirming that without such encouragement the Magazine could not have been started.

It has been universally conceded that a Magazine devoted entirely to the study of the birds of this country was needed: a Magazine into which all that is of interest concerning British birds should be gathered. It shall be one of our chief aims, but not by any means our only aim, to provide in these pages, month by month, a current history of British birds. Much will come, we trust, by first-hand

contributions, but we shall also glean, from every published source available, whatever is likely to prove of permanent value. We beg our readers to help us in making this feature of the Magazine as complete as possible by sending notes of omissions which they may detect in this record, and copies of any communications appearing in the Transactions of local Natural History Societies, or in other publications to which we may not have access.

As a foundation to such a monthly history Mr. Howard Saunders has kindly written for this issue an article which treats of the species added to the list since the publication in 1899 of the last edition of his "Manual of British Birds"; while in following numbers Messrs. N. F. Ticehurst and H. F. Witherby will detail the most important additions which have been made during this same period, to our information concerning the distribution, and occurrences, in this country of birds already on the list.

In the same connection Dr. Ernst Hartert has promised articles on those birds which may be recognized as geographical races peculiar to this country, and as the importance of this subject is now becoming more generally realized, especially in connection with such studies as that of Migration, we feel sure that Dr. Hartert's contributions will be much appreciated.

In a future number the Hon. Walter Rothschild will discuss the position of the Willow Tit as a British bird, a point which is raised in the present issue by Dr. P. L. Sclater.

When the Magazine is well started we hope, with the co-operation of our readers, to embark upon a series of more systematic investigations than have hitherto been attempted, with regard to matters concerning the birds of this country. Our plan is to make organized enquiries into such questions as the extension or diminution of the breeding range of certain species, the exact status and distribution of some birds, the effects of protection in certain areas and on different species, the nature of the food of particular birds, and many kindred subjects.

Could observations on such points be conducted on a common basis and made contemporaneously in different parts of the country, results of great interest and of very considerable scientific importance would be achieved. Already over a hundred ornithologists in various parts of

the country have promised their co-operation when such an enquiry is set on foot, so that we look forward to being able shortly, with the help of other readers, to prove the plan.

Of late years photography has come greatly to the fore as an adjunct to science, but ornithologists have been led away to a great extent by the charm of being able to take portraits from life of their favourites, and have used the camera more as a picture-maker than as a scientific recorder. We confess to a great liking for illustrations in a journal, but we are anxious that our illustrations shall in every case possess scientific merit, although they need not, for this reason, lack pictorial effect. There are many directions in which photography can be made of great service to ornithology; a photograph of the environment of a nest is, for instance, often of more value than one of the nest itself, and similarly, photographs of birds in attitudes such as flying, feeding, courting, hiding, nest-building, or otherwise engaged, are of more value than pictures of birds in repose. The importance of collecting photographic evidence of living nestling birds will be fully dealt with in a future issue of this Journal.

Besides reviews and notices of books dealing with British birds, we intend to publish each month a list as complete as possible of all the books on the subject which have appeared during the month.

Such, in bare and brief outline, is our plan, and we appeal to the readers of *BRITISH BIRDS* for the means of carrying it out. If the Magazine is to do good work it must have a goodly roll of subscribers, and the longer the roll the more work will it be possible to accomplish, in that funds will thereby be provided to enlarge the Magazine and to carry out those enquiries which will add to our knowledge of the life histories of the birds of the British Islands.

It is with great regret that in our first number we are unable to make good a promise, but owing to great pressure on our space, Mr. W. P. Pycraft's article on "Nestlings" is unavoidably held over.

THE EDITORS.

ADDITIONS TO THE LIST OF BRITISH BIRDS
SINCE 1899.

BY

HOWARD SAUNDERS.

FOR the readers of BRITISH BIRDS I have been asked to supply an outline of the accessions to the British List since the completion of the 2nd edition of my "Illustrated Manual of British Birds," in 1899. Even during the ten years following the 1st edition of 1889 the list had been augmented by seventeen; but the last eight years have been still more productive, and twenty additional species have established more or less of a claim to inclusion.

As will be seen by the following list, the novelties are from all parts of the British Isles:—Midlands, East Anglia, Scotland, Cornwall—but especially from the south-eastern portion of England. This last had not, until late years, received much attention at the time of the spring migration, although it was precisely the district from which remunerative results might have been expected. The removal of this reproach is largely due to the assiduity of the ornithologists hereafter mentioned; and it should be remembered that the introduction of the absolute novelties now recorded is only an item in the additions which these observers—and some others—have made to our knowledge.

It is now recognized that in spring individuals of several species which were formerly considered to be of rare—sometimes unaccountably rare—occurrence, frequently overshoot their usual breeding-area in a northerly direction, especially small and inconspicuous birds like the Warblers. It is true that the scientific study of migration does not consist in the acquisition of new or

rare visitants ; yet even a severe migrationist may secretly feel a greater pleasure at the occurrence of a Red-rumped Swallow than at the passage of a continuous flight of Starlings or Jays. And with this slight apology for a list of new species, their enumeration may begin.

I.—THE DUSKY THRUSH.

Turdus dubius, Bechstein (1795).

The name *Turdus fuscatus*, Pallas, has often been applied to this species, but was published much later than the above date. A mounted example of this Thrush, belonging to Mr. P. C. Musters, and exhibited by him at a meeting of the British Ornithologists' Club on January 17th, 1906, was stated to have been shot near Gunthorpe, Notts., on October 13th, 1905 ; and a Nottingham bird-stuffer to whom it was sent supposed it to be a variety of the Fieldfare, but its specific distinctness was recognised by Mr. J. Whitaker of Rainworth and by Mr. Musters. (Bull. B.O.C., XVI., p. 45.)

Professor Martorelli, who has devoted special attention to the occurrences of Siberian *Turdidae* in Europe, says that it is by no means easy to identify many of the records, owing to confusion with *T. naumanni*. He recognizes captures in Russia, Belgium, France, and "half-a-score" in Italy ; to these Mr. Dresser adds two in Norway and one in Germany. The Dusky Thrush was found breeding and its eggs were obtained in the Yenesei valley by Mr. H. L. Popham ; its range extending eastward to the Pacific.

Owing to the fact that on the Continent large numbers of Thrushes and smaller birds are to be found in the local markets during the colder months, the intelligent ornithologist, if an early riser, has a far greater chance of acquiring a rare visitor in France or Italy than in these islands. Of course our westerly geographical position is against us, but it may be borne in mind that there are three or four Eastern species not unlikely to occur.

II.—THE BLACK-EARED WHEATEAR.

Saxicola stapazina (Linnæus), nec Vieillot.

The story of the *transfer* of a well-known name is much more sad than the announcement of a mere change, but it must be told. Count Salvadori ("Ibis," 1904, p. 77) has clearly shown that the scientific name *Saxicola stapazina*, which very many writers (myself in my Manual among others) had applied to the *Black-throated* Wheatear, really belongs to the *Black-eared* species, which was not recorded as a visitor to the south of England until 1902. To complicate matters, our esteemed colleague, Mr. J. I. S. Whitaker has enunciated his reasons ("Ibis," 1898, p. 624; *op. cit.*, 1903, pp. 408-410; B. of Tunisia, pp. 25-34) for conferring the new specific name, *S. caterinæ*, on the representative found in and to the west of Tunisia, while reserving *S. stapazina* for the form which prevails to the eastward. He admits that "in Spain, Sicily, and the Riviera, as well, perhaps, as in some other Mediterranean districts, both species occur"; adding that "in localities where the two species meet, it is by no means unlikely that they may interbreed."

On May 28th, 1902, a male was shot near Polegate, Sussex, and, being exhibited by Mr. W. R. Butterfield at the British Ornithologists' Club, was pronounced by Mr. Whitaker to be *S. caterinæ* (Bull., XII., p. 78). On 24th May, 1905, Mr. Butterfield exhibited an adult male shot near Hoo [not Hove], Sussex, on May 22nd, 1905, and this was also referred to *S. caterinæ* (Bull., XV., p. 72). On 18th October, 1905, Mr. M. J. Nicoll exhibited an adult male, shot by himself on September 9th, 1905, near Pett, Sussex, and this was referred by him (Bull., XVI., p. 22) to the Eastern form for which Mr. Whitaker reserves the name *S. stapazina*. For the present I must ask the last to excuse me from accepting his sub-division and allow me to use *stapazina* for both forms.

Some kind of Black-eared Wheatear has been obtained on two occasions at Heligoland, and occurrences are on record in Salzburg and even in Normandy ; while from the Loire southward the species becomes increasingly common. Its home is in Southern Europe and North Africa, as far eastward as Tunisia for the western form.

[THE BLACK-THROATED WHEATEAR (Manual, 2nd Ed., p. 23) should now, according to Count Salvadori (*cf.* "Ibis," 1904, p. 78) be distinguished as *Saxicola occidentalis*, for the western representative. Possessors of the Manual are therefore requested to alter the name on p. 23 from *S. stuzazina* to *S. occidentalis*. Incidentally it may be mentioned that on 20th June, 1906, Mr. C. B. Ticehurst exhibited at the British Ornithologists' Club an adult male obtained near Lydd, Kent, on May 23rd, 1906, being the second British example (Bull., XVI., p. 124).]

III.—THE SIBERIAN STONECHAT.

Pratincola maura (Pallas).

On behalf of Mr. E. C. Arnold, of Eastbourne College, Eastbourne, a male, shot near Cley, Norfolk, on September 2nd, 1904, was exhibited at the B.O.C. (Bull., XVI., p. 10.).

This representative of our Stonechat in Northern Europe and from the Petchora valley eastward in Asia as far as Japan is characterized by an unspotted white rump and an increased blackness of plumage in the male. To a bird found in Eastern Turkestan and to the north of the Himalayas the name *P. prjevalski* has been applied by Pleske.

IV.—THE WHITE-SPOTTED BLUETHROAT.

Cyanecula wolfi, C. L. Brehm (1822).

For years there can have been little doubt that this representative of *C. succica*, with its more southern and western breeding area, must occur at intervals in Great Britain ; but inasmuch as the females and immature of

both forms are practically indistinguishable, it was only on October 6th, 1902, that an adult male with the characteristic white spot was picked up close to Dungeness Lighthouse, which it had struck, and was afterwards exhibited by Mr. M. J. Nicoll (Bull. B.O.C., XII., p. 14). On September 1st, 1905, a similar adult male was obtained near Hastings, and was exhibited by Mr. C. B. Ticehurst (Bull., XVI., p. 34).

The distribution of these two forms appears to be as set down in my Manual, p. 36, and a statement that the Red-spotted bird had bred in the mountains of Bohemia, above the Elbe valley, has been denied on very high authority. It is now admitted that the male with an entirely blue breast represents a phase of the White-spotted Bluethroat.

[Two examples of the SIBERIAN RUBY-THROAT, *Calliope camtschatkensis*, are said by Mr. Joseph P. Nunn, of Royston, to have been well observed by him near Westgate-on-Sea early in October, 1900 (*cf.* "Ibis," 1901, p. 158). This is not enough to warrant the admission of the species to the British List, but Mr. Nunn's reputation for accuracy requires the courtesy of a record. Two examples of this species have been obtained in the south-east of France, and four or five in Italy during the last twenty years, but as a rule the species is not found to the west of the Ural and the Caucasus.]

[A male of the THRUSH-NIGHTINGALE or "SPRÖSSER," *Daulias philomela*, was obtained at Smeeth, Kent, on 22nd October, 1904, and exhibited by Mr. M. J. Nicoll (Bull. B.O.C., XV., p. 20); but later (*tom. cit.*, p. 47) Dr. Hartert gave good reasons for suspecting this to be one of the many annually exported by dealers. For the present, therefore, it does not seem expedient to admit this species to the British List.]

V.—THE SIBERIAN CHIFFCHAFF.

Phylloscopus tristis, Blyth.

On the night of September 23rd, 1902, an example of

this small Warbler was taken at the lantern of Sule Skerry Lighthouse, thirty-three miles west of Orkney, and was afterwards sent to Mr. W. Eagle Clarke, but having been immersed in methylated spirit and become sodden, it was not at once identified (*cf.* "Ann. Scot. Nat. Hist.," 1907, p. 15). With other interesting birds, it was exhibited by Mr. Clarke before the British Ornithologists' Club (Bull., XIX., p. 18).

In Heligoland Gütke obtained an example in 1846, and subsequently saw six or eight skulking in a thick and favourite hedge. In Italy, one was secured near Cremona, in November, 1897, and one at Udine in December, 1901. Messrs. Harvie-Brown and Seebohm found this species in the Petchora valley, and the latter subsequently discovered the nest and eggs on the Yenesei; the breeding-range extending to Lake Baikal. The bird is smaller than our Chiffchaff, is browner above, buffish-white on the under parts, and has very dark tarsi.

VI.—CETTI'S WARBLER.

Cettia cettii (Marmora).

A male of this southern species was shot at Battle, Sussex, on May 12th, 1904, and seen in the flesh by Mr. M. J. Nicoll, who exhibited it at the British Ornithologists' Club (Bull., XIV., p. 84). This was the first authentic record for Great Britain, for Temminck's statement that the species had been found in England was erroneous at the time that he made it.

This rufous Bush-Warbler is a member of a small genus characterized by having only ten tail feathers. It frequents scrub near water, and is found, locally, from Portugal and North Africa eastward to Asia Minor and Turkestan.

[A specimen of the AMERICAN YELLOW WARBLER, *Dendroica aestiva*, was exhibited by Mr. E. Bidwell (Bull. B.O.C., XV., p. 46), and stated to have been picked up

near Axwell Park, co. Durham, in May, 1904. In a discussion, Dr. Sclater said "that he saw no reason why the bird should not reach England as an accidental autumn visitor," but it will be remembered that this occurrence was in May. As I decline to believe that a Warbler can cross more than three thousand miles of ocean without food or human aid, I do not add it to the British List.]

VII.—THE GREY-HEADED WAGTAIL.

Motacilla viridis, Gm.; *M. borealis*, Sundev.

In deference to the opinion of the majority that this, and the species next in order can be specifically and consistently distinguished from *M. flava*, I include them here.

Males of *M. viridis*, the Scandinavian form, with dark grey crown and no white eye-streak, were obtained years ago near Penzance, as mentioned in my Manual (p. 128). In the spring of 1901 one was captured near Halifax, and on May 13th, 1903, two were shot near Willingdon, Sussex; all these birds being subsequently exhibited (Bull., XIII., pp. 68-69). At a meeting of the B.O.C. (Bull., XIX., p. 23), Mr. P. F. Bunyard (introduced by Mr. H. E. Dresser) exhibited a pair and their eggs, obtained on 20th June, 1906, in a marsh between Rye and Lydd.

This form ranges eastward through Siberia to the Chukchi Peninsula.

VIII.—THE BLACK-HEADED WAGTAIL.

Motacilla melanocephala, Licht. (*M. feldeggii*, Michahelles).

Under the latter name Mr. W. R. Butterfield exhibited "a male in fine plumage," shot near Willingdon, on May 13th, 1906 (Bull., XIII, p. 69).

This form inhabits South-eastern Europe, but complications with *M. paradoxa*, etc., begin—though they do not end—at Hungary.

[In "The Zoologist," 1901, p. 389, Mr. W. R. Butterfield states that a nest, four eggs, and two parent birds of the Blue-headed Wagtail were obtained on May 31st, near Winchelsea, Sussex, and Mr. Dresser informed him that these birds came "nearest to *M. beema*, Sykes," the Indian Blue-headed Wagtail. Later ("Zool.," 1902, p. 232) Mr. Butterfield joins Dr. Hartert in identifying with *M. beema* a male which had been obtained near Rottingdean, Sussex, as long ago as April 20th, 1898. Mr. Dresser's latest concrete opinion now is that "*M. beema* is unworthy of even subspecific rank" ("Man. Palæarctic B.," p. 206).]

IX.—THE MASKED SHRIKE.

Lanius nubicus, Licht.

In the Bulletin of the B.O.C., XVI., p. 22, is recorded Mr. M. J. Nicoll's exhibition of an example of this species, shot at Woodchurch, Kent, on July 11th, 1905, and examined by him in the flesh three days later. In my own notes I find it entered as "an adult male," but as this is not in print, it is mentioned with due reserve.

This is a very remarkable occurrence, for there seems to be no proof that this species has been obtained in South-western Europe or even North Africa to the westward of Tripoli. In Greece it is well known.

X.—THE RED-RUMPED SWALLOW.

Hirundo rufula, Temminck.

An adult male of this species was observed by Mr. George Stout, of Fair Isle, on June 2nd, 1906, and, having been found dead some ten days afterwards, was sent to Mr. W. Eagle Clarke, who recorded and exhibited it ("Ann. Scott. N. H.," 1906, p. 205, and Bull. B.O.C., XIX., p. 18).

The occurrence of this species as a wanderer among a rush of migrants is less remarkable than that of the Shrike just mentioned, for this Swallow was obtained by Gätke on Heligoland, picked up by wonderful good fortune. It

visits the south of France, where Mr. St. Quintin saw about a dozen, and it is by no means uncommon in some parts of Italy, though local. Eastward it ranges from Greece to Turkestan, and in Africa from Tunisia to Abyssinia.

[In "The Irish Naturalist," 1906, p. 137, my friend, Mr. R. M. Barrington, gives an account of the acquisition of an example of the AMERICAN SNOWBIRD, *Junco hiemalis*, at Loop Head lighthouse, co. Clare, on May 30th, 1905. The specimen was seen by many at the Fourth International Ornithological Congress, and greatly interested some of our American visitors. There seems to be an inclination to infer that because Greenland Redpolls have found their way to Ireland without being suspected of "assisted passages," this species may have done likewise. I would therefore point out that there seems to be no evidence that this Finch was ever found in Greenland; not even in the south. Herr H. Winge utterly denies its existence there. Gould, in his "Birds of Europe," started the fiction that it was "common in Greenland," by way of improving upon Temminck, who had stated that this species "pushed its migrations to Iceland, where many individuals had been taken." That made it a "bird of Europe," and then the necessary link with America was, naturally, Greenland!]

XI.—THE CITRIL FINCH.

Chrysomitris citrinella (Linn.).

In "The Zoologist," 1905, p. 91, Mr. J. H. Gurney recorded the capture, on 29th January, 1904, of "an adult female in good feather," by a Yarmouth bird-catcher. It is rather surprising that this species has not been sooner recognized as an occasional visitor, for it is common—though local in the breeding-season—in Switzerland, Baden, and the mountains and hill-country of Central Germany; while it has occurred as a wanderer in Heligoland. As there is a tendency to consider the Citril Finch of the Italian Alps and Southern Europe as entitled

to specific distinction, no more need be said about the Ultramontanes.

XII.—THE SNOW-FINCH.

Montifringilla nivalis, Linn.

On February 22nd, 1905, an adult male of this Alpine species was shot at Rye Harbour, Sussex, and shown in the flesh to Mr. M. J. Nicoll, who was on the look-out for the bird, having noticed it among a large flock of Skylarks the previous day. It was duly exhibited (Bull. B.O.C., XV., p. 58).

Two occurrences of this bird at Heligoland are on record; one in the north of France (near Amiens); and a few in Germany, at more or less distance from the Alpine ranges. On both sides of the Pyrenees also a wanderer has now and then been noticed, but there is no migration.

XIII.—THE MEADOW-BUNTING.

Emberiza cia, Linn.

On January 21st, 1903 (Bull. B.O.C., XIII., p. 38), Dr. Bowdler Sharpe reported that he had recently examined a living example of this species, captured (with another which had died) near Shoreham, at the end of October, 1902. A third is recorded in the "Ibis," 1905, p. 291, by Mr. C. J. Carroll, as having been taken alive near Faversham, Kent, about February 14th, 1905. For exhibition of the first specimen see Bull. B.O.C., XV., p. 28.

That this bird should occur in the south of England is not remarkable, for it frequents the valley of the Somme in France, and the slopes of the Rhine and the Neckar in Germany; while, as a wanderer, it has been taken in Belgium, Holland, and Heligoland. In Central and Southern Europe it is abundant.

XIV.—THE YELLOW-BREASTED BUNTING.

Emberiza aureola, Pallas.

On 21st September, 1905, at Cley, Norfolk, an immature

female of this species was shot by Mr. E. C. Arnold, of Eastbourne College, and was subsequently exhibited on his behalf (Bull. B.O.C., XVI., pp. 10-11).

As the bird had been recorded thrice in Heligoland, as well as many times in Northern Italy and South-eastern France, its apparition is not remarkable. At Archangel and to the eastward it is a common breeding species.

XV.—THE BLACK LARK.

Alauda yeltoniensis, Forster.

Towards the end of January, 1907, quite a flock of this conspicuous species appears to have visited the south-east of England, and three examples of these were exhibited at the B.O.C by Mr. C. B. Ticehurst and Mr. W. R. Butterfield. Unusually full particulars are to be found in Bulletin, XIX., pp. 57-59, and therefore need not be repeated here. I have heard that many "from the Continent" were on sale in Leadenhall Market.

XVI.—THE LESSER WHITE-FRONTED GOOSE.

Anser erythropus (Linnæus).

In 1899 some doubts remained in my mind as to the validity of this as a species (*cf.* Manual, Ed. 2, p. 400); but I now fully admit its specific distinctness, and should figure and describe it in any future edition.

[On October 23rd, 1902, the Hon. N. Charles Rothschild exhibited the skin of a male BAER'S POCHARD (*Æthya beri*) shot on the Tring Reservoirs on November 5th, 1901 (Bull. B.O.C., XII., p. 25). He urged that this native of Eastern Siberia, ranging to China and Japan, was more likely to have been a wild rather than an escaped bird; but it is well-known that the species had been introduced on the ornamental waters of England, and it seems premature to assume, at least for the present, that this bird was a genuine wanderer from Kamchatka. Any

approach to an easy admission of wanderer waterfowl to the British List is to be deprecated.]

[As recorded in the Bull. B.O.C., XV., p. 32, Dr. R. Bowdler Sharpe exhibited an Eider Drake which had been shot at Graemsay, Orkney, in December, 1904, and was supposed to be *Somateria v-nigrum*. On this point reference may be made to *op. cit.*, p. 44 and p. 62, *infra*, and, in my opinion, the bird in question was merely a Common Eider which showed more or less of a black chevron on the throat: a mark which was once erroneously supposed to be confined to the bird of the North Pacific and Behring Sea. Some important remarks on this subject were made at the British Ornithologists' Club, on May 15th, 1907 (Bull., XIX., p. 80).]

XVII.—THE BLACK-WINGED PRATINCOLE.

Glareola melanoptera, Nordmann.

With several individuals of our occasional visitor *G. pratincola*, some examples of the Eastern form seem to have joined company. One of these, shot in Romney Marsh, on May 30th, 1903, was exhibited by Dr. N. F. Ticehurst; another shot at same place on 17th June, and one from Rye Harbour on 18th June, were shown at the B.O.C. by Mr. Boyd Alexander (Bull., XIII., p. 78; XIV., p. 17). According to Mr. Dresser, this species is found in Russia up to about 56° N., and eastward to the Altai range. It differs from *G. pratincola* chiefly in its darker coloration, jet-black axillaries and under wing coverts, and secondaries untipped with white.

XVIII.—BAIRD'S SANDPIPER.

Tringa bairdi (Coues).

At Rye Harbour, on October 11th, 1900, Mr. M. J. Nicoll noticed and obtained a young female example of this species, subsequently exhibited by Dr. E. Hartert (Bull. B.O.C., XI., p. 27). Mr. Nicoll has informed me that on September

19th, 1903, he examined in the flesh another specimen shot three days before at Hunstanton, Norfolk.

The bird is a well-known North American species, occurring in the Chukchi Peninsula, North-eastern Siberia, but not recorded in Europe till now.

XIX.—THE GREATER YELLOWSHANK.

Totanus melanoleucus (Gmelin).

On behalf of Capt. Arthur Dorrien-Smith, Mr. A. F. Griffith exhibited an example of this species, shot by the former at Tresco Abbey, Scilly Islands, on September 16th, 1906 (Bull. B.O.C., XIX., p. 7; also Field, November 10th, 1906, p. 823, fig.). This is the first record of the present species in England, or in Europe; of the Smaller Yellowshank there have been two occurrences, and one of these at Marazion, in Cornwall.

XX.—THE MEDITERRANEAN GREAT SHEARWATER.

Puffinus kuhli (Boie).

A female example, picked up dead on Pevensey beach, Sussex, on 21st February, 1906, was exhibited at the B.O.C. by Mr. W. R. Butterfield (Bull., XVI., p. 71). He considered it to belong to the form well known in the Mediterranean, and subspecifically distinct from the *P. flavirostris* of Gould, found in the Atlantic. The late Mr. Salvin saw no reason for separating them.



A STUDY OF THE HOME LIFE OF THE OSPREY.

BY

P. H. BAHR, B.A., M.B.O.U.

It is perhaps fitting that the first number of BRITISH BIRDS should contain an account of a bird which, as a breeding species in these islands, is reduced to a solitary pair or so. Of such is the heritage of the modern ornithologist! What trap and gun have not attained, the collector's zeal has accomplished.

In America, however, where the accompanying photographs were obtained, the Osprey is looked upon, not as a marauder and a robber, but as a welcome guest. All through the Northern States this species is found breeding in colonies. In the state of New Jersey Ospreys are protected by law to such an extent that they flourish exceedingly. Here there are no mistaken ideas about the preservation of trout, and the Fish Hawk, as the bird is popularly called, is ungrudgingly allowed to take his toll from the seas. Though there is no essential difference between the New World species and our own, yet our American cousins have dubbed it *P. haliaëtus carolinensis*.

The colony I visited in July, 1903, is situated on an island not a hundred miles from New York City. Though perhaps there is far more romance in watching a pair tending their young on some solitary Highland loch, as so beautifully described in St. John's "Tour in Sutherland," yet to see some 300 pairs of these lovely birds congregating in one spot to breed is an awe-inspiring sight. Our island was some seven miles in length, yet all the nests were crowded into an area some two and a half miles long at the southern end.

There were nests to be seen placed in every available situation, some on the top of withered maples, some in the thick vines and creepers that clung round their stems, while others (so favourably have the birds been protected)

were placed flat upon the ground, more especially on the beach, where the piles of sticks rose, in one instance at least, to some five feet in height. The favourite situation for ground-nests was a narrow strip of beach separated from the rest of the island by a stretch of marsh (*vide* Fig. 1). Here we counted no less than four nests in half a mile or so. One nest, presumably inhabited the year before, was built upon the top of a shed.

The most picturesque situation perhaps was occupied by a nest upon a rock out at sea (*vide* Fig. 2). This nest fitted in with the classical descriptions. It contained three ferocious young, and was intolerable to the human nose on account of the decomposing fish by which it was surrounded.

In building its nest nothing seems to come amiss to the Osprey, and the amount of flotsam and jetsam collected by one pair would make many a waggon-load. The large nest aforementioned might have been the work of a lifetime, and had been occupied probably many years. It contained besides sticks and bundles of seaweed, fragments of many a wreck, a pheasant's skeleton, a wheel of a child's mailcart, and even then the bird did not stop to add such unconsidered trifles as corks of bottles. Nor does the building of the home appear to cease when the young are hatched, for often we observed the proud parent of three well-grown young come sailing along with a large bough dangling from its talons. The lining of the nest is made of seaweeds, and often a layer of cow-dung is added. Of the latter a large herd of semi-wild cattle on the island provided a plentiful supply.

As is well known, on the outskirts of its abode, the Osprey is not too proud to take in lodgers, and in the tree-nests it was no uncommon sight to see three or four untidy structures of the Purple Grackle (*Quiscalus quiscula*), nor is the ubiquitous English Sparrow to be denied, for several pairs were to be seen in company with the Grackles, chirruping familiarly as in any London slum.

Of these small fry the owner takes little notice, though,



FIG. 1.—OSPREY FLYING DOWN TO NEST.

(Photograph by P. H. Bahr.)

be it said, in spite of his fierce demeanour, he is a great coward. His natural enemies are the King Bird (*Tyrannus tyrannus*) and the Common Tern (*Sterna hirundo*), which, in parts of the island, made his life hardly worth living, pestering and bustling him wherever he dared to stir. The King Bird, in spite of its being about one-quarter the size and one-tenth the weight of the Osprey,



FIG 2.—OSPREY'S NEST ON A ROCK OUT AT SEA.

(Photograph by P. H. Bahr.)

fully maintained its reputation of a tyrant. One bird in particular caused us great amusement. It so happened that he had taken a very particular liking to a withered bough, a perch of vantage whence to survey the world. It also happened that this bough was situated in the vicinity of an Osprey's nest, and no sooner did the Osprey dare to settle on this disputed territory than down would swoop his small tormentor, and he would have to "git."

With birds of prey, however, the Osprey is not so lenient, and on that account the Pheasants, turned down some fifty years ago, have, under his protection, thriven inordinately well.

Being purely a fish-eater, the most important part of the Osprey's day's work consists in soaring over the deep searching for his finny prey. The evenings and the early mornings are the favourite times for this pursuit. Then we would often observe some four or five circling round together, often at no great height above the water. One would make his mark, the great wings would close, and down on to the water with a resounding splash the bird would drop and disappear from view, to rise a second or so later with a silver fish, often, as we remarked with some surprise, of no great size. Then, shaking the spray off his plumage, he would slowly wend his way home.

No hurry to deliver the result of the catch was evinced, and a bird would sail round for hours in an aimless sort of way with the fish grasped firmly by both feet round the middle, the head and tail dangling downwards. The head of the fish, we noticed, was always carried foremost, as offering least resistance to the air. Small fish would be carried in one foot (*vide* Fig. 3), and I observed a bird on one occasion change a fish from one foot to the other during flight. If the fish being carried happened to be a large one it seemed that it would be a difficult matter for the bird to settle on a telegraph post (a favourite perch). This was, however, managed in a perfectly simple way. The right foot, which was being held behind the left, was suddenly brought forward and grasped the post at the same time as the left, carrying the fish, was brought on top with quite an audible smack, and thus the bird managed to balance itself upon the fish, and again upon its support.

The Osprey is not always fortunate in his fishing, and failures are many. He does not always manage to "strike" in time, and often emerges from a plunge empty-handed.

While lying in bed in our hut, on the edge of an inlet of the sea, I could, in the early mornings, hear the Ospreys plunging quite close; splash after splash resounded, one about every two minutes. But they were not always so

friendly disposed towards one another; for often did they find cause for altercation, and would soar high, striking at each other with their talons, uttering cries of anger till, honour satisfied, they would peaceably return to their fishing.

A favourite way of getting a meal was that of visiting the fishermen's nets, where quantities of fish were imprisoned, and a plentiful meal assured with the minimum amount of trouble. When thus engaged the birds did not trouble to soar, but would merely fly along the surface of the water and snatch at the fish as they rose.

The chief prey of the Osprey appeared to be the "white fish," so called by the fishermen, and a smaller species with a large head. The largest fish I ever saw being carried by an Osprey was a flatfish, which, although partially eaten, weighed at least three pounds. The captor, exasperated by my presence near its nest, eventually let the fish drop, and it narrowly missed my head.

(To be continued.)

REMARKS ON A SUPPOSED NEW BRITISH TIT
OF THE GENUS *PARUS*.

BY

P. L. SCLATER, D.SC., F.R.S.

MR. HOWARD SAUNDERS, in his "Manual of British Birds," includes five species of true *Parus* in the British Avifauna, namely, *Parus major*, *P. ater*, *P. palustris*, *P. ceruleus*, and *P. cristatus*.

Dr. Hartert, in his "Vögel der paläarktischen Fauna," in which trinomials are employed, uses for these five species the names *Parus major newtoni*, *P. ater britannicus*, *P. palustris dresseri*, *P. ceruleus obscurus*, and *P. cristatus scoticus*,* on the ground that all the British Tits are subspecifically distinguishable from their continental representatives. But to these five species of *Parus* he adds a sixth, "*Parus atricapillus kleinschmidti*," making it a subspecies of *P. atricapillus* of North America. It is about this form that, as I think, more information is specially required, as its reception as valid would add a new (and very interesting) species to the British List.

The so-called *Parus atricapillus kleinschmidti* seems to have been first indicated by Herr Kleinschmidt in 1898, as a subspecies of *Parus montanus*, though he did not assign any name to it, but simply called it "*Parus montanus* subsp. nov. England" ("Orn. Mon.," vi., p. 34).

In his memoir on the *Paridae*, published in the "Ornithologisches Jahrbuch for 1900" (Vol. XI., p. 212), Mr. Hellmayr gave the name *Parus montanus kleinschmidti* to this form, of which he had received for comparison two

* Dr. Hartert writes the subspecific name as *scotica*, but I cannot agree to use false concords. Latin having been universally adopted as the language of science, we are bound, in my opinion, to follow the ordinary rules of its grammar,

examples from Dr. Hartert, obtained in the "neighbourhood of London," and now in the Tring Museum. Mr. Hellmayr compares this subspecies with *Parus montanus salicarius* of West and Middle Germany, from which he states that it differs in the darker colouring of the back, which is dark rusty-brown, and in the broad rusty-brown edges of the primaries; the cream-coloured tinge of the sides of the neck extends up to the base of the bill, and surrounds the chin-spot on the front and sides; sides of the neck creamy-yellow; underparts deep rusty-yellow. In the third part of the "Birds of the Palearctic Fauna," Dr. Hartert, as we have already stated, transfers this subspecies to the group of *Parus atricapillus*, and calls it *Parus atricapillus kleinschmidti* (*op. cit.*, p. 378). He gives its "*terra typica*" as "Coalfall Wood, near Finchley," and states that it is also found near Tunbridge Wells, and in Scotland in the valleys of the Tweed, Forth and Spey.

Some of my friends have suggested that Kleinschmidt's Tit is merely a form of *Parus palustris*. But the British form of *Parus palustris* has been already named *P. palustris dresseri*, and I do not think there can be room for two subspecies of the same species in our little island.

Further explanations concerning *Parus kleinschmidti* and its real status would be very desirable.



NESTING HABITS OBSERVED ABROAD OF SOME RARE BRITISH BIRDS.

BY

F. C. SELOUS.

BIRD'S-NESTING was always one of the chief delights of my boyhood, so when, some ten years ago, I settled down in this country—comparatively speaking—after having spent a quarter of a century of my life in the interior of South Africa, I naturally turned for occupation and recreation to my old hobby.

Finding, however, that a large proportion of the birds on the British List never bred in any part of the British Isles, or had become very rare through persecution or the encroachments of civilization upon their breeding haunts, I determined to make a collection of the eggs of Palearctic birds, which relieved me from all temptation to harry really scarce and vanishing species in this country.

I want to see the nests and take the eggs with my own hands of as many species of European birds as possible ; but I value the Kite's eggs I have taken in Spain quite as much as if I had taken them in England or Wales.

During the last few years I have made several bird's-nesting trips to Asia Minor, Hungary, Spain and Bosnia, and in the course of these excursions have taken the nests of a good many species of birds which, though they are on the British List, never, or very rarely, breed in any part of Great Britain. I trust, therefore, that the following notes on the nesting habits of some of these birds may prove of interest to readers of BRITISH BIRDS.

ORPHEAN WARBLER.

Sylvia orphea, Temm.

This bird is a very common nesting species on all the

lower slopes of the hills in the neighbourhood of Smyrna, and I have a good series of its eggs taken in 1899 and 1901.

The nests were very easy to find, being placed either in very small trees, at a height of from six to ten feet from the ground, or high up in bushes. In 1901 I saw several broods of Orphean Warblers with the parent birds in the hills above Sochia during the last week in May, and at the same time found nests with fresh eggs.

The usual number of eggs in Asia Minor is five, but I have taken several clutches of six, and some of only four.

All my eggs of the Orphean Warbler from Asia Minor are of one type and vary very little one from another; but they are all absolutely different from the eggs of the same species which I have taken in Andalusia. In the Asia Minor eggs the ground colour is white and the markings are nearly always of a pale grey, only rarely greyish brown, never dark brown or blackish. In my Spanish eggs the markings are very dark and the eggs themselves smaller than those from Asia Minor. My Spanish Orphean Warbler's eggs are in fact very similar to those of the Lesser Whitethroat, whilst those I took in Asia Minor bear but little resemblance to the eggs of the last-named species.

That the eggs of the Orphean Warbler in Asia Minor should be so uniform in coloration and so constantly different from the eggs of the same species laid in Western Europe is, I think, a point worthy of the attention of ornithologists.

SAVI'S WARBLER.

Locustella luscinioides (Savi).

I have found a good many nests of Savi's Warbler in Hungary, and one in Southern Spain. This bird seems to be a common breeding species in the former country in all the lakes and marshes situated in the level country through which the Danube runs to the east of Budapest.

The following notes I have copied verbatim from one of my note books, and refer to a visit paid to the Valencze

Lake on May 29th and 30th, 1899, in company with Mr. C. G. Danford:—

“ We also found several nests of Savi’s Warbler, but only three with eggs—a four, a two, and a one. These nests are very difficult to find, being built on the ground, at the base of the reeds on one of the many floating islands in the lake. They were invariably built of flat dry reed leaves, with a deep and beautifully formed cup. In some cases, on parting the reeds and looking down, the nest was visible from above, looking like a little brown cup, amongst the dry reed leaves, amongst which it was built; but in most cases the nests were absolutely invisible from above, and could only be found by pulling away the dry reed leaves by which they were completely hidden.

“ One soon learns, however, to know a likely looking spot at the base of a cluster of reeds, and then the ground must be carefully cleared with the hand, when possibly a little brown cup of a nest may be discovered right down in the swampy ground. Although the substructure of the nest will be found to be wet, the cup itself is always dry and snug.”

Besides the nests which we found on the ground we also found three built in a mass of old dry reeds, about eighteen inches above the water. The ordinary full clutch of eggs is five, and fresh eggs may be found from the 15th of May to the first week in June.

(To be continued.)

NOTES

** A series of Articles commencing next month will deal with the records concerning British birds, published from 1899 to May 31st, 1907, consequently extracts from periodical literature will not begin under this heading until next month.

THE FAR SOUTHERN WINTER QUARTERS OF THE ARCTIC TERN.

IN working out the birds obtained by the Scottish National Antarctic Expedition, I found, to my great surprise, that all the Terns captured in widely scattered portions of the Weddell Sea, Antarctic Ocean, belonged to the most northern representative of their genus, namely, to *Sterna macrura*, the Arctic Tern!

Specimens were obtained between $64^{\circ} 29'$ and $72^{\circ} 18'$ S. latitude and from $12^{\circ} 49'$ to $35^{\circ} 29'$ W. longitude. They were often observed in considerable numbers, and are logged for March 5th, 1904, as being seen in thousands in $72^{\circ} 31'$ S.; while from the 9th to the 13th of the same month, when off Coats Lands, in $74^{\circ} 1'$ S., $22^{\circ} 0'$ W., many were seen. Thus this bird so familiar to British Ornithologists would seem to have the most extensive latitudinal range to be found among vertebrate animals, since it is now known to occur from 82° N. to $74^{\circ} 1'$ S. It is at present the only Tern known to occur south of the Antarctic Circle.

The occurrence of this boreal species in the far-off ice fields of the South Polar Ocean during the northern winter season, is one of the most interesting zoological discoveries made by the many recent Antarctic expeditions. That it is only a winter visitor does not admit of doubt for the bird certainly does not breed there; nor is any other Tern, so far as we know, a native of the Antarctic Continent. These very remarkable southern incursions are, no doubt, to be explained by the extraordinary abundance of food, especially of crustaceans swimming at or near the surface, to be found in the icy waters of the far south in the summer (our northern winter). This allures the Terns, and other birds, further and further towards the pole, until the great ice-barrier, which almost girdles the Antarctic Continent, arrests their further progress, since at its base the food supply entirely ceases.

WILLIAM EAGLE CLARKE.

BIRDS STRUCK BY LIGHTNING.

ON the afternoon of February 8th, 1906, about 2 p.m., the east of Norfolk was visited by a violent storm of snow and hail, and what was very unusual, it was accompanied for at least twenty minutes by incessant flashes of lightning. The storm came from the north-west, and the wind was registered as Force 4.

This unusual atmospheric combination caused a stampede among the horde of Pink-footed Geese, estimated at nearly four thousand, which usually make the preserved salt-marshes of Holkham and Wells their head-quarters. These birds, probably terrified by the noise of the thunder and half-blinded by the snow, flew about in all directions, exposing themselves to the electric fluid, with fatal results in several cases.

I am informed that fifteen Pink-footed Geese and four White-fronted Geese were picked up by different people in the parishes of Bayfield, Holt, Kelling and Weybourne, which are four adjacent parishes at from ten to fourteen miles from Holkham.

Seven of the Geese were lying more or less in a line extending over three fields, and these had possibly all succumbed to the same flash. None of them showed much sign of injury; some had holes in their backs, one had a groove on the neck, another had been struck on the wings, and one or two are said to have exhibited no mark at all.

During the same thunderstorm a Greater Black-backed Gull was struck at Corton in Suffolk, and was, I believe, seen by a woman to fall. Of the *post-mortem* appearance of this bird Mr. T. Southwell gives the following account in the "Norwich Naturalists' Transactions," VIII., p. 326:—

"Externally there was a track quite denuded of feathers about three-quarters of an inch wide, extending from the right carpal joint along the anterior margin of the wing, obliquely across the breast, and terminating on the left side of the abdomen; the skin was not broken, and there was no discoloration. On removing the skin there was no apparent trace of the passage of the electric current, and the abdominal wall was not perforated."

J. H. GURNEY.



REVIEWS

Report on the Immigrations of Summer Residents in the Spring of 1906, by the Committee appointed by the British Ornithologists' Club. (Forming Vol. XX., Bull. B.O.C. Edited by W. R. Ogilvie-Grant.) 34 Maps. Witherby & Co. 6s.

IN December, 1904, the British Ornithologists' Club appointed a Committee to enquire into the movements of the common migrants in so far as concerned England and Wales. In 1906 this Committee issued its first Report, in which the movements of twenty-nine strictly migratory species were traced from the time of their arrival on our shores in the Spring of 1905 until they settled down to breed. The present is the second Report of this Committee, and it deals with the movements of the same species, and five additional ones in the Spring of 1906.

No comparison is made between the results obtained in 1906 and 1905, and, although the Committee are, no doubt, perfectly right in refusing to generalize on so comparatively slender a basis as the records obtained in two years only, nevertheless a comparative statement of the facts recorded in the two years would have been a very great gain, and need not have involved any expression of opinion.

For instance, the areas of arrival of most of the species seem to have been the same in both years. Thus we now have evidence that the Garden Warbler, Wood Warbler and Landrail have arrived solely on the western half of the south coast, and the Whinchat, Common and Lesser Whitethroat, Red-backed Shrike, Wryneck and Turtle Dove solely on the eastern half and south-eastern corner, while most of the other species arrive along the whole south coast. The summary of the arrival areas (page 12) is somewhat carelessly made up; the Landrail, for instance, is stated on page 165 to have arrived entirely on the western half of the south coast, but is placed in the summary as arriving along the whole south coast.

Points of arrival are often very difficult to ascertain, and birds may very easily be missed by observers on the coast. This fact does not seem to have been taken into account sufficiently in the present report for, although it is recognised that Swifts and House-Martins which appeared in South Wales had probably passed over Devon without being seen, yet it is argued, on apparently very slender evidence, that House-Martins appearing in Sussex and Kent had made their way thither from Dorset and Hampshire.

Another point to which attention should be directed, as it may indicate inaccurate observation, is that apparent movements

of the Sand-Martin and other species were recorded even as late as the first week in June.

One of the chief aims of the investigation should be, we think, to trace where the birds of each immigration settle down to nest, and whether all the individuals of one species nesting in a particular district arrive in the same immigration. Evidence on these points is somewhat vague.

Points of general interest which are confirmed in this second Report are that the west of England was in many cases populated before the east; that there is a well-defined route passing due north through Devon and Wales; and that the large race of the Wheatear arrives not earlier than April 9th.

We have drawn attention to the points above mentioned by way of suggestion rather than criticism, and we fully believe the Committee will work out, in the course of a few years, this intricate and difficult problem in a thoroughly satisfactory way. The results of their labours become more and more valuable year by year as additional or confirmatory information is collected, and everyone at all interested in the migration of birds should study these Reports and keep them for future reference. The proceeds from the sales of the Reports are devoted to the furtherance of the enquiry.

LIST OF BOOKS

Published since January 1st, 1907.

- Animal Artisans and other Studies of Birds and Beasts*, by C. J. Cornish. Illustrated. (Longmans.) 6s. 6d. net.
- Birds I have known*, by A. H. Beavan. (Unwin.) 2s.
- Birds of the Countryside: A Handbook of Familiar British Birds*, by F. Finn. (Hutchinson.) 5s. net.
- One Hundred Photographs of Bird Life*, by R. B. Lodge. (Bousfield.) 1s.
- A Ready Aid to Distinguish the Commoner Wild Birds of Great Britain*, by D. T. Price. (Gurney & Jackson.) 1s. net.
- The Game Laws of Ireland*, by E. C. Farren. (Ponsonby.) 6s. 6d. net.
- The British Warblers: A History with Problems of their Lives*, by H. Eliot Howard. Part I. Illustrated. (Porter.) 21s. per part.
- The Birds of the British Isles*, by Charles Stonham. Parts III. and IV. Illustrated. (Grant Richards.)
- The Eggs of European Birds*, by Rev. F. C. R. Jourdain. Parts I. and II. (Porter.)
- Ootheca Wolleyana*, by Prof. A. Newton. Part IV. (Porter.)



LETTERS



FOUR BIRDS IN A LONG-TAILED TIT'S NEST.

To the Editors of BRITISH BIRDS.

SIRS,—On May 5th I found a Long-tailed Tit's nest about five feet from the ground in an isolated hawthorn, and as I approached it a bird flew out. Wishing to see how many eggs there were, I began to remove some overhanging branches, and was surprised to see two more birds leave the nest, and I got my hand to the nest in time to capture a fourth as it was about to fly out. This last was an adult bird with incubation spots on the vent. I then examined the nest and found it contained ten eggs in an early stage of incubation. I have never heard of a similar case, and am rather at a loss as to how to account for it; perhaps some of your readers may be able to enlighten me.

Hemel Hempstead,

J. L. BONHOTE.

May 9th, 1907.

THE EAR OF THE WOODCOCK.

To the Editors of BRITISH BIRDS.

SIRS,—On my shooting a Woodcock last December (1906), the man, when he picked it up, said, "You have shot him right through the head"; and, on looking, there was indeed a hole, but not a shot hole—it was the orifice of the ear! And I was astonished to find it *placed in front of the eye*—not behind it, as is the case with practically every other vertebrate. Consulting my bird books, I found no reference in any one of them to this remarkable fact, and from conversation with many of the leading ornithologists I gather it is not generally, if at all, known. My friend, Mr. W. P. Pycraft, has the subject now in hand, and he proposes to deal at length with it in the pages of *BRITISH BIRDS* at no distant date.

CHARLES WHYMPER.

May 14th, 1907.



Mayall Phot

British Birds
Vol I PL 2

Alfred Huxley

Born June 11, 1829 - Died June 7, 1907.

BRITISH BIRDS

EDITED BY H. F. WITHERBY, F.Z.S., M.B.O.U.
ASSISTED BY W. P. PYCRAFT, A.L.S., M.B.O.U.

CONTENTS OF NUMBER 2. JULY 1, 1907.

Memoir of Alfred Newton, by R. Bowdler Sharpe, LL.D., etc. ...	Page 33
A Study of the Home Life of the Osprey, by P. H. Bahr, B.A., M.B.O.U. (Part II.)— <i>continued from page 22</i> ...	40
The British Willow Tit (<i>Parus atricapillus kleinschmidti</i> Hellm.), by the Hon. Walter Rothschild, PH.D. ...	44
Nesting Habits observed abroad of some Rare British Birds, by F. C. Selous (Part II.)— <i>continued from page 27</i> ...	48
On the More Important Additions to our Knowledge of British Birds since 1899, by H. F. Witherby and N. F. Ticehurst	52
Notes:—Sociable Plover in Kent (C. B. Ticehurst). Supposed Serin Finches in Sussex (H. Langton). Migrating Birds Returning to the Same Place (V. Wilson). The Spring Moult of the Arctic Tern (W. E. Clarke). Golden Oriole in Sussex (H. Langton)	57
Review:—Bird-Life of the Borders	60
List of Books	60
Letters:—The Ear of the Woodcock (W. B. Nichols and P. C Mitchell). Four Birds in a Long-Tailed Tit's Nest (A. A. van Pelt Lechner). Birds Struck by Lightning (F. C. R. Jourdain). "Incubation Spots" (M. C. H. Bird). Baer's Pochard as a British Bird (The Hon. W. Rothschild) ...	61

ALFRED NEWTON.

THE death of Professor Newton, which took place at Cambridge on the 7th of June last, creates a void in the ranks of British Ornithologists which it will be impossible to fill.

He was one of the small band of enthusiasts who founded the British Ornithologists' Union, the establishment of which has had such a sterling influence on the study of Natural History in the British Islands. Respected and loved by his contemporaries who joined him in this great achievement, revered and consulted by the younger generation, he held a unique position among zoologists in

this country, and there is no one who can exactly take his place.

The foundation of the British Ornithologists' Union was one of the most important events in the history of ornithology, and with the publication of its quarterly journal, the "Ibis," in 1859, commenced that long series of memoirs which have added so much to our knowledge of the Class Aves.

It must be remembered that the promoters of the "Ibis" were few in number, for the list of original members contained only twenty names, but among them were those of T. C. Eyton, F. DuCane Godman and his brother Percy Godman, John Henry Gurney, Alfred Newton and Edward Newton, Lord Lilford (then the Hon. Thomas Lyttleton Powys), Osbert Salvin, Philip Lutley Selater, Wilfred Hudleston Simpson (now W. H. Hudleston), Edward Cavendish Taylor, Canon Tristram, and John Wolley.

It is well to recall the circumstances of the founding of the Union, as the writer has unwittingly been the means of publishing an inaccurate account of its foundation in his Presidential Address to the Fourth International Ornithological Congress in 1905. The information was given to him in all good faith by an original member of the Union, whose memory was evidently not quite accurate, and it was not the case that the inception of the Union and the idea of publishing a journal specially devoted to ornithology was conceived at a gathering of bird-lovers in Canon Tristram's study at Castle Eden, as stated by me. Only a few weeks ago Professor Newton challenged the correctness of my statement, and in the April number of the "Ibis" there is (p. 372) a refutation of it, which refers to the preface of the first volume of the "Ibis" for the true story of the foundation of the British Ornithologists' Union. I can only say that the account published by me was told to me on several occasions by my old friend, and I am quite certain that he considered that the idea of founding the Union was discussed originally at Canon

Tristram's Rectory, at Castle Eden. I have, however, been further assured by Dr. F. D. Godman and Dr. P. L. Sclater, the two surviving original members, that the idea of the "Union" was started in Cambridge, and that Professor Newton was one of the prime movers in its foundation. It had been the custom, so says the "Preface" to Vol. I. of the "Ibis," for a few gentlemen attached to the study of ornithology, most of them more or less intimately connected with the University of Cambridge, to meet together, once a year, or oftener, to exhibit to one another the various objects of interest which had occurred to them, and to talk over both former and future plans of adding to their knowledge of this branch of natural history. In 1857 the gathering of ornithologists had been greater than before; and it was proposed to publish a magazine devoted solely to ornithology, and in the following year the question was again to be considered. In November, 1858, when another meeting took place at Cambridge, the publication of a quarterly journal was agreed upon, and the British Ornithologists' Union was founded, the number of members being limited to twenty. Dr. P. L. Sclater, who was then Secretary to the Zoological Society of London, was appointed the first editor.

And what a revelation that first part of the "Ibis" was! Dr. Sclater and Mr. Osbert Salvin began a series of articles on the ornithology of Central America; Canon Tristram followed with an account of the birds observed by him in Southern Palestine in March and April, 1858, the precursor of further memoirs in future numbers of the "Ibis"; Mr. Edward Cavendish Taylor gave his ornithological reminiscences of Egypt in the winter of 1853—1854, a subject which he followed up on subsequent visits to that country. To the first number Mr. T. C. Eyton contributed an article on the methods of preparing natural skeletons of birds, and Canon Tristram described nine new species from the Algerian and Tunisian Sahara. Professor Newton and his brother Edward commenced

their memoir on the birds of the island of St. Croix, in the West Indies, illustrated by a marvellous plate of the little Bare-legged Owl (*Gymnoglaux nudipes*) by Joseph Wolf. Then followed John Wolley's memorable account of the breeding of the Smew in Lapland, and a plate of hitherto unfigured European birds' eggs, including those of the Great Spotted Cuckoo, Andalusian Hemipode, and Cream-coloured Courser, was contributed by Mr. W. C. Hewitson. Then followed the ever memorable review of Bree's "Birds of Europe," which, though unsigned, has always been attributed to Professor Newton, probably because no one else could possibly have written it. All the reviews and notices in the first part of the "Ibis" were very interesting, and included original letters from Dr. A. R. Wallace, then engaged on his explorations in the Malay Archipelago.

Part II. of the "Ibis" contains a sketch of the trachea of the male and female Harlequin Duck, drawn by Professor Newton himself to illustrate his article on the subject. Another article in Part IV. of the same volume contains a review of Baedeker's and Brewer's works on eggs, and is evidently attributable to his pen.

Professor Newton took a keen interest in the success of the "Ibis," of which he edited the second series (1865—1870), being succeeded by Mr. Salvin. The reviews and criticisms which appeared in the second series were fine examples of what criticism should be, and as a reviewer he stood unsurpassed.

In 1864 he wrote the "Aves" portion of the "Zoological Record," and continued the work till 1869. More scope was allowed in those days for critical remarks on the various memoirs recorded, and here again Professor Newton was able to do much admirable work.

In 1866 he was appointed Professor of Zoology and Comparative Anatomy in the University of Cambridge, and held the post for forty-one years. All this time his influence on the study of zoology was very great, and numbers of ornithologists were helped and guided

by him as to the particular line of study they should pursue.

He was one of the best type of English gentlemen, dignified in his manner and in his correspondence, but withal possessed of a kind and generous nature, which showed itself to young and old, whenever the opportunity occurred to do any one a good turn; as, for instance, when he heard that I was writing the "History of the Collection of Birds in the British Museum," he most generously offered to lend me his copy of the Sale-Catalogue of Bullock's collection, of which only two copies are known; and the loan of this priceless and important volume greatly enhanced the value of my labours.

In his earlier years Newton travelled considerably, visiting Iceland, Lapland, North America, and also the West India Islands. The account written by him and his brother Edward on the birds of St. Croix is one of the most interesting contributions to our knowledge of the ornithology of the Antilles. Although disabled by an accident in early life, which made him permanently lame, he managed to do a considerable amount of field-work, and his notes on the habits of birds were always interesting.

His early work lay chiefly among the Birds of the Palearctic Region, and he wrote lists of the Birds of Iceland and Greenland, while his great book "Ootheca Wolleyana" contains an annotated catalogue of the collection of eggs bequeathed to him by his friend John Wolley, one of the most celebrated oologists the world has ever known. Professor Newton edited Vols. I. and II. of the fourth edition of "Yarrell's British Birds." He also wrote the articles on Birds for the ninth edition of the "Encyclopædia Britannica," and re-edited these in a comprehensive "Dictionary of Birds," which will always be one of the standard works on ornithology.

As a critic he was always just, but could be severe when the occasion arose. Those who crossed swords with him soon realised the fact, and he usually had the last word.

On the only occasion that I entered into a controversy with him—the question of the nomenclature of European Owls—we each said our say, and left the issue to ornithologists to decide in the future. When I told him that I was sorry to have felt obliged to differ from him, he laughed and said, “Well, I think we can say that we have conducted our controversy like gentlemen.”

There is one aspect of Professor Newton's career which has not been alluded to in any of the biographical notices of his life which have come under my notice, and that was his intense feeling and admiration for the work of Gilbert White. My own edition of the “Natural History of Selborne” he described as being issued in style “most garish,” but his criticism did not annoy me, as there were many truisms in it, and we discussed the points at issue ever after in a friendly way. He knew the history of Gilbert White and his times better than any man of his generation, and his memoir of the Selborne naturalist in the “Dictionary of National Biography” is as much a masterpiece as his essay on Ornithology in the “Dictionary of Birds.”

Those naturalists who visited Cambridge at the time of the 1905 Congress will remember the exhibition of rare books which Professor Newton exhibited from his library.

Many valuable works were lent by him not to be seen in other collections of ornithological works. It is interesting, therefore, to know that he has bequeathed to the University of Cambridge his collections and library, including all his copyrights, books, pictures, papers, etc., relating to natural history (subject only to a condition regarding legacy duty), and one thousand pounds for “the keeping up and adding to the said library.” The University will thus possess one of the most important ornithological libraries in the world.

Many of my readers can recall the visit of the Ornithological Congress to Cambridge in 1905, when we assembled in the great hall of Magdalene College and paid a tribute of respect to Professor Newton. We all remember his

kind reception of the members, and the speeches which were made by Dr. Fatio and Dr. Oustalet, both past-Presidents of Ornithological Congresses, Dr. Reichenow, the President-elect, and Mr. Frank Chapman. Two of these celebrated ornithologists passed away in 1905, and now they have been followed by the genial host, whose praises they sung in such feeling and graceful language. There was not one of us who did not esteem it a privilege to do honour to Professor Newton on the occasion of the visit of the Congress to Cambridge, and we sorrow now, knowing that we shall see his face no more.

R. BOWDLER SHARPE.

[Some of the readers of BRITISH BIRDS having expressed a wish for a portrait of Professor Newton suitable for framing, such a portrait has been prepared. All particulars will be found on page 3 of the cover of this issue.]

A STUDY OF THE HOME LIFE OF THE OSPREY.

BY

P. H. BAHR, B.A., M.B.O.U.

PART II.

(Continued from page 22.)

By means of an umbrella enveloped in green cloth, my companion, Mr. C. G. Abbott, was enabled to study the home life of this noble bird at a distance of some twelve feet. It took, however, two of us to deceive completely the anxious parent. One would fasten the other into the structure we politely termed a tent, and then walk ostentatiously away. Having once discovered that danger lurked inside the tent, the bird would refuse to return for the rest of the day, and it was useless to persevere.

A much more rapid and certain way of obtaining photographs was to lie partly concealed and watch, at a short range, through field glasses. Then, so familiar were they with the sight of man, that the Ospreys would return to their nests when we were hardly a hundred yards away. When the heat on the beach became unbearable we would retire into the sea, and from that cool resort were enabled to pull the string attached to the camera, and so take many of our best photographs.

Often would we observe the old bird, also evidently overcome by the heat, flap out to sea and dangle her legs and tail, and sometimes the tips of her wings, in the water, then, returning, she would spread this cool and grateful shade over her young. We could not, however, obtain any trustworthy evidence that water was "sprinkled" over the young.

On our approach to the nest the birds would evince great nervousness and would ascend and hover high over our heads, uttering a note like "killy, killy, killy," at the same time flapping their wings and dangling their legs in characteristic fashion. On no occasion were they at all

ferocious and when they did swoop it was a very feeble pretence, in contradistinction to what has been elsewhere written.*

Some of the notes uttered struck us as being infantile for so large a bird, and reminded us strongly of a lost chicken calling for the brood-hen. When angered, however, the bird gives vent to a penetrating shriek sounding like "kee-kee-kee-kee-ich-ich-ich" the last part of which is uttered as if a bone were being coughed out of the throat. Again, when carrying a fish they would call, very appropriately, "fish, fish, fish."

Never during our stay of one week did we see an old bird offer to feed its young. Hour by hour they would stand on the edge of the nest with their prey in their



FIG. 4.—Female Osprey, calling, with crest raised.

(Photograph by P. H. BAHR.)

talons contemplating their "perspiring" offspring or gazing lazily out to sea, every now and again raising their crest, and giving vent to a shriek as a neighbour passed (*vide* Fig. 4).

* *Vide* Newton, "Diet. Birds," p. 662, and Nuttall, "Birds of United States," New edit., 1903, p. 30.

On the other hand, the young, in many cases fully fledged, did not appear to crave for their meal, but would stand with ruffled plumage and with drooping bill, often with their heads overhanging the nest, as if overcome by the heat. Totally unlike those on an islet in some Highland loch, of which we read as eagerly scanning the horizon for the advent of their meal.

Indeed, the most lethargic of creatures they appeared, save when we approached close or tried to handle them. Then they would assume the most absurd attitudes, such as one would hardly credit. They would be transformed into regular spit-fires, with every feather standing on end, their wings and tail raised and head lowered, and in every other possible ridiculous attitude. In spite of this show when we did lift them out of the nest they offered no resistance, nor did they attempt to peck, but merely scratched our hands in their frantic endeavours to obtain a foothold.

In many instances the young appeared to rely on their undoubted protective coloration for concealment, surely a rare trait amongst the *Raptors*. The fact remains that when lying spread out on their nest, they were very difficult to distinguish from their surroundings. The two shown squatting in Fig. 5 were a marked instance of this. They had evidently fallen out of their tree-nest when comparatively young, and judging from the amount of sticks and seaweed round them it seemed as if the old birds had attempted to build a new nest for them on the ground, indisputable is it that the structure bore a resemblance to a nest.

We never heard the young utter any other but a hissing sound. There were generally three young in each nest, in some there were two, in no case did we see four. Though hatched in this locality early in June, and apparently fully fledged by the middle of July, we were assured that they seldom flew before the first week in August, and as confirmatory of this fact we saw many young with fully formed wings yet incapable of flight.

Of the eggs we saw but little. I remember finding three beautifully marked specimens, two in one tree-nest, which, by the way, though situated high among comparatively slender branches, was so firmly constructed that I was able

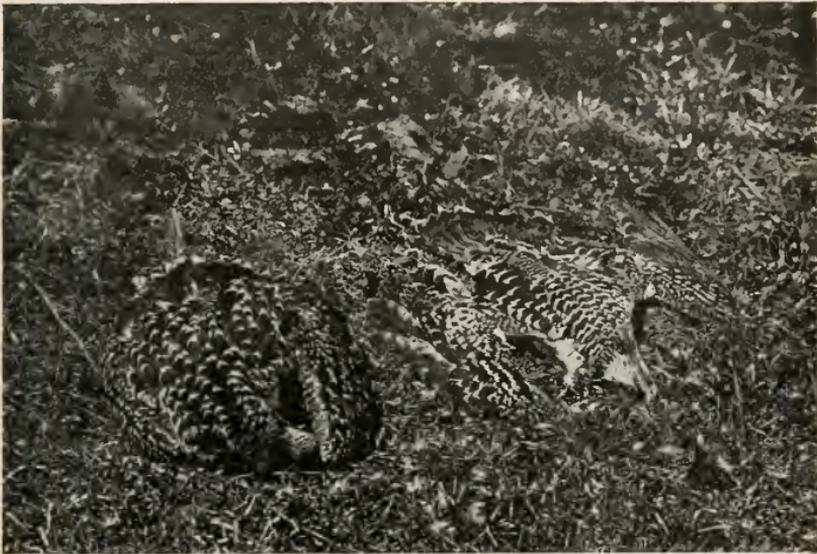


FIG. 5.—Young Ospreys, in characteristic attitudes, making full use of their protective coloration. (Photograph by P. H. BAHR.)

to sit in it. Of these eggs I shall ever bear a lasting remembrance, for long exposure to the hot rays of the sun had rendered them somewhat "high," a fact which was emphasized when one exploded in my hand, and the contents were discharged all over my face. The New World eggs have a peculiar rancid, almost Fulmar-like odour, a fact pointed out to me by Professor Newton, and thus may be distinguished from those taken in Europe.

In addition to the Osprey on this island there were many other species replete with interest, which do not come under the category of British birds.

In conclusion I must, as ever, express my great indebtedness to my friend and companion, C. G. Abbott, well known in New York ornithological circles, of whose notes, a model of their kind, I have made full use.

THE BRITISH WILLOW TIT (*PARUS ATRICAPILLUS KLEINSCHMIDTI* HELLM.).

BY

THE HON. WALTER ROTHSCHILD, PH.D.

IN the first number of this Magazine (see page 23), Dr. Selater asks for information about the British Willow Tit, which he calls a SUPPOSED new British Tit.

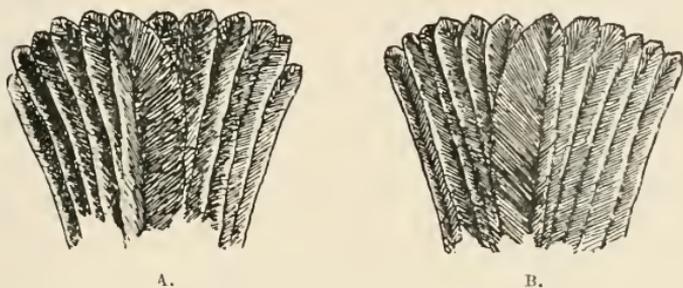
Like all the wider spread species of *Parus*, the Willow Tit varies a good deal geographically, and those ornithologists who want a complete review of these various local races or, as we prefer to call them, subspecies, should consult Dr. Hartert's "Vögel der paläarktischen Fauna."

Taking the species as a whole we find that the first name applied to a European form was *montanus*, by Baldenstein, who called the Alpine form of this Tit *Parus cinereus montanus*, in 1827, his type coming from the Grisons. In 1831, Pastor Brehm called another form *Parus salicarius*, his type coming from Renthendorf. Lastly, in 1843, Baron de Selys-Longchamps applied to a Willow Tit the name *Parus borealis*, founding the name on specimens from Norway.

The first name given to the American forms was *Parus atricapillus*, given by Linnæus to Brisson's "Mésange à tête noire de Canada." The American group of forms of the Willow Tit differs from the European group principally by the much greater lateral extension of the black throat-patch.

These American forms all agree with the European ones so closely in the structure of the feathers on the crown and the graduation of the tail, and the other characters which separate the Willow Tits from the Marsh Tits, that it is evident they form a single Holarctic species, having numerous local subspecies.

The principal differences between the Willow Tits and the Marsh Tits are, *firstly*, that the feathers of the crown and forehead are in the former longer and more loosely constructed, while in the latter they are shorter and more compact. The edges of these feathers in the Marsh Tit are glossy-black, thus causing the whole crown to be glossy and much blacker than that of the Willow Tit, which is of a dull brownish-black or sooty-black; *secondly*, in the Marsh Tits the tail is almost square, while the Willow Tits have it distinctly graduated. Lastly also the notes of the birds are said to be different.



Tails of (A) British Willow Tit; (B) British Marsh Tit.

The first discovery of the Willow Tit as a British bird was made by Pastor Kleinschmidt and Dr. Hartert in 1897, when they found, mixed up with the skins of *Parus palustris dresseri* in the British Museum, two skins from Hampstead which were undoubtedly Willow Tits.

The Tring Museum received two specimens in the same year, killed in Coalfall Wood, near Finchley, the well-known suburb of London. One of these specimens is the type of Hellmayr's *Parus atricapillus kleinschmidti*, which is distinguishable from *P. a. borealis*—the Continental form—by its much darker coloration and considerably smaller size.

Since then a fair number of Willow Tits have been obtained in Great Britain, though the bird is evidently a rare form in our islands.

The eggs appear to differ from those of the Marsh Tit by the larger and paler brick-red spots at the larger end,

but careful records have still to be made to confirm this, for egg collectors in this, as in most other cases, have been keen to get fine and abnormally coloured eggs rather than to enquire closely into their parentage.

Since the occurrence of Willow Tits in Great Britain was first recorded by Kleinschmidt, a great deal of controversy has taken place on the subject. Most of our older ornithologists have failed, or rather refused, to see the differences between the English Marsh and Willow Tits, and again, in this instance, the old proverb, "None so blind as those that will not see," has abundantly justified itself.

There are, however, also a few of our ornithologists who, while seeing and appreciating the differences, stoutly maintain that the Willow Tit is only the young in the first year of the Marsh Tit. This is at once confuted by the fact that several nests and a number of fully adult parent birds of the Willow Tit have been taken in England.

To me the strangest and most deplorable fact connected with the history of the Willow Tit in this country is that nearly, if not all, those who absolutely deny the existence of this bird in England maintain the distinction as good species on the Continent of *Parus palustris* and *Parus borealis*, and in North America of *Parus atricapillus* and *Parus sclateri*.

Anyone who, without preconceived ideas, examines a series of specimens of the forms of *Parus palustris* and those of *P. atricapillus* side by side, cannot fail to detect the differences I have before mentioned. And finally, regarding the question whether these differences are of specific value, I can only say that modern systematists have decided that no two races or subspecies of the same species of bird can live side by side; they must either inhabit different geographical areas or be found at different vertical heights, *i.e.*, one inhabiting the mountains and the other the plains of one given district.

Taking this for an axiom, the Willow Tits, which occur

side by side with the Marsh Tits throughout almost their whole area of distribution, can only be one of two things, either casual aberrations or good species. The fact that Willow Tits have been collected in numbers and that all those from any one district have been found to be similar, shows conclusively that they are not casual aberrations, and therefore they must form a distinct species, as opposed to the Marsh Tits.

The British form of the Marsh Tit is *Parus palustris dresseri*, and the British Willow Tit, of which I have before me at Tring fourteen specimens from the following places: 2 from Coalfall Wood, Finchley (1 the type of the subspecies), 5 from St. Leonards, 4 from Hastings, 1 from Chersley, Bucks, 1 from Thornhaugh Rectory, Northamptonshire, and 1 from Tunbridge Wells, must bear the name of *Parus atricapillus kleinschmidti*.

[It will be seen from Mr. Rothschild's remarks that very little indeed is known of the British Willow Tit. Information is sorely needed about its distribution, its numbers, and its habits. We appeal to the readers of our Magazine to help in working out these details, and thus establish the status of this bird in this country. It is only of late years that the differences in habits and notes of the Marsh and Reed Warblers, which are so very much alike in form and colouring, have become more generally known, and, as a consequence, additions have been made to the knowledge of the distribution of the Marsh Warbler. Similarly, it may be found, as is already suspected, that the habits and notes of the British Willow Tit differ from those of the British Marsh Tit. To obtain this knowledge specimens must be collected of those birds which appear to differ in their notes or habits, and as it is impossible to identify the birds satisfactorily without a comparison, the Editors will be only too pleased to have authoritatively identified any specimens which are sent to them. Any observations on the subject will also be welcomed.—EDS.]

NESTING HABITS OBSERVED ABROAD OF SOME RARE BRITISH BIRDS.

BY

F. C. SELOUS.

PART II.

(Continued from page 27.)

ISABELLINE WHEATEAR. *Saxicola isabellina* Rüppell.

DURING my visit to Asia Minor in the spring of 1899 I saw several pairs of these birds on the level plain near the Lake of Sakizbounou, and found one nest with young birds about a week old on May 13th. Two years later, in the spring of 1901, I found the Isabelline Wheatear quite a common species on the plain through which the Meander River runs, below the town of Sochia.

On May 16th of that year I found, by watching the birds, two nests, one containing four very hard-set eggs, besides an addled one, and the other three young birds a few days old and two addled eggs. All three nests were placed in the burrows of a small rodent, the entrances to which were on the level ground. The nests were in each case a considerable distance from the mouth of the burrow—from four to five feet. The addled eggs which I obtained are of a very pale blue colour, some shades lighter than those of the common Wheatear (*Saxicola œnanthe*), they are also considerably larger than the eggs of that species.

BLUE-HEADED WAGTAIL. *Motacilla flava*.

In the spring of 1899 I took six nests of this species at a place called Szunyog, near Budapest.

They were all placed in tussocks of grass, growing out of the water, in what might be described as a flooded meadow. A colony of Black Terns had built their floating

nests on the same piece of flooded ground, though more in the centre of it, where the water was deeper. But I had to walk some distance through water at least a foot in depth to get to all six of the Wagtails' nests.

As I believe that when the Blue-headed Wagtail nests in England it builds its nest on dry ground, as does the Yellow Wagtail in the part of Surrey where I am now living, I have thought that this note of the breeding habits of this species in Central Hungary might be of interest.

Of the six nests which I took, five contained six, and one five eggs. These eggs vary in colour from grey to brown, but on the whole closely resemble those of our Yellow Wagtail. The first nest was taken on May 25th, the last on June 1st, and the eggs in all were quite fresh.

When in the south of Spain in the spring of 1900, I took, on April 22nd, two nests, each containing five fresh eggs, of a Wagtail which I thought belonged to the same species as those of which I had found the nests in Hungary the preceding year. But according to the Rev. Francis C. R. Jourdain, the form of Yellow Wagtail which breeds in Southern Spain is not the Blue, but the Grey-headed Wagtail (*Motacilla flava cinereicapilla* Savi). The two nests which I took near the Lucia Real were both built at the foot of small bushes on quite dry ground, at some distance from water.

NUTCRACKER. *Nucifraga caryocatactes* (L).

On paying a visit, in April, 1899, to my friend, Mr. C. G. Danford, who was then living in Transylvania, near the foot of the Southern Carpathians, he showed me the nest, containing three eggs, of the Nutcracker which is now exhibited in the bird gallery of the Natural History Museum at South Kensington. He had brought it down from the mountains a few days previously. Mr. Danford and I then went up into the mountains and searched for more Nutcrackers' nests, but without success, as, although the birds were numerous, the forests in which they breed are of enormous extent.

Last year, accompanied by Mr. J. C. Musters, I paid a visit to Bosnia. With the kind assistance of Herr Otmar Reiser, the well-known ornithologist and curator of the Museum at Sarajevo, we searched for Nutcrackers' nests in the mountains near that town. It was an unfavourable season, as during March the weather had been very cold, and a great deal of snow had fallen in the mountains. This seemed to have very much interfered with the building operations of the Nutcrackers.

A Bosnian peasant first showed us a nest, which was not yet ready for eggs, on April 8th. When we first visited this nest the Nutcrackers were busy lining it. They were excessively tame, and both birds kept continually flying to and from the nest with moss and other materials required for the lining, without showing any sign of fear, although we sat watching them for a long time at a distance of less than twenty yards. Subsequently two eggs were laid in this nest, and the hen bird then commenced to sit.

Herr Reiser, however, who has had a greater personal experience of the nesting habits of the Nutcrackers than any other European ornithologist, tells me that it is most exceptional for this bird to sit on two eggs. The usual clutch is three or four, the latter number being less usual than the former.

During the next four days, assisted by several Bosnian peasants, we hunted hard for fresh nests; but although we were shown at least a dozen from which Herr Reiser or one or other of the peasants had taken the eggs during the three previous seasons, we only found one nest ourselves. This nest was placed close against the stem of a small spruce tree, about a foot in diameter, and about twenty feet from the ground. When we found it the bird was on the nest, and did not fly off till I commenced to climb the tree. There were only two eggs in the nest, and as I could see that they were fresh, I left them. Two days later we again visited the nest, and found the bird again on. There were still only two eggs in it, but we

found a third lying broken at the foot of the tree. How it came there I cannot say.

Judging from my limited experience the nest of this bird is not placed either in large trees or far from the ground. Two nests were placed in very small trees, and were certainly not more than ten feet from the ground. The usual height seemed to be from twenty to thirty feet. None of the nests we saw were in dense forest, but usually near the edge of clearings, amongst trees not growing thickly together.

(To be continued.)

ON THE MORE IMPORTANT ADDITIONS TO OUR
KNOWLEDGE OF BRITISH BIRDS SINCE 1899.

BY

H. F. WITHERBY AND N. F. TICEHURST.

IN the first number of this Magazine Mr. Howard Saunders gave the history of those birds which have been added to the British List since the publication in 1899 of his well-known "Illustrated Manual of British Birds."

In the present contribution we propose to deal with the further occurrences, since that date, of those species which are reckoned among our rarer visitants, and also to detail certain other important facts which have been added to the knowledge of our native avifauna during this same period. More especially we shall refer to the all-important question of the extension or restriction of range.

We have omitted all mention of the descriptions of subspecies, because Dr. Ernst Hartert has promised to contribute to this magazine an article dealing with this subject. Those records which affect the distribution of our birds outside this country have likewise been omitted as being outside the scope of a Magazine article.

During these eight years much valuable work has been done by Messrs. W. Eagle Clarke and J. A. Harvie-Brown, and others under their direction, to add to the knowledge of the birds of Scotland; while equally remarkable have been the numerous occurrences recorded from the south-east of England of birds which rarely visit this country.

Most of the rarer visitors have been exhibited at meetings of the British Ornithologists' Club, and have been duly recorded in the Bulletin of the club.

Amongst the works which have been published the following, as adding to our knowledge of the subject, may be mentioned:—"The Birds of Ireland," by R. J. Ussher and R. Warren; "The Birds of Surrey," by J. A. Bucknill;

“The Birds of Cheshire,” by T. A. Coward and C. Oldham ; “A Fauna of the N.W. Highlands and Skye,” by J. A. Harvie-Brown and H. A. Macpherson ; “The Birds of Hampshire and the Isle of Wight,” by J. E. Kelsall and P. W. Munn ; “The Birds of the Isle of Man,” by P. Ralfe ; “A Fauna of the Tay Basin and Strathmore,” by J. A. Harvie-Brown. Mention should also be made of Mr. W. Eagle Clarke’s reports for the British Association on the migrations of the Song Thrush, Fieldfare, White Wagtail, Swallow, Starling, Rook, Skylark and Lapwing, and the same author’s migration essays contributed to the “Ibis” ; while attention must be called to the two reports on the spring immigrations of summer residents prepared by the Migration Committee of the British Ornithologists’ Club.

We have also to express our indebtedness to Mr. R. J. Ussher, who has very kindly sent us some notes on the changes in the status of some birds in Ireland since the publication of his and Mr. Warren’s book.

In the following list references to the second edition of Mr. Saunders’ “Manual” have been abbreviated thus :—“S. page —” ; and in all cases the records in this list should be read in conjunction with Mr. Saunders’ work, which we have regarded as the standard one on the subject.

MISTLE THRUSH *Turdus viscivorus* (L). S. page 1.

OUTER HEBRIDES, *Stornoway*.—Breeding in 1906 and possibly since 1902. Previously unknown in the Outer Hebrides (J. A. Harvie-Brown, *Ann Scot. Nat. Hist.*, 1902, p. 138, and N. B. Kinnear, 1907, p. 17).

IRELAND.—Is probably still increasing (R. J. Ussher, *in litt.*).

REDWING *Turdus iliacus* (L). S. page 5.

Supposed hybrid between *T. iliacus* and *T. pilaris* described (Prof. Collett, *Ibis*, 1898, 317).

WHITE’S THRUSH *Turdus varius* Pallas. S. page 11.

YORKSHIRE.—One shot at Luddenden Dean, near Halifax, on December 18th, 1902. Fourth record for Yorkshire. (*Naturalist*, 1903, p. 68.)

BLACKBIRD *Turdus merula* L. S. page 13.

Hybrid with *T. pilaris* described by Prof. Collett (*Christiania Vid. Selsk. For.*, 1905, No. 11).

IRELAND.—Breeds now in extreme western districts as Valentia Island, the Aran Islands, the Mullet, Co. Mayo. It was first observed breeding in the latter by Mr. Richards in 1890, and now it is common in summer there (R. J. Ussher, *in litt.*).

RING OUZEL *Turdus torquatus* (L). S. page 15.

Recorded as nesting near Osborne, Isle of Wight, in 1906, but insufficient particulars given (A. M. C. Nicholl, R.N.College, *Field*, 23rd June, 1906).

DESERT WHEATEAR *Saxicola deserti* Rüpp. S. page 25.

PENTLAND SKERRIES (Lighthouse).—Male adult captured June 2nd, 1906 (W. Eagle Clarke, *Ann. Scot. Nat. Hist.*, 1906, p. 138).

This is the third record of the occurrence of this species in Scotland, and the fourth in the British Isles.

WHINCHAT *Pratincola rubetra* (L). S. page 27.

FAIR ISLE (SHETLAND).—Double passage in fair numbers (W. E. Clarke, *t.c.*, 1907, p. 75).

SHETLAND.—An adult male occurred during a remarkable visitation of birds in the latter half of April, 1898 (W. E. Clarke and T. Henderson, junr., *t.c.*, 1898, p. 178).

The Whinchat has been very rarely found in the Shetlands.

REDSTART *Ruticilla phœnicurus* (L) S. page 31.

SHETLAND.—A pair found building at Spiggie, May 10th, 1901 (C. A. Sturrock, *t.c.*, 1901, p. 194).

OUTER HEBRIDES. —Two observed on October 6th, 1903, and one on September 21st, 1906, at the Skerryvore Lighthouse (J. Tomison, *t.c.*, 1907, p. 20).

In the Shetlands the Redstart is mainly an autumn visitor, while in the Hebrides it had not been previously recorded.

BLACK REDSTART *Ruticilla titys* (Scop.). S. page 33

SCOTLAND —*Solway* area—One November 17th, 1899. *Aberdeen*, one March 20th, 1900 (*t.c.*, 1900, pp. 47 and 121). *Moray*—One October 30th, 1903 (*t.c.*, 1904, p. 55). *Flannan Isles*—A female adult obtained on June 27th, 1905, was forwarded to W. E. Clarke in the flesh, and other examples occurred on November 3rd, 7th and 8th, 1905 (*t.c.*, 1905, p. 244, and 1906, p. 142). *Orkney*—An adult male was picked up dead on November 19th, 1905, and on the same date one was seen near *Glasgow* (*t.c.*, 1906, pp. 51 and 143).

The Black Redstart rarely occurs in Scotland, and its occurrence as far north as the Orkneys was previously uncertain, while the end of June is a remarkable date for this bird to occur anywhere in the British Isles, and especially so far north as the Flannan Isles.

BLUETHROAT *Cyanecula suecica*. S. page 35.

NORFOLK.—The Bluethroat may now be regarded as an annual visitor to the coast of Norfolk on the autumn migration *vide* J. H. Gurney in *Zoologist*, 1900, p. 398; 1901, p. 122; 1902, p. 81; 1903, p. 133; 1904, p. 203; 1905, p. 96; 1906, p. 134; 1907, p. 122, and for an occurrence on May 16th, 1906, *t.c.*, 1907, p. 128.

LINCOLNSHIRE.—In 1899 (*t.c.*, 1900, p. 203), and 1903 (*t.c.*, 1904, p. 291).

SUSSEX.—In 1903 (*t.c.*, 1903, pp. 389, 421).

SURREY.—In 1904 (*t.c.*, 1904, p. 262).

YORKSHIRE.—1903 (*t.c.*, 1904, p. 212).

FAIR ISLE (SHETLANDS).—A young male was shot by Mr. N. B. Kinnear on September 25th, 1905, and about a dozen young and adult were observed during September, 1906 (W. E. Clarke, *t.c.*, 1906, pp. 21 and 237; and 1907, p. 75).

SHETLANDS, *Unst*.—One reported to have been seen on September 25th, and two on September 26th, 1906 (T. E. Saxby, *t.c.*, 1907, p. 50).

Only five Bluethroats have been previously recorded as visiting Scotland.

NIGHTINGALE *Daulias luscinia* (L.) S. page 39.

YORKSHIRE, *Knaresborough*.—A pair reported as having "taken up their abode on the banks of the Nidd" in 1902 (R. Fortune, *Naturalist*, 1902, p. 192). *Selby*.—Nest and eggs found and photographed by W. S. Forrest in the spring of 1904 (*t.c.*, 1905, p. 353).

The Nightingale has very rarely nested as far north as Yorkshire.

PLUMAGE.—A specimen in moult with the tail and wing feathers lately renewed was found dead in Sussex on April 8th, 1899 (M. J. Nicoll, *Bull. B.O.C.*, XIII., p. 14).

WHITETHROAT *Sylvia cinerea* Bechst. S. page 41.

FAIR ISLE (SHETLANDS).—A bird of double passage (W. E. Clarke, *Ann. Nat. Scot. Hist.*, 1907, p. 73).

Mr. H. Saunders says "its appearance in the Shetlands is exceptional."

LESSER WHITETHROAT *Sylvia curruca* (L.) S. page 43.

ROSS-SHIRE.—A clutch of eggs taken in 1896 at Inverbroom was identified as belonging to this species (L. W. Hinxman and W. E. Clarke, *t.c.*, 1903, p. 71).

OUTER HEBRIDES, *Flannan Islands*.—One shot, September 23rd, 1904 (W. E. Clarke, *t.c.*, 1905, p. 15).

FAIR ISLE (SHETLANDS).—Frequent, as a bird of double passage, in 1906 (W. E. Clarke, *t.c.*, 1907, p. 73).

NORTHUMBERLAND.—Nesting at Chipchase in 1899 and 1900 (Abel Chapman, *Bird Life of the Borders*, 2nd ed., p. 145)

The Lesser Whitethroat is a very rare bird in the northern counties of Scotland, and has never been recorded before as breeding so far north as Ross, nor has it before been recorded as nesting in Northumberland.

ORPHEAN WARBLER *Sylvia orphea* Temm. S. page 45.

SUSSEX.—A female was shot near St. Leonards-on-Sea on October 7th, 1903 (W. R. Butterfield, *Bull. B.O.C.*, XIV., p. 16). An immature male was picked up dead under telegraph wires near St. Leonards on September 16th, 1905 (C. B. Ticehurst, *t.c.*, XVI., 35).

These are the third and fourth records of the occurrence of this species in the British Isles.

GARDEN WARBLER *Sylvia hortensis* Bechst. S. page 49.

OUTER HEBRIDES, *Flannan Islands*.—One seen September 16th, 1904 (W. E. Clarke, *Ann. Scot. Nat. Hist.*, 1905, p. 15.)

FAIR ISLE (SHETLANDS).—Small numbers during September, 1905 (W. E. Clarke, *t.c.*, 1906, p. 20).

The Garden Warbler is a very rare visitor to the Outer Hebrides and Shetlands.

BARRED WARBLER *Sylvia nisoria* (Bechst.). S. page 51.

KENT.—Two males obtained at Woodchurch on April 24th, 1907. These are the first recorded for Kent, and they are also the first occurrences of this bird in spring, previous examples having been obtained in the autumn (N. F. Ticehurst, *Bull. B.O.C.*, XIX., p. 89).

NORFOLK.—One identified by Pashley on September 13th, 1902 (J. H. Gurney, *Zoologist*, 1903, p. 133).

LANCASHIRE.—One shot near Fleetwood on August 20th, 1898 (W. R. Butterfield, *Naturalist*, 1899, p. 75).

LINCOLNSHIRE.—A young female was shot at North Cotes on October 17th, 1899 (G. H. C. Haigh, *Knowledge*, 1899, p. 278); another young female was shot in the same district on September 20th, 1902 (G. H. C. Haigh, *Zoologist*, 1903, p. 363), and a third example occurred in the same place on September 4th, 1905 (*t.c.*, 1906, p. 133).

OUTER HEBRIDES.—A young bird was shot on Barra on October 29th, 1900 (W. L. MacGillivray, *Ann. Scot. Nat. Hist.*, 1901, p. 114).

Twenty-four occurrences in the British Islands of this species have now been recorded.

(To be continued.)

NOTES

SOCIABLE PLOVER IN KENT.

ON May 3rd, 1907, a specimen of the Sociable Plover (*Vanellus gregarius* (Pallas)) was shot in Romney Marsh, Kent, by a shepherd who gave it to a farmer; the latter sent it to Mr. Bristow, taxidermist, of St. Leonards, for preservation, and in his shop I examined it in the flesh. The bird, a female, was one of a flock of six, and is a young bird in its first breeding plumage. This, the third example obtained in the British Islands, was exhibited by me at the British Ornithologists' Club (*vide* Bull. B.O.C., Vol. XIX., page 85).

The first British example was shot in Lancashire about 1860, and the second in Co. Meath, Ireland, on August 1st, 1899.

Besides these examples this species has only been recorded about half-a-dozen times from South-western Europe, and not at all from Heligoland or North-western Europe.

The home of this species is in the Steppes of the Crimea and the region between the Don, the Volga and Caucasus, the Caspian region and Turkestan. In autumn it migrates to the uplands of Sind and plains of India; while Ceylon, Arabia, Egypt, Nubia, and Abyssinia are also visited in the cold season.

C. B. TICEHURST.

SUPPOSED SERIN FINCHES IN SUSSEX.

My friend, Captain Copp, and I, whilst walking over the downs from Brighton to Lewes, on May 5th, 1907, saw on a piece of fallow, a flock of small birds, consisting of Yellowhammers, Greenfinches and Linnets. Among them were some birds I did not know. Serin Finches had been in my mind when I saw the birds, and on examining, on the following day, three specimens of this bird in the Booth Museum, I came to the conclusion that the birds I had seen were Serins (*Serinus hortulanus*). A subsequent examination of the large series at Cromwell Road confirmed me in this decision. My friend thinks there were

five or six, but personally I think there were rather more. I know I am making rather a startling assertion, but the birds were all fairly close, and two that I observed on the rough road in front of me, were not more than twenty-five yards away. Through my glasses the yellow patch on the rump, the yellow on the forehead and other parts of the head and on the breast, were perfectly distinguishable, as was also the streaky appearance on the back, which was the first thing that drew my attention. I may say that all my life I have studied birds in a wild state both in England and Scotland, and should not make the statement if I were not absolutely convinced of its truth.

HERBERT LANGTON.

[It is always difficult to regard as authentic the identification of a rare visitor seen by an observer who has had no previous knowledge of the bird in question. But there is no great improbability in Mr. Langton's record, since a fair number of examples of this species have been caught from time to time near Brighton. The date is rather late, but the bird has several times been recorded at the end of April, and once as late as May 5th.—EDS.]

MIGRATING BIRDS RETURNING TO THE SAME PLACE.

THERE have been many proofs that individual migrating birds return to the same place year after year, but as every well-proved instance of this habit is of value to the study of migration, it may be well to record the following :—

Among a large flock of Starlings which visits us every year in Cheshire there is a perfectly white bird. I have noticed this bird now for three successive years. It appears at the same time as the flock, and after careful inquiries I cannot find that it is ever seen after the flock has left. If ornithologists all around England would but trap birds and mark them, by a metal ring or otherwise, and advertise their having done so in this Magazine, how much we should be able to learn of their movements which we do not at present know.

VICTOR WILSON.

[The plan of marking birds by an aluminium ring round the leg has often been tried, but never in a really systematic fashion. It would certainly teach us a great deal

that cannot conceivably be learnt in any other way. To place rings on the legs of young birds just before they fledge would not be a great difficulty. We should like other readers' opinions on this matter.—EDS.]

THE SPRING MOULT OF THE ARCTIC TERN

(*Sterna macrura* Naum.).

THE "Scotia" collections (see BRITISH BIRDS, Vol. I., p. 28) include some interesting spring specimens of Arctic Terns. An adult female obtained on March 23rd, 1904, has already assumed full breeding-plumage and shows no signs of moulting. Another (a male) is assuming its summer hood, leaving the head a mixture of black and white feathers. This specimen still retains the dusky upper wing-coverts of youth. In addition to gaining the black head for the first time, it exhibits further evidence of moulting, inasmuch as neither the primaries nor the rectrices are quite fully grown, the first primary being still shorter than the second by about half an inch. I am inclined to think that we have here a bird about twenty-one months old.

The series also includes two immature examples in the plumage known as the *S. portlandica* stage. These have the forehead and crown nearly white, the rest of the head blackish, the lesser wing-coverts conspicuously dark, and the bill and feet black. They are in deep moult as far as their primary-quills and tail-feathers are concerned, but apparently not otherwise. Some of the primaries are only three inches long.

WILLIAM EAGLE CLARKE.

GOLDEN ORIOLE IN SUSSEX.

ON June 5th last a female Golden Oriole (*Oriolus galbula*) was caught and killed by a cat on the Marine Parade, Brighton. Some of the eggs in the ovary were as large as No. 5 shot.

HERBERT LANGTON.

[The Golden Oriole is an annual spring migrant to this country, and has been recorded as nesting on a few occasions in Kent and other counties. Those that visit this country, however, rarely escape the gun of the ignorant "collector" parading as an ornithologist.—EDS.]



REVIEWS

Bird-Life of the Borders. By Abel Chapman, F.Z.S., M.B.O.U.
Map and illustrations. Gurney & Jackson. 14s. net.

THIS is a new and revised edition of perhaps the best known of Mr. Abel Chapman's charming works. The author is essentially an outdoor naturalist, and that he is a keen as well as a cautious and systematic observer this book abundantly testifies. He takes us delightfully through the year over the moorlands dividing England and Scotland, where for many a long year he has studied the habits and movements of the birds. Nor does he lack in experience of the coast, and the second half of the book is devoted to shore and sea birds, and especially to the wildfowl. Drawing on a great store of anecdote, he gives accounts, ever charming to the naturalist-sportsman, of many an eventful day and night with punt and gun on the bleak Northumberland coast. Not only has Mr. Chapman the faculty of describing what he sees (and he sees a great deal) in an enchanting fashion, but, as is evidenced by the capital chapters on migration, he can sum up and set forth most clearly and satisfactorily the main issues hidden in a mass of facts and theories. But we would recommend the book mainly because it is brimful of first-hand observation from the book of Nature which seems to lie wide open to Mr. Chapman's eye. It may be worth while to point out that the "drumming" of the snipe is attributed to the wings (p. 49), whereas Mr. P. H. Bahr has lately demonstrated very clearly that this noise is made by certain feathers in the tail. There is a curious slip on page 87, where the author states that "the plumage acquired by every bird in autumn must serve it for a year," whereas, as Mr. Chapman himself writes in another part of his book, some birds moult also in spring.

BOOKS ON BRITISH BIRDS

Published in June.

Grouse Disease: What it is and How it Spreads, with Suggestions for Stamping out Disease, by the Rev. E. Adrian Woodruffe-Peacock. (Louth: Goulding.) 5s.

Birds and Their Nests and Eggs Found In and Near Great Towns, by George H. Vos, B.A., M.B.(Cantab.). (Routledge.) 1s.

British Birds' Nests; How, Where, and When to Find and Identify Them, by Richard Kearton, F.Z.S. Illustrated. (Cassell.) 21s.

Notes on the Birds of Nottinghamshire, by J. Whitaker. (Nottingham: Wm. Black & Sons.) 12s. 6d.



LETTERS

THE EAR OF THE WOODCOCK.

To the Editors of BRITISH BIRDS.

SIRS,—In the new edition of Naumann's "Naturgeschichte der Vögel Mittel-Europa's," in the introductory article on the anatomy of the *Scolopacinae*, it is stated that the ear is underneath the eye and near the anterior corner of it. The exact words are:—"die Ohröffnung, die bei allen anderen Vögeln hinter den Augen steht, ist hier unter das Auge gestellt und dem vorderen Augenwinkel genähert."—Naumann, Vol. IX., p. 164, new edition.

W. B. NICHOLS.

Stour Lodge,
Bradfield, June 3rd, 1907.

To the Editors of BRITISH BIRDS.

SIRS,—If Mr. Whymper will consult the edition of Nitzsch's "Pterylography," published by the Ray Society in 1867, edited by Dr. Selater, he will find in Plate IX., fig. 10, the external orifice of the ear correctly placed below and in front of the orbit.

P. CHALMERS MITCHELL.

Zoological Society of London,
3, Hanover Square,
June 8th, 1907.

[With regard to Mr. Nichols' letter, we would point out that Naumann's remarks apply to the *Scolopacidae* generally: he merely repeats a statement that has been made by other ornithologists on many occasions. But Naumann evidently fell into the same error as all other writers have done up till now. He assumed that what obtained among the Snipe held good also for the Woodcock which, as has now been shown, is not the case. The quotation, to which Mr. Nichols refers, evidently does not apply to the Woodcock, wherein the aperture of the ear is below the level of, and *in front* of the eye.

Since receiving Dr. Chalmers Mitchell's letter, we have again examined Nitzsch's figure, and agree that it may be described as an approximately accurate figure. Nitzsch,

however, does not seem even to have realized the striking difference between the Snipes and the Woodcock in this particular, or indeed that either presented any noteworthy peculiarities in the position of this aperture; he, at any rate, makes no mention of the fact. It is, of course, quite possible that many ornithologists may have known of this curious feature, but the credit of bringing the matter into general notice belongs to Mr. Whympier.—Eds.]

FOUR BIRDS IN A LONG-TAILED TIT'S NEST.

To the Editors of BRITISH BIRDS.

SIRS,—With reference to Mr. Bonhote's communication on this subject (*supra*, page 32), I beg to draw your attention to the record by Mr. Cervá, who saw on April 17th, 1898, in the Tökölö Forest (Hungary), young Long-tailed Tits being *fed by four old birds*.

Mr. Cervá's conclusion is that most of the large clutches of this species are produced by *two* hens ("Zeitschrift für Oologie," VIII., page 25).

This is in conformity with Mr. R. Kearton's opinion ("British Birds' Nests," page 310).

A. A. VAN PELT LECHNER.

Wageningen, Holland, June 1st, 1907.

BIRDS STRUCK BY LIGHTNING.

To the Editors of BRITISH BIRDS.

AT the beginning of May, 1903, I was in W. Jutland with Mr. R. B. Lodge. A severe thunderstorm took place on May 4th, and caused the temporary disappearance of a large herd of Brent Geese, some three hundred strong, which had haunted the marshes up to that date. The villagers picked up five or six birds which had apparently been killed by lightning, and on the evening of May 6th I found another which had succumbed to the same cause.

F. C. R. JOURDAIN.

"INCUBATION SPOTS."

To the Editors of BRITISH BIRDS.

SIRS,—I should like to have some information detailed as to the incubation spots on the vent of a "sitting" bird.

The breast, or rather the state thereof in the domestic fowl, is some guide at such a time, but the vent spots are new to me.

M. C. H. BIRD.

[The subject of "Incubation Spots" has been much neglected by ornithologists. The most extensive observations known are those of Faber in his work "Ueber das Leben der hochnördischen Vögel," p. 136, where he describes their appearance in several different species under the name of "brood-spots," and endeavours to distinguish between "true" and "false" brood-spots. But much that has hitherto been written on this subject must be discounted; and this because no distinction was made between areas where the feathers had become simply abraded during sitting, and areas actually concerned in the generation of heat for the purposes of incubation.

Only the centre of the abdomen is really concerned in this heat production, which is due to the fact that in this region of the body, during the brooding period, the blood-vessels—veins and arteries—become highly congested. In many birds this area is normally feathered, and in such cases, during the work of incubation, the feathers are removed by the beak. In the ducks, which have besides a thick "under-fur" of down, this down, as is well-known, is used to surround and cover the eggs when the sitting-bird leaves the nest.—Eds.]

BAER'S POCHARD AS A BRITISH BIRD.

To the Editors of BRITISH BIRDS.

SIRS,—In the first number of BRITISH BIRDS, page 14, Mr. Saunders makes certain remarks about the possibility of the record of Baer's Pochard by my brother being more than likely referable to an escaped bird.

In reply to this, I can only say that if Mr. Saunders' information as to the introduction of Baer's Pochard as an ornamental species to Europe is correct, it must have been *since* the record in question, for Dr. Ernst Hartert and I made the most minute inquiries at the time.

We found that the only birds introduced *alive* into Europe had been the *pinioned* birds imported by Mr. Frank Finn, and as these—all but one—were alive in the Zoological Gardens, Regent's Park, at the time my brother's

bird was shot, and had *never* bred, it was practically certain that the Tring bird was a wild one. An additional factor in the case was that, for a week before, the weather was extremely foggy, and a strong easterly gale was blowing throughout the week.

I therefore think it is practically indisputable that the bird was a genuine wild straggler, and an undoubted addition to the British List.

It must be noted also that at the B.O.C. meeting, when my brother exhibited the bird, Mr. Saunders expressed himself absolutely satisfied with the evidence, and undertook to put the species in the new edition of his Manual. His present unqualified statement "that it is well known that this bird has been introduced on ornamental waters," certainly requires further explanation.

WALTER ROTHSCHILD.





REEVE GOING ON TO HER NEST.

(Photographed by Miss E. L. Turner, in Norfolk, on June 18th, 1907.)

BRITISH BIRDS

EDITED BY H. F. WITHERBY, F.Z.S., M.B.O.U.
ASSISTED BY W. P. PYCRAFT, A.L.S., M.B.O.U.

CONTENTS OF NUMBER 3. AUGUST 1, 1907.

The Re-appearance of the Ruff as a Nesting Species in Norfolk, by Miss E. L. Turner, F.L.S.	Page 65
The Supposed Occurrence of the Pacific Eider (<i>Somateria v-nigrum</i>) in British Waters, by F. Smalley	69
Nesting Habits observed abroad of some Rare British Birds, by F. C. Selous (Part III.)— <i>continued from page 51</i>	76
On the More Important Additions to our Knowledge of British Birds since 1899, by H. F. Witherby and N. F. Ticehurst (Part II.)— <i>continued from page 56</i>	81
The Sardinian Warbler in Sussex: a new British Bird, by Thomas Parkin, M.A., F.Z.S., M.B.O.U.	86
Notes:—Breeding of the Blue-headed Wagtail in Wiltshire (G. Dent). Canadian Crane in Ireland (H.F.W.). Nesting of the Avocet and Redshank in the Zoological Gardens (H.F.W.). Incubation Period of the Stone-Curlew (E. G. B. Meade-Waldo). The "Drumming" of the Snipe (H.F.W.). "Four Birds in a Long-tailed Tit's Nest" (Chas. E. Pearson). Migrating Birds Returning to the Same Place (Julian G. Tuck). Meadow-Pipits Nesting in Holes (H. Trevelyan (Major))	89
List of Books	94
Reviews:—The Birds of Kent. History of the Collections contained in the Natural History Departments of the British Museum (Part III., Birds)	95

THE RE-APPEARANCE OF THE RUFF AS A NESTING SPECIES IN NORFOLK.

BY

MISS E. L. TURNER, F.L.S.

EVERYONE who takes an interest in the birds of this country will have the greatest satisfaction in learning that the Ruff, so long lost to Norfolk as a breeding bird, has once more nested in the county.

A few Ruffs and Reeves may be seen about the particular marshes of which I write every spring, and during the last

two years young birds have been shot at the end of the summer, so that, although the nest which I have had the good fortune to photograph this summer is the first which has been recorded since 1889, it is not improbable that others may have existed undiscovered.

My excitement was intense when about two o'clock in the afternoon of June 13th last, a keeper suddenly dropped into my cabin, without announcing himself, and told me he had found a Reeve's nest containing four eggs.

We set off at once with my camera, and in a very short time I was standing about eight feet from the sitting bird. At first I could scarcely see her, as with head low down she crouched in her nest, until she seemed as a part of the surrounding herbage.

We remained motionless some time, the Reeve and myself, while the keeper returned to the cabin for a hand camera. After a while, and before the hand camera arrived, the Reeve suddenly flew away, and then I was able to begin preparations for photographing.

On this first occasion the preparations were rough and hasty, as I was keen to begin my task. First of all the eggs were exchanged with those of a Redshank, so that I might have no compunction in keeping the Reeve off the nest for several hours at a stretch.

The nest, which closely resembled that of a Redshank, was placed in a tussock of rushes in the midst of low swampy ground, near to a dyke, and scarcely fifty yards from a well-used waterway.

A hurdle thatched with reeds was first placed on the ground about five feet from the nest, and on this was heaped some rough litter, and over all was spread an oilskin coat. On this I esconced myself with the camera, and then the keeper covered me up with rough sedge and grass.

On the first day my chance was spoilt owing to a heavy thunderstorm which raged for upwards of an hour just after I had settled into my cover. I dared not move, for the Reeve was never far off, so when she came I dropped

the shutter and took my chance, which resulted in failure, the rain having fogged the lenses.

The next day I failed again—my fingers were too numb to press the ball at the right moment, and my eyes were blurred with long gazing through the criss-cross strands of grass that hid me. Depressed and limp, I crept back to my cabin and awaited the coming of another day.

Success came on the 18th June, when I secured my first picture, and this was followed by two on the next day, and one on the 20th, after which I failed to induce the bird to return while the camera was in front of the nest. I had always much more difficulty in getting the Reeve to face the stereoscopic camera than the ordinary single lens, and throughout she was a difficult subject, for in eight days I only secured four pictures out of six chances.

The bird was seldom far away unless off on the feed, in which case she would return suddenly and run straight on to the nest, always approaching from the one direction. Generally, however, she would run to and fro, or take short flights over the marsh, or I would hear her splashing round me in the swamp, sometimes uttering a low note, resembling the quack of a duck more than anything else. Once she returned accompanied by a Redshank, which perched on my rubbish heap—a favourite “preening” place for all the birds in the neighbourhood—and for half-an-hour whistled and called. The Reeve meanwhile would move her head from side to side and look up at him, as if cheered in her loneliness by his neighbourliness. On one occasion a Snipe ran across the foreground just as I dropped the shutter; a fraction of a second later both Snipe and Reeve were side by side, and so I just missed a unique and doubly-interesting picture.

I did not see a Ruff during my waiting hours, though to-day (July 6th) both a Ruff and a Reeve were seen in the locality of the Reeve's nest.

The eggs of the Reeve closely resembled those of a

Redshank, except that they were smaller and more pointed, the spots also being smaller and more evenly distributed over the egg than are those of the Redshank. The ground colour of this particular clutch was light greyish-green with reddish-brown spots, one egg in particular being much lighter than the other three. Unfortunately the eggs were infertile, and therefore all our solicitous care was expended over them in vain.

One can only hope that, having made a beginning, these interesting birds will return to their old breeding haunts, especially as these marshes are now rigidly protected and every effort is being made to restore the feeding grounds to their old condition.

[We may remind our readers that Mr. T. H. Nelson reported the nesting of the Ruff in Yorkshire in 1901, 1902 and 1903 ("Ibis," 1906, p. 735). We have good reason to believe that yet another Reeve nested in Norfolk this year, and, moreover, hatched off successfully, so that with the blessings of efficient protection we may hope to regain these most interesting birds as nesters.—EDS.]

THE SUPPOSED OCCURRENCE OF THE
PACIFIC EIDER (*SOMATERIA V-NIGRUM*)
IN BRITISH WATERS.

BY

F. SMALLEY.

MANY ornithologists will doubtless remember the announcements which appeared in several papers during the winter of 1904-05 relative to the supposed occurrence of an adult Pacific Eider drake (*Somateria v-nigrum*) in Orkney waters. In the first number of this Magazine (p. 15), Mr. Saunders gives it as his opinion that this bird is only a Common Eider, and I have already expressed the same conviction in conjunction with Mr. J. L. Bonhote in the Bulletin of the British Ornithologists' Club, Vol. XIX., p. 80.

Having made a thorough examination of the specimen in question, I am in a position to prove, beyond doubt, that it is not a Pacific Eider, but merely a Common Eider (*S. mollissima*), showing an abnormal phase of plumage, namely, an indistinct V-shaped mark on the throat. It will be well to give first the history of this bird, and also that of similar specimens which have been obtained since.

In the winter of 1904, Mr. Clarke, the taxidermist of Scarborough, receiving an order to procure an adult Eider drake in the flesh, for Mr. Stubbs, of Oldham, wrote to George Sutherland, of Graemsay, Stromness, Orkney, requesting him to procure a good specimen. Sutherland secured a fine adult drake from one of the flocks passing Graemsay Light, and on reaching home both he and his uncle, Sam Sutherland, noticed a small and indistinct V-mark on the throat, but thought little of it at the time. When the bird reached Mr. Stubbs he at once noticed the V-mark, and noted carefully the colour of the soft parts. Coming to the conclusion that the bird must be a Pacific

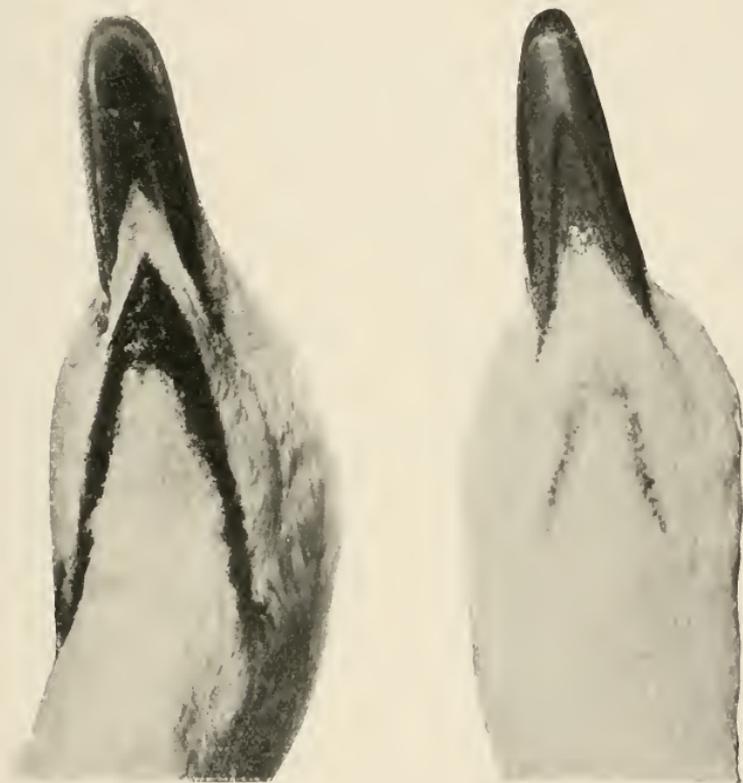
Eider (*S. v-nigrum*), Mr. Stubbs wrote Dr. Bowdler Sharpe to the effect that he had received an example of that species from Orkney, and that he was forwarding the carcass and his notes. Dr. Sharpe in a reply dated 18th December, 1904, wrote: "We think that the Eider is really *S. v-nigrum*, but it would be more satisfactory if you would send me the specimen for examination." In due course the bird was sent up to London and exhibited at a meeting of the B.O. Club, held on January 18th, 1905, and Mr. Stubbs' identification was confirmed.

The matter received much attention at the time, a full page illustration of the bird, from the brush of Mr. Lodge, was given in the "Illustrated London News," at least one other popular journal gave a figure, and the published notes on the subject were very many.

In February, 1905, I journeyed to Orkney, making Stromness my headquarters as usual. I knew both George Sutherland and his uncle, Sam Sutherland, and I questioned them very closely as to the details of the drake which George had shot, and which, at the time, I fully believed, not having seen the bird, to be a true example of *S. v-nigrum*. The bird, so far as the Sutherlands could see, had no great peculiarity about it, except that it was very white, being a fully adult male, and that it had a small V-mark on the throat, a mark very rarely seen, but which Sam Sutherland declared he had seen at least once before.

On December 12th, 1905, my friend Mr. Robinson received an Eider drake, which showed an indistinct V-mark under the chin. This bird was shot by Sam Sutherland off Graemsay, Orkney, on December 7th, 1905. Naturally Mr. Robinson and I thought this bird might be a Pacific Eider, but to make quite certain it was forwarded to the British Museum. It was carefully examined by Dr. Sharpe and Mr. Saunders, and the latter wrote me: "Dr. Sharpe and I devoted Friday and Saturday mornings to Eiders, and we make Mr. Robinson's drake a Common Eider."

On March 29th, 1906, I received from Sam Sutherland another adult drake showing a similar V-mark on the chin. In the following May I was in London, and by the kindness of Dr. Hartert, of Tring Museum, Mr. J. L. Bonhote and I examined at our leisure the series of skins of the true *S. v-nigrum* and compared them with the two drakes above mentioned. We all, that is, Dr. Hartert, Mr. Bonhote and myself, came to the conclusion that the birds obtained in Orkney were *S. mollissima*, and not *S. v-nigrum*. No one could possibly confuse the two species when seen side by



A.

B.

A. Chin and Throat of a male Pacific Eider (*S. v-nigrum*); B. Chin and Throat of a male Common Eider (*S. mollissima*) showing an indistinct v-mark.

side, the superior size, orange-coloured beak and legs (which remain orange when dry) and the long, bold, clear-

cut, velvety-black V-mark on the throat of the male *S. v-nigrum* being at once unmistakable.

This finally settled the identity of the two Eiders received by Mr. Robinson and myself, but there still remained the "Oldham bird," which had been pronounced so definitely to be a specimen of the Pacific Eider.

I was unable to see this bird until last January, when I found myself, in company with Mr. Robinson, in the Oldham Museum. As I fully expected, we found this specimen to be identical in every point with ours, and therefore I am now in a position to state that the supposed occurrence of *S. v-nigrum* in British waters is an error. Below are details of the measurements of one of the Orkney birds and a true *S. v-nigrum*, collected for me by C. K. Worthen, Warsaw, Illinois.

COMMON EIDER (*Somateria mollissima*). Drake shot on March 26th, 1906, at Stromness, Orkney, N.B

Age.—Third year, almost fully adult.

Total length	24.5 inch.
Wing	11.5 "
Culmen	2.08 "
Tarsus	1.8 "
Length from tip of beak to apex of frontal angle	2.88 "
Width of frontal angle.	.4 "

V-MARK.

Length from apex to base	1.6 "
Length of base8 "
Thickness of V18 "

S. V-NIGRUM. Adult Male in full breeding plumage, shot on June 3rd, 1905, in Frankliu's Bay, North-West Territory.

Age.—Four years or over, being fully adult.

Total length	30.3 inch.
Wing	11.3 "
Culmen	2.0 "
Tarsus	1.95 "
Length from tip of beak to apex of frontal angle	2.5 "
Width of frontal angle.	.3 "

V-MARK.

Length from apex to base	3.3 "
Length of base	1.8 "
Thickness of V35 to .4

The following points of difference between the males of *S. v-nigrum* and *S. mollissima* should be carefully noted:—

SIZE.—*S. v-nigrum* is much larger, a bigger and heavier duck in every way.

BEAK.—In *S. v-nigrum* the colour is deep orange, which is retained many years after death, and probably permanently.

FRONTAL PROCESSES.—The lateral and forward extensions of the frontal feathers in *S. v-nigrum* do not reach the posterior end of the nostrils, and have rounded instead of acute terminations. The extension of feathers on the chin extends beyond that on the sides of the bill, the reverse being the case in *S. mollissima*.

THE V-MARK.—In *S. v-nigrum* it is bold, with sharply cut edges; is 3·3 inches from apex to base, and ·35 to ·4 inch in thickness, and is of the same velvety black shade as the feathers on the occiput, whereas the V-mark in *S. mollissima* is small, indistinct, with ragged edges, and “mouse-colour” would better define the shade than “black.”

THE GREEN PATCH ON SIDES OF HEAD.—In *S. v-nigrum* the green encroaches on the white on the sides of the head, and extends beyond the eye. In *S. mollissima* it does *not* encroach on the white on sides of head.

Although Mr. Stubbs is quite as convinced as I am that the Oldham specimen is not *S. v-nigrum*, yet he is not so certain that it is *S. mollissima*. In a letter to me dated March 23rd, 1907, he writes: “It would be as well to remember that our Eider (*i.e.* ‘the Oldham bird’), if we leave out of consideration the black V-mark, resembles, in its yellow bill and very falcate tertials (far more falcate than those of any other specimen of the genus I have seen), the variety known as the Northern Eider, *S. m. borealis* of Ridgeway.”

I do not consider *S. m. borealis* a good species, and can find no single point in which the two differ, and certainly no well-defined and constant difference sufficient to warrant the two being separated even as subspecies. A

fact which seems to have escaped the majority of writers is that all our adult drakes have a yellow base to the bill. Anyone who has shot and examined freshly killed birds will confirm this.

As regards the very falcate tertials, I have examined many drakes possessing these feathers quite as fully developed as in the Oldham specimen.

Besides the three above mentioned, I know of two other specimens of *S. mollissima* showing a V-mark, namely:—

1. A drake obtained by Mr. Abel Chapman off Holy Isle, in January, 1898.
2. A specimen shot by Sutherland, of Graemsay, in 1906, and sent to Mr. Clarke, of Scarborough, who can perhaps furnish further details as to exact date.

It would be interesting if owners of Eider skins would look over their collections and give full particulars of any drakes they may find showing this indistinct V-mark.

The fact that our Common Eider occasionally exhibits an indistinct V-mark is to me far more interesting than the occurrence of a true *S. v-nigrum* in British waters could possibly have been, for it opens up a new field of thought and research for those interested in our avifauna.

I believe I am correct in stating that in no work on the Common Eider (*S. mollissima*) is there any mention made of the occurrence of a V-mark in some of the males, yet on the other hand, if we consult the works of American authors, we find that in the American Eider (*S. dresseri*) there is sometimes a trace of a black V-mark on the chin indicating an approach to *S. v-nigrum* (see Elliot Coues' "Key to North American Birds," Vol. II., p. 940, 5th edition), and again in the so-called Northern Eider (*S. mollissima borealis*) which, as I have previously stated, is identical with our own *S. mollissima*, "a black V is sometimes found on the throat" (see "The Wildfowl Family," by L. C. Sanford, p. 167). I can therefore see no valid reason why we should not expect to find a similar mark sometimes appearing in our own *S. mollissima*.

It seems to me that this V-mark is simply a case of

“reversion” or what is known amongst breeders of pedigree stock as a “throw back” to some previous ancestor, the ancestor in this particular case being probably some common type of Eider from which all present-day species originally sprang, and if this theory be correct we shall find the V-mark probably only in isolated cases.

In conclusion I must return my very grateful thanks to Mr. Saunders, Dr. Sharpe, Mr. Stubbs, Dr. Hartert and Mr. Bonhote for rendering me every assistance in their power; and I trust our joint labours have not been in vain.



NESTING HABITS OBSERVED ABROAD OF SOME
RARE BRITISH BIRDS.

BY

F. C. SELOUS.

PART III.

(Continued from page 51.)

WHITE-TAILED EAGLE. *Haliaëtus albicilla* (L.).

On February 8th, 1895, whilst hunting wild goats on the Maimun Dagh, Asia Minor, I saw an Eagle, disturbed by some wood cutters, fly off a nest built on the decayed top of a large stone pine far below me, and with my glasses I thought I could see something white in the centre of the nest. On the evening of the same day I went down to examine the tree, and again put the bird off the nest, which had evidently been used for many years, as it was a huge structure, quite eight or nine feet in height, and six feet or so in diameter. I got up to the base of this nest without much difficulty, but could not get round it.

Two days later I returned with some Turkish peasants, who chopped a passage up the side of the nest, and brought me down the one egg it contained, which was white, but small, I thought, for the egg of a White-tailed Eagle. Moreover, the tail of the bird, which flew off the nest, although whitish did not seem to me to be pure white, and at the time I did not feel quite sure as to its identity.

Seven years later, however, early in February, 1902, I revisited the Maimun Dagh and took one egg from the same Eagle's nest on February 8th, and a second on February 16th. At this date the entire tail of each bird appeared to be snow white, and there can be no doubt that they were White-tailed Eagles.

On February 16th, as my Turkish companions and I were approaching the tree on which the nest was placed, we put one of the birds off. We then sat down to take a

rest before getting up to the nest. Presently we saw one of the Eagles approaching, carrying something in its claws. It had evidently come to feed its mate, and was almost on the nest before it saw us, when dropping the bird it was holding it flew off again in a great hurry. Its prey proved to be a Coot, which had been caught amongst the reeds and coarse grass which grow round the edge of the large shallow salt pan which extends for many miles over the plain at the foot of the Maimun Dagh.



Nest of the White-tailed Eagle on the borders of a salt lagoon
in Asia Minor.

There are no fish in this shallow salt lagoon, which is two hundred miles inland from Smyrna, so that this pair of White-tailed Eagles must live entirely on Coots, Ducks and other birds.

Before coming to the Maimun Dagh in February, 1902, I had already taken several White-tailed Eagles' nests on the slopes of the wooded mountains above Lake Latmos,

a few miles to the south of the spot where the Meander River enters the sea.

In this district the White-tailed Eagle is a very common bird.

My friend Mr. Hodder, who accompanied me on this trip, and who has lived for many years in Asia Minor, had taken a nest containing two much incubated eggs of this species on the previous Christmas Day.

On January 20th, 1902, Mr. Hodder and I took three nests on the same mountain, and only a mile or so one from the other, and on February 1st and 2nd four more nests in the same district. Each of these nests contained two eggs, some of which were fresh, whilst others were considerably incubated.

There are no precipitous cliffs in this district overlooking the sea, and the White-tailed Eagle has therefore taken to nesting in trees. All the nests we found were placed on the tops of large stone pines, and some of them must have been used, and constantly added to, for many years. One was quite twelve feet in height, and must have contained a good waggon-load of sticks.

GREAT WHITE HERON. *Ardea alba* L.

On the 18th of April, 1906, I visited, in company with Mr. J. C. Musters, a certain very large reed-covered swamp in Central Hungary, where we knew that a limited number of Great White Herons annually nested.

In the course of the morning we found one nest containing three eggs, from which the sitting bird flew when my friend's boat was within a few yards of it. In the afternoon we found a second nest, quite 300 yards away from the first. This nest also contained three eggs, from which the sitting bird did not fly until my boat was quite close to it.

The eggs in both these nests were very much incubated, and must have been laid at the end of March. The nests, built of reeds, were large, solid structures, placed on bent down growing reeds, at a height of about six feet above

the water. They were exactly like the nests of Purple Herons I have taken in Spain and Hungary. The eggs in both nests of Great White Herons were very light in colour, as light in fact as the eggs of Buff-backed Herons.



A Nesting-place of the Great White Heron in Central Hungary.

The Hungarian fishermen who took us into the reed-bed in their small flat-bottomed boats told us that the Great White Herons never nested in colonies, but that the nests were always some distance one from another. It is, however, I think, quite possible that, in countries where these birds are still numerous and unmolested, they may breed in colonies like other species of Herons.

BAILLON'S CRAKE. *Porzana bailloni* (Vieill.).

I found a number of nests of Baillon's Crake in Hungary in 1899 and 1902, and also in the south of Spain in 1900. The following note of the nesting habits of this species is copied from the journal I kept in 1899:—

“I went with two men into the swamp after the Baillon's Crakes. The swamps in this district are more like flooded meadows, hundreds of acres in extent, with water about a foot in depth on a hard bottom, and grass and water plants, with here and there a kind of fine rush growing up to a height of one, two or three feet above the water.

“The two nests of Baillon's Crakes which we found during the morning were in little tufts of this rush-like grass, very small, and their bases just resting on the water, but the cup of the nest quite dry. These nests were so well hidden that they were quite invisible without a very close scrutiny. In one nest there were eight eggs, in the other nine. In the afternoon we found a third nest, with four eggs. This nest was beautifully hidden in a little tuft of fine rushes. It was composed of green grass-like rush stalks, and was not more than from three to four inches in diameter.”

The nests of Baillon's Crake which I found in reedy pools and swamps in the south of Spain, not far from Seville, were not so well concealed as those I had previously found in Hungary. In several cases the thin reeds amongst which the nests were placed had been bent over above the floating nest, at once attracting one's attention to it from a considerable distance.

In Hungary I took nests of Baillon's Crake with full clutches of eggs during the last week in May, whilst in Spain I found this species nesting about a month earlier.

(To be continued.)

ON THE MORE IMPORTANT ADDITIONS TO OUR
KNOWLEDGE OF BRITISH BIRDS SINCE 1899.*

BY

H. F. WITHERBY AND N. F. TICEHURST.

PART II.

(Continued from page 56.)

DARTFORD WARBLER *Sylvia undata* (Bodd.). S. page 55.

NORFOLK.—One identified by Mr. A. Napier on the sea-bank at Wells, 15th December, 1905. "Always a rare bird in Norfolk" (J. H. Gurney, *Zoologist*, 1906, p. 137).

Mr. Saunders states that it nests in Norfolk, but on the cover of part VIII. of his Manual, he mentions that exception had been taken to this statement by two great authorities on the birds of Norfolk. He hoped to prove the correctness of the assertion before the work was finished, but no further information is given

SHROPSHIRE.—Two pairs nesting near Ludlow in 1903 (H. E. Forrest, *t.c.*, 1903, p. 349).

STAFFORDSHIRE.—Evidence given of its having probably nested near Cannock Chase about 1870 (F. C. R. Jourdain, *t.c.*, 1903, p. 424).

This bird has been "apparently extending its range both westward and northward of late years" (S. page 55).

GOLDEN-CRESTED WREN *Regulus cristatus* Koch. S. page 57.

OUTER HEBRIDES.—Breeding at Stornoway, in 1906 (N. B. Kinnear (*Ann. Scot. Nat. Hist.*, 1907, p. 18).

The Goldercrest was not previously known to nest in the Outer Hebrides.

FIRE-CRESTED WREN *Regulus ignicapillus* (C. L. Brehm).
S. page 59.

WALES—*Bwlch, Breconshire*.—A male and female were shot

* Correspondents who have kindly noted omissions and errors in this record, will find them incorporated, with other additions, at the conclusion of this series of articles.

on February 27th, 1899 (E. Cambridge Phillips, *Knowledge*, 1899, p. 84).

There is only one previous record of its occurrence in Wales.

In December, 1905, and the earlier part of 1906, two were recorded from KENT, one from SURREY, and one from DORSET.

YELLOW-BROWED WARBLER *Phylloscopus superciliosus* (Gm.). S. page 61.

FAIR ISLE (SHETLANDS).—A male shot on September 25th, 1905, and six seen between September 19th and 25th, 1906 (W. E. Clarke, *Ann. Scot. Nat. Hist.*, 1906, pp. 21 and 237, and 1907, p. 74).

OUTER HEBRIDES, Skerryvore Lt.—One captured September 21st, 1906 (J. Tomison, *t.c.*, 1907, p. 25).

SCILLY, Tresco.—A male knocked down with a stick on October 1st, 1905 (J. Clark and F. R. Rodd, *Zoologist*, 1906, p. 245).

Nine authentic occurrences of this Siberian Warbler had been previously recorded in England, one in Scotland, and one in Ireland.

GREENISH WILLOW-WARBLER *Phylloscopus viridanus* Blyth. S. page 65.

SUTHERLANDSHIRE, Suleskerry Lighthouse.—A male struck the lantern of this lighthouse, which is on a rocky islet some 40 miles west of Hoy, Orkney, and the same distance N.E. of Cape Wrath, on September 5th, 1902, and was sent to Mr. W. Eagle Clarke in the flesh (H. Saunders, *Bull. B.O.C.*, Vol. XIII., p. 12).

This is only the second occurrence of this Asiatic Warbler in the British Isles.

CHIFFCHAFF *Phylloscopus rufus* (Bechst.) S. page 67.

SHETLANDS, Unst.—“A good number from April 15th to 26th, 1904” (T. E. Saxby, *Zoologist*, 1904, p. 230).

FAIR ISLE (SHETLANDS).—A male shot, October 10th, 1906 (W. E. Clarke, *Ann. Scot. Nat. Hist.*, 1907, p. 74).

OUTER HEBRIDES, Barra.—One shot November 18th, and one November 20th, 1899 (W. L. MacGillivray, *t.c.*, 1900, p. 121).

The Chiffchaff has previously never been recorded as occurring in the Shetlands, and very doubtfully in the Outer Hebrides.

WILLOW-WREN *Phylloscopus trochilus* (L.). S. page 69.

SHETLANDS.—Two nests found and other birds observed building in May, 1901 (C. A. Sturrock, *t.c.*, 1901, pp. 194-6.)

The Willow-Wren has not previously been recorded as breeding either in the Orkneys or Shetlands.

WOOD-WREN *Phylloscopus sibilatrix* (Bechst.). S. page 71.

ISLE OF MAN.—Heard in May, 1901, in Rhenass Glen; in May, 1905, at Ballamoar, and a number at Ballacowle (P. G. Ralfe, *Birds I.O.M.*, p. 26).

Previously unrecorded in the Isle of Man.

ICTERINE WARBLER *Hypolais icterina* (Vieill.). S. page 75.

NORFOLK, *Cromer*.—One shot on September 5th, 1899 (E. C. Arnold, *Zool.*, 1899, p. 475). *Blakeney*.—One shot September 18th, 1903, and one seen (?) September 26th, 1905 (J. H. Gurney, *t.c.*, 1904, p. 209, and 1906, p. 134). *Holkham*.—One seen by A. Napier, September 20th, 1903 (*id.*, 1904, p. 212).

KENTISH KNOCK (Lightship).—One seen September 22nd, 1903 (W. E. Clarke, *Ibis*, 1904, p. 136).

SUSSEX.—A male shot at Peasmarsh, near Rye, on June 26th, 1905 (J. B. Nichols, *Zool.*, 1905, p. 349).

ISLE OF WIGHT.—A female taken at St. Catherine's Lighthouse, on September 29th, 1905 (H. F. Witherby, *Bull. B.O.C.*, XVI., p. 23).

Although common on the Continent, this Warbler apparently seldom comes to our shores. Mr. Saunders admitted only eight authentic occurrences. Amongst those recorded above several examples were seen but not obtained and it is unsafe to admit these as thoroughly authentic examples owing to the similarity of this species to the Melodious Warbler.

MELODIOUS WARBLER *Hypolais polyglotta* (Vieill.).

S. page 77.

SUSSEX.—A male shot at Ninfield, 10th May, 1900 (W. R. Butterfield, *Ibis*, 1900, p. 569).

DEVON.—In May, 1897, the Rev. M. A. Mathew heard near Lyme Regis, two warblers which he concluded were Icterines (*cf.* S. page 77). In May, 1898, in the same place, he heard a number of the same Warblers (3 one day and 12 on another day). Two or three were seen at close quarters, and Mr. Mathew came to the conclusion that they were Melodious Warblers, that the birds nested, and that this species "may now be regarded to have established itself as a summer migrant to this extreme south-east corner of Devon" (*Zool.*, 1898, p. 265).

IRELAND.—One shot on September 23rd, 1905, at the Old Head Lighthouse, Kinsale, co. Cork (R. M. Barrington, *Irish N.*, 1906, p. 157).

This species does not range so far north on the Continent as the Icterine. It has in several cases been suspected as breeding in this country, and the birds have been heard and seen, but

previous to the two birds above-mentioned, only one specimen had been actually obtained.

REED-WARBLER *Acrocephalus streperus* (Vieill.). S. page 79.

FAIR ISLE (SHETLANDS).—A male was shot on September 23rd, 1906. The Reed Warbler has never before been authenticated as occurring in Scotland (W. E. Clarke and N. B. Kiuneur, *Ann. Scot. Nat. Hist.*, 1906, p. 236).

MARSH WARBLER *Acrocephalus palustris* (Bechst.).
S. page 80.

KENT.—Nest and eggs found on June 23rd, 1905 (C. Ingram, *Bull. B.O.C.*, XV., p. 96).

SUSSEX.—Nest and eggs found, on July 2nd, 1903 (N. F. Ticehurst, *Bull. B.O.C.*, XIV., p. 23).

WILTSHIRE.—Nest and eggs found in an osier bed near Stapleford, on the Wylve, 18th June, 1900 (H. S. Hall, *Zool.*, 1900, p. 555).

[SURREY.—One seen almost daily from 24th April till 8th May, 1907, at Penn Ponds, by E. K. Ford (*t.c.*, 1907, pp. 98-99). The early date when this bird was first noticed throws doubt on the accuracy of the record.]

[NORFOLK.—Nest and eggs, supposed to be of this species, found on May 24th, 1906, near Fakenham (J. H. Gurney, *t.c.*, 1907, p. 128), but the position of the nest (on the side of a tussock in a bog) and the early date, make the correct identification improbable.]

These are extensions of the known breeding range of this bird, but still very little is known of its status in the British Isles. This is no doubt due to the difficulty of distinguishing the bird from the Reed-Warbler. In the *Zoologist* for 1906 (pp. 401-409) Mr. Warde Fowler, who has watched the Marsh Warbler year after year in Oxfordshire, gives a valuable summary of his notes on its habits. He says that they arrive generally in the beginning of June; for nesting they like a large space of flat alluvial ground with bits of cover, such as thick, tall plants, here and there; the nest is always three or four feet from the ground, and may be distinguished from that of the Reed-Warbler by being less deep and solid, and by having obvious "basket handles." Interesting details are given of the eggs, young birds, song and coloration.

GREAT REED-WARBLER *Acrocephalus turdoides* (Meyer).
S. page 83.

SUSSEX.—One shot near St. Leonards on Sept. 25th, 1903 (M. J. Nicoll, *Bull. B.O.C.*, XIV., pp. 18 and 25); a male shot at Bexhill on May 1st, 1905 (J. B. Nichols, *Zool.*, 1905, p. 268).

HANTS.—One obtained at Christchurch on May 10th, 1900 (*Birds of Hants*, p. 30).

NORFOLK.—One seen at fifteen yards by Rev. C. M. Bird on May 1st, 1906, at Horning (J. H. Gurney, *Zool.*, 1907, p. 132).

SURREY.—“There is an undoubted example in the Charterhouse collection, which was shot by Mr. J. P. Stafford in the spring of 1858, at Ockford Pond, Godalming, the authenticity of which there seems no reason to doubt” (J. A. Bucknill, *Birds of Surrey*, p. 41.)

[SCILLY. —A bird, supposed to be of this species, was shot by David Smith, on the Long Pool at Tresco, but though he had it in his hand, it succeeded in escaping. “His description of the bird left no reasonable doubt as to its identity” (James Clark and F. R. Rodd, *Zool.*, 1906, p. 246).]

Very few of these birds have visited England (only some seven have been previously recorded) although they nest at Calais, and plentifully in Holland.

AQUATIC WARBLER *Acrocephalus aquaticus* (Gm.).
S. page 87.

HAMPSHIRE, *Christchurch*.—One shot by Hart in September, 1876 (*Birds of Hants*, p. 30); *Furlington Marsh*—a male caught by a dog, September 20th, 1897 (J. Pratt, *Knowledge*, 1897, p. 290); *Isle of Wight*—a young female killed at St. Catherine's Lighthouse, September 29th, 1905 (H. F. Witherby, *Bull. B.O.C.*, XVI., p. 23).

SUSSEX, *Brighton*.—One seen, September 7th, 1897 (J. Pratt, *Knowledge*, 1897, p. 290); *Winchelsea*—a male and female shot, August 8th and 11th, 1902 (J. L. Bonhote, *Bull. B.O.C.*, XIII., p. 13); *Rye*—Adult ♂ shot, and several more seen, August 18th, 1905 (M. J. Nicoll, *Bull. B.O.C.*, XVI., p. 22).

NORFOLK, *Blakeney*.—An adult shot, September 9th, 1902 (J. H. Gurney, *Zool.*, 1903, p. 133); *Wells*—One, September 19th, 1903, seen (?). (*id.*, 1904, p. 210); *Cley*—One, September 15th, 1904 (*id.*, 1905, p. 96).

IRELAND.—A young male taken at the Bull Rock Lighthouse, co. Cork, September 20th, 1903 (R. M. Barrington, *Irish N.*, 1903, p. 300).

Mr. Saunders admitted five authentic cases of the occurrence of this bird in England and none for Ireland. The Aquatic is much like the Sedge Warbler in general appearance; but the broad buff line down the centre of the crown distinguishes it at once when seen at close quarters. It seems probable that the bird visits our coasts in small numbers every year in the autumn.

(To be continued.)

THE SARDINIAN WARBLER IN SUSSEX:
A NEW BRITISH BIRD.

BY

THOMAS PARKIN, M.A., F.Z.S., M.B.O.U.

ON the evening of Tuesday, June 4th, of this year (1907), a Sardinian Warbler, *Sylvia melanocephala* (Gmel.) was brought to me in the flesh, for identification, by Mr. G. Bristow, taxidermist, of Silchester Road, St. Leonards-on-Sea. It had been killed the day before in a bramble



SARDINIAN WARBLER (*Sylvia melanocephala* (Gm.)).

Male shot June 3rd, 1907, near Hastings.

bush, in the neighbourhood of Hastings, and proved on dissection to be a male.

The bird was exhibited on June 19th before the British Ornithologists' Club, on my behalf, by Mr. C. B. Ticehurst, and from the remarks then made, it appears that this is the first really authentic occurrence of this species recorded in the British Islands, though Mr. Howard Saunders in his "Manual of British Birds" [2nd ed., p. 46 (1899)] states that "Mr. W. D'Urban saw what was apparently a bird of this species in his garden at Exmouth, on April 16th, 1890," and, in continuation, Mr. Saunders writes: "There is not the least improbability of this bird occurring in the British Isles, since it is common in the South of France and the Peninsula."

Mr. H. E. Dresser, in his "Manual of Palearctic Birds," gives the *habitat* of this species as "The Mediterranean area, from Portugal, Spain, and South of France to Asia Minor and Palestine, wintering in North Africa"; and in his "Birds of Europe" he states that this species is common in the South of France and Portugal, extremely numerous in Spain, that in Italy it is found in Liguria, southwards into Sicily, but had not up to that time been noticed in Piedmont; it has been recorded in Malta, where it is likely that it sometimes breeds; it is also resident and tolerably numerous in Greece, and has been observed near Trieste, and is found along the banks of the Danube in Bessarabia, and several specimens have also been obtained near Constantinople.

Mr. Dresser adds that it breeds in the Uman district of Southern Russia, where, however, it is a very rare species, and that it occurs in Asia Minor, is common in North Africa, as it is also in Algeria and the Atlas in winter; and we further learn that it is numerous in Eastern Morocco, has been met with in Tunis, and that it inhabits the Canary Islands.

I can personally speak as to the abundance of this species in Southern Spain (Andalucia) and Algeria, and that it is not uncommon in the Canary Islands; I, however, never met with it in Tunis, though I made many excursions in the regency. Gätke mentions one occurrence in

Heligoland, on the authority of Reymers, who obtained one "many years ago" (*cf.* "Birds of Heligoland," p. 278).

In its habits the Sardinian Warbler appears to be one of the most active and restless of its kind, though shy and retiring by nature, a fact especially noticeable in the females.

The bird has been well described as a miniature Blackcap, and from its likeness to *Sylvia atricapilla*, wanderers to this country might easily escape observation, though as far as the adult male is concerned, the slaty-blue appearance of the bird, together with its white throat, and smaller size, should at once distinguish it from the Blackcap.





NOTES

BREEDING OF THE BLUE-HEADED WAGTAIL IN WILTSHIRE.

HAVING seen some Yellow Wagtails (*Motacilla raii*) earlier in the year, in a water meadow by the Kennet, near Marlborough, I went again to look for them at the end of last May. In a corner of the meadow close to the river I came upon a pair of birds which at first I took to be Yellow Wagtails, but on closer examination they proved to be the Blue-headed Wagtail (*Motacilla flava*). They were feeding young ones, and became very excited when I approached the nest. I did not, however, discover the nest till June 4th, on which date the young, five in number, were about eight or nine days old. The nest was made of a little moss and dead grass, lined with horse and cow hair, and was placed in a slight hollow among long grass and burdock at the foot of a stem of the latter.

I was able to put the identity of the old birds beyond all doubt by comparing them through a fieldglass with a pair of Yellow Wagtails in the same field. The male Blue-headed Wagtail had the forehead, crown and nape bluish-grey, a white streak over the eye, and a dark line through the eye, a faint light mark below the eye, and below that again a narrow grey line; the throat white; the back olive-brown; the tail-coverts not so green as the back; the central tail-feathers black, the outer ones white; the flight feathers brown edged with a yellowish colour, and a light bar on the secondaries; the underparts bright sulphur-yellow; the beak and legs black. The female was olive on the forehead, crown, nape, cheeks and back, light yellow, almost white, on the throat, a white mark over the eye, and a patch on the cheek, the underparts bright yellow but a little paler than the male, which in other respects she resembled. The young, about a week after leaving the nest, had the forehead, crown, nape and back dull brown, much darker on the side of the head than on the top, a white line over the eye and a dark brown line through it, below this another light line, and below this a dark brown, almost black, line, surrounding the throat,

which was buff, and forming a conspicuous dark mark on the upper part of the breast, the underparts buff with a pinkish tinge, the wings and tail the same as in the adults but slightly browner, the legs pinkish brown, beak brown.

A few days before they were able to fly, the young, when approached, would scramble out of the nest, and, running off, would hide among the long grass.

The old birds were very tame, and ran about close by over the weeds on the surface of the river, which is at this part covered with a thick mat of ranunculus. Their call note is rather louder and sharper than that of the Yellow Wagtail, and is more often repeated. When the young were in the nest the old birds took them large insects and caterpillars about every three or four minutes.

G. DENT.

[Mr. Dent is to be congratulated not only on his powers of discrimination but upon the very thorough way in which he has carried out his observations. The details he gives are so full and accurate that his record of the breeding of the Blue-headed Wagtail in Wiltshire can be, in our opinion, unreservedly accepted. During the last few years it has become known that this bird is a regular spring visitor to the south-eastern corner of England, and that a few pairs remain to breed. We hope shortly to publish an article on the "Yellow Wagtails and their position in the British Avifauna," by Dr. N. F. Ticehurst, and our readers will then be in possession of full details of recent discoveries concerning these interesting birds. —Eds.]

CANADIAN CRANE IN IRELAND.

IN the "Irish Naturalist" for July, 1907 (p. 209), Mr. A. R. Nichols records that a specimen of the Canadian Crane (*Grus canadensis*) was shot on September 14th, 1905, near the sea-shore at Galley Head, near Clonakilty, Co. Cork. The taxidermists who mounted the bird said that it was in a "very spent condition." It showed no signs of having been kept in confinement, and Mr. Nichols claims for it that it was a genuine wild bird.

This view I cannot endorse. The probabilities are much greater in favour of its being an escape from captivity than a wanderer from America.

The bird ranges across North America, from Alaska to

Hudson's Bay, but east of this it is not found, or is, at all events, very rare. It migrates south to Mexico, Florida, and Cuba. With such a range it would be a most remarkable performance for the bird to wander to Ireland.

With regard to the probability of its being an escape, I cannot do better than quote from a letter from the Duchess of Bedford, who has such a great experience of birds in captivity. Her Grace writes:—"Our Canadian Cranes are all pinioned, but I think it would be very unwise to assume that the one shot in Ireland was a genuine migrant. Many people keep one or two Cranes which are never heard of outside their own properties, not to speak of the birds which might escape from some of the more famous collections in France, Holland, etc. Some of our Manchurian Cranes, Flamingoes, Pelicans, etc., which have escaped from Woburn would show absolutely no sign of captivity. They came with *cut* wings only, were turned out in the park, and, after moulting, flew about the park for some time and then went off."

The fact that the bird was shot as long ago as 1905 and has only just been recorded makes it practically impossible to trace whether anyone had lost such a bird at that time.

H.F.W.

NESTING OF THE AVOCET AND REDSHANK IN THE ZOOLOGICAL GARDENS.

MR. R. I. Pocock contributes an interesting article to the "Avicultural Magazine" (1907, p. 258) on the nesting of the Avocet (*Recurvirostra avocetta*) in the waders' aviary of the London Zoological Gardens this spring. Three eggs were laid and they all hatched out, but two of the young were accidentally killed. The period of incubation was, as nearly as can be computed, twenty-four days, instead of seventeen as previously stated. When about a week old, the surviving chick was seen "to make use of the lateral sweeping action to skim floating particles off the surface of the water," although the bill at the time had scarcely a perceptible trace of tilt. This is the first recorded instance of the Avocet breeding in captivity.

In the same magazine (p. 274) it is recorded that a Redshank (*Totanus calidris*) hatched a brood of three on June 28th in the same aviary. This is also a first instance of this species breeding in captivity.

H.F.W.

INCUBATION PERIOD OF THE
STONE-CURLEW.

THE exact period of incubation of many birds is often not well recorded, and the following observations concerning the Stone-Curlew (*Edicnemus scolopax*) may be worth noting. May 23rd—one egg laid early in the day. May 25th—second egg laid late in the day, and incubation commenced. June 20th—first young one hatched in the morning; and the second egg with a large hole, and the young one calling within the shell. June 21st—both young had left the nest. The period of incubation was thus in this instance from twenty-six to twenty-seven days.

E. G. B. MEADE-WALDO.

THE “DRUMMING” OF THE SNIPE.

AN interesting paper on the “drumming” or “bleating” of the Snipe was read by Mr. P. H. Bahr before the Zoological Society, and is published in the “Proceedings” of that Society for 1907 (pp. 12-35). After discussing the various theories which have been advanced to account for the sound, Mr. Bahr gives excellent proof that in the Common Snipe (*Gallinago caelestis*), at all events, the “bleat” is produced by the two outer tail-feathers. As the bird makes the downward swoop, the two outer tail-feathers are held widely spread beyond the others—almost at right angles to the body—as may easily be seen with a pair of binoculars, but in addition to this Mr. Bahr states that he can distinctly see these feathers vibrating during the performance of the “bleat.” By fixing these feathers to corks and whirling them through the air, Mr. Bahr demonstrated that the sound could be reproduced. There appear to be no special muscles to control the outer tail-feathers, but the muscles at the base of the feathers are sufficiently well developed to perform this function. In structure these feathers differ from the rest of the tail-feathers. The shaft is firm, the outer web narrow with easily separable rami, the inner web extremely broad with long stiff rami firmly held together. It is this latter portion of the feather which produces the sound—the radii, branching from the rami, being firmly interlocked by means of the hamuli and cilia, which are exceptionally well developed. It is, indeed, the great size of the hamuli which furnishes the “essential factor in producing the ‘bleat,’ in that they hold the stiff rami together like the strings of a harp.” In the other tail-feathers the hamuli are fewer and not so well curved, nor so thick. It

appears that towards the time of moulting the cilia become worn away and the feathers lose much of their "bleating" power. Mr. Bahr gives June 25th as a late date to hear the "drumming," but I may mention that I have just heard and watched Snipe "bleating" to-day (July 7th) in Hampshire.

In the Jack Snipe (*Gallinago gallinula*) the outer tail-feathers have not this specialized structure, and the author, failing to reproduce the sound, suspects that its production must be accounted for by some other mechanism.

Neither do the feathers of the Great Snipe (*Gallinago major*) produce any sound, and here, too, the rami are soft and easily separable, and the sound produced by the bird, which is of a "snapping" nature, seems to be vocal.

In other Snipe, in which the "bleat" is of varying intensity and pitch, some of the tail-feathers seem to be responsible for the sound.

H.F.W.

"FOUR BIRDS IN A LONG-TAILED TIT'S NEST."

WITH further reference to this subject (*antea*, page 62), though Mr. Lechner's argument appears reasonable it is not absolute proof, as the two extra birds *may* not have been parents.

Last year, for instance, I saw Hedge Sparrows feeding young Thrushes, and this season a Hedge Sparrow was helping a Chiffchaff to feed its young ones.

CHAS. E. PEARSON.

[Other correspondents have given us instances of young birds being fed by old ones other than their parents. We have yet to obtain absolute proof that large clutches of Long-tailed Tits' eggs are produced by more than one hen.—Eds.]

MIGRATING BIRDS RETURNING TO THE SAME PLACE.

WITH reference to Mr. V. Wilson's note on this subject, I may say that last year I had a curious and perhaps unique clutch of three Cuckoos' eggs in a Meadow Pipit's nest (see "Zoologist," 1906, p. 276), which were evidently the produce of three different Cuckoos. This year, in the same locality, Cuckoos' eggs of the same three types have been found in Meadow Pipits' nests, which I have no doubt at all were laid by the same birds. Hereabouts the Sedge-Warbler is the favourite foster-parent. and in each of the years 1895, 1896, and 1897 I found, within

an area of a square quarter-mile, a large, oval, light-coloured Cuckoo's egg in a Sedge-Warbler's nest, and in this case the bird must have returned to the same haunt for three successive seasons.

Bury St. Edmunds, Suffolk.

JULIAN G. TUCK.

MEADOW-PIPITS NESTING IN HOLES.

ON the 16th of May last, on a small marine island about one mile off the west coast of Ireland, I found two nests of the Meadow-Pipit (*Anthus pratensis*) containing eggs, in holes in the ground. The nests were placed at such a distance from the entrances of the holes as to ensure cover from view, and from rain above, *i.e.*, each nest was provided with a roof. The island, uninhabited by man, was used as a grazing ground for sheep, and the grass was so short as to afford no cover for a nest. My inference is that the birds finding the spot otherwise suitable for nesting purposes, adapted themselves to the circumstances, and took the best cover available. In order that there might be no doubt as to the owners of the nests, I referred one of them, with its eggs, to the Natural History Museum, where they were identified as those of the Meadow-Pipit.

H. TREVELYAN
(Major).

LIST OF BOOKS.

- Notes on the Birds of Rutland*, by C. Reginald Haines. Illustrated. (Porter.) 7s. 6d. net.
The Birds of Kent, by W. J. Davis. Map and one illustration. (Dartford: J. & W. Davis.) 6s. net.
The Birds of the British Isles, by Charles Stonham. Parts V. and VI. Illustrated. (Grant Richards.) 7s. 6d. each.

Annual Report and Transactions of the North Staffordshire Field Club, 1906-7. This excellent report contains references to birds in the Zoological Section by J. R. B. Masefield, and in Bird Notes for 1906 by W. Wells Bladen. The following observations may be noted:—A Little Owl (*Athene noctua*) shot in October, 1906; a suspected Blue-headed Wagtail seen near Cheadle; and a Golden Oriole identified at Stone in June, 1906. We take this opportunity of asking Honorary Secretaries of local Natural History Societies and Field Clubs to send us copies of their reports and transactions as published.



REVIEWS



The Birds of Kent. By William J. Davis. Map and one illustration. J. & W. Davis, Dartford. 1907. 6s. net.

THE county of Kent is of such importance ornithologically, that it is a subject for wonder and regret that no authoritative history of its avifauna has hitherto been published. Several small works there are, that have appeared at long intervals, dealing with specified areas, but taken together they do not cover more than half the area of the county.

It was therefore with feelings of eager anticipation that we turned to this volume, the first that purports to deal with the birds of the whole county. Our hopes were, however, soon turned to disappointment, for we found that it consisted almost entirely of the author's previously issued "Birds of the Dartford District," with copious extracts from Prentis' "Birds of Rainham," and Dowker's "Birds of East Kent." A few quotations from the "Field" and one or two from the "Zoologist" are added, but no systematic attempt has been made to cull the mass of material that is to be found in the pages of these and other publications. Several of the local faunas, too, do not appear to have been consulted, and the county museum collections have hardly been mentioned.

In any book dealing with the Birds of Kent we should expect such species as the Golden Oriole, Dartford Warbler and Kentish Plover to be treated of fairly exhaustively. Turning to the first-named we find that the author mentions two birds that were seen near Dartford, and the rest of the account consists of two short quotations, one from the "Field" and the other from Dowker. The account of the Dartford Warbler is substantially the same as that in the "Birds of the Dartford District," and though taking up more than the average amount of space is singularly meagre in information as to this bird's past history and present status in the county. The remarks about the Kentish Plover consist solely of parts of an article in "Country Life" by Mr. Farren, whose observations were founded upon only a day or two's experience, and though accurate are hardly satisfying as a history of such an essentially Kentish species.

Regarding breeding records of other birds, to take one family alone—the Ducks—we find no mention made of the breeding of the Shoveller, Garganey, Shieldrake, and Tufted Duck, all well established and authenticated at the present day. Again, the important subject of migration is not touched upon.

Further details of the author's omissions would only prove wearisome, and, unfortunately, these are not his only short-

comings. Incidentally we note that Sabine's Snipe, and *Larus capistratus* are retained as good species: we read that "The Kittiwake is partly migratory in winter, leaving then for the Arctic and Sub-Arctic regions," and the Common Tern "leaves our shores in early autumn for the Palearctic region as far as Central Siberia." Both of these are surprising statements enough, but are only samples of similar ones that occur over and over again.

Mr. Byron's personal observations of the Birds of Thanet, which form an appendix at the end of the book, are evidently those of a painstaking field-naturalist, and will, no doubt, prove very useful to anyone essaying the task of writing the History of the Birds of Kent, for as such the present volume can hardly be taken as a serious attempt. We hear, however, that another volume on this subject is in preparation, and we hope that we may be able to extend to it a better welcome.

N.F.T.

History of the Collections contained in the Natural History Departments of the British Museum. Part III., Birds. By R. Bowdler Sharpe. Issued by direction of the Trustees.

THIS wonderfully full and painstaking history of the growth of our National collection of birds and birds' eggs—the finest in the world—must necessarily be of great interest to all ornithologists. Dr. Sharpe divides his account into three parts. The first consists of a "general sketch," in which he tells how the collection originated and how it gradually grew, and how the conditions of storing and exhibiting the collection were improved from the time of the purchase of Colonel Montagu's collection in 1816 to the present day. During Dr. Sharpe's own term of office, from 1872, the collection has grown in wonderful fashion. At that date Dr. Sharpe reckons the total number of specimens at 35,000, while to-day it is not less than 400,000, a growth which betokens a whole-hearted zeal on the part of the officials of this department. In the second portion of the book we have a chronological account of the chief accessions, while the third part is devoted to an alphabetical list of the principal donors and others from whom specimens have been received. This latter portion of the book is perhaps the most interesting, since it shows not only how splendidly the collection has been enriched by such ornithologists as F. D. Godman, Allan O. Hume, R. C. Wardlaw Ramsay, P. L. Sclater, Henry Seebohm, the author himself, and others, but also gives in fact a short biography of every British ornithologist of any note.

BRITISH BIRDS

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

ASSISTED BY W. P. PYCRAFT, A.L.S., M.B.O.U.

CONTENTS OF NUMBER 4. SEPTEMBER 2, 1907.

On the Nesting of a Pair of Herons on Dungeness Beach, by N. F. Ticehurst, M.A., F.R.C.S.ENG.	Page 97
Nestling Birds, and Some of the Problems they present, by W. P. Pycraft, A.L.S., F.Z.S., M.B.O.U. (Part I.) ...	102
Nesting Habits observed abroad of some Rare British Birds, by F. C. Selous (Part IV.)— <i>continued from page 80</i>	107
On the More Important Additions to our Knowledge of British Birds since 1899, by H. F. Witherby and N. F. Ticehurst (Part III.)— <i>continued from page 85</i>	109
Wind and Flight, by F. W. Headley, M.A., M.B.O.U. (Part I.) ...	115
Notes:—Occurrence of the Fieldfare in August (F. W. Frohawk). The Nuthatch as a Nest-Builder (Philip H. Bahr). Brambling in June in Yorkshire (T. A. Coward). Southern Grey Shrike in Norfolk. Number of Eggs laid by the Cuckoo (F. Kerry). A Clutch of White Eggs of the Woodcock (A. Landsborough Thomson). The Pacific Eider (Fred. Stubbs). The Tail-Feathers of the Grebes; etc., etc.	122
Review:—Notes on the Birds of Rutland	128
Book of the Month	128

ON THE NESTING OF A PAIR OF HERONS ON DUNGENESS BEACH.

BY

N. F. TICEHURST, M.A., F.R.C.S.ENG.

THE following account of a nest of the Common Heron (*Ardea cinerea* L.) built in the middle of a small pool of water is worth recording, as being a departure from the usual nesting habits of this bird in the British Islands.

The pool is one of a number of small ones adjacent to the larger ones in the centre of Dungeness beach, in Kent,

which are the home of a flourishing and well-known colony of Black-headed Gulls. It lies a little out of the way of the ordinary visitor to the Gull pits, and the watcher himself seldom visits it.

On May 27th, this year, he took me to inspect the nest, having seen it for the first time himself only a day or two before. As we approached, two birds flew away from the shingle near the margin of the pool, and a subsequent closer view of them convinced me that they were quite young birds of the year.

I found the pit to be about a hundred yards long by thirty broad, roughly oval in outline, considerably depressed below the surrounding beach, and containing only a small area of open water at the south end. On the north, east, and half of the west sides it was choked up with treacherous floating bog, supporting a dense growth of bulrushes and reeds, the old brown stems of which were about five feet high, while amongst them were new green ones of half that height. The bog also formed a margin six or eight yards wide at the south-west end, but the reed growth was here scanty.

In the open water, about two yards distant from this margin, the nest was situated, supported by and completely covering a clump of vegetation of the same character as the surrounding bog.

It was built entirely of the long, dark brown stems of the common dock, many of them up to three-quarters of an inch in diameter, and projecting a foot or more from the main wall of the nest. Its diameter, viewed at a distance of six feet, appeared to be fully three feet, and its height from the surface of the water two and a half feet. The hollow in the centre was about six inches deep, and was lined with the finer twigs of the same plant.

The old birds have been seen by the watcher (who is a thoroughly reliable man) in the neighbourhood of these pits for several summers past, but knowing that Herons usually build in trees, he had never thought to look for a nest in the pits before.

On the next day I put up the two young birds from the pit itself, one of them rising, as I topped the bank, from the actual nest, and since then I have heard that they were constantly there, the last occasion being on June 15th. There cannot, I think, therefore, be any reasonable doubt that they are the two young that were reared in it this year.

I have looked up every available account of the Heron's



Nest of Common Heron (*Ardea cinerea* L.).
Dungeness, Kent, 27th May, 1907.

nesting habits in this country, but have failed to find an exactly parallel case, at any rate of late years.

A number of abnormal nesting sites are of course well known. In the north of Scotland where tall trees are not available they are known to nest in quite low bushes,* and

* In this connection we received a short time back a letter from Mr. G. Edelsten, describing some Herons' nests in Skye built in stunted birch trees, and only about five feet from the ground. All the trees in the neighbourhood were small, and the ground was not precipitous, the nests being easily approachable.—EDS.

they have even been known to nest on the ground at the edge of a cliff (in Hoy*) or on the bare hillside (in Ireland†) amongst heather or bracken.

Instances of their breeding on cliffs are fairly numerous. Dr. Patten‡ states that he has found a few nests on the rugged cliffs of the Dingle Peninsula, and Mr. Harvie Brown found three or four pairs on the Black Craig, near Stromness.* The colony on Ardnamurchan Point is well known to all writers on British Birds.†

In Holland at the present day, we have evidence that at least in one locality, nesting in reed-beds is the Common Herons' usual custom.|| But for instances in this country we must go back to the beginning of the last century.

Writing of the Norfolk Heronries in 1866, Stevenson§ says: "At that time" (*i.e.*, that of Sir Thomas Browne), "and, indeed, until within the last forty or fifty years, Herons did not build exclusively in lofty trees, seeking the vicinity of man's dwellings, and gathering together in colonies like the rooks, but were scattered in pairs over the Fens and Broads, where their nests were placed, sometimes on a lofty alder in a carr, sometimes on the dwarf sallow and alder bushes in the marsh, or were hidden, like those of the Bittern, amongst the reeds and sedges.

"In many such localities the nature of the soil must in itself have afforded sufficient protection—the swamp presenting an impenetrable barrier against all human depredators; but of late years the reclamation effected by artificial drainage would account, independently of our numerous gunners, for the abandonment by the Herons of their older haunts. Mr. Lubbock refers to these marsh breeders, and I have conversed with many residents in the Broad district who remember their nesting at Ranworth, Horsey, Irstead, and other places; and even the Didlington

* "A Fauna of the Orkney Islands." Harvie Brown and Buckley, p. 162.

† Yarrell, B. B., IV., pp. 162–163.

‡ "The Aquatic Birds of Great Britain," p. 15.

|| R. B. Lodge. "Pictures of Bird Life," pp. 241–242.

§ "Birds of Norfolk," II., pp. 131–132.

Herony is said to have been established some sixty years ago by a considerable colony, which formerly " (*i.e.*, about the end of the eighteenth century) "had their nests on low sallow bushes or amongst the sedges on the borders of Feltwell and Hockwold Fens."

We must therefore regard the instance that I have described above as a temporary relapse to an ancestral habit which has been abandoned by Herons in this country in consequence of human influence, but which yet survives elsewhere, in places where drainage has not robbed the birds of their original homes.

It would be a grand thing if this one pair should increase in time to a large colony, nesting as their ancestors elsewhere did amongst the thick reeds and sedges of these Dungeness pits. With the efficient protection that is now afforded to all birds in this area by the Royal Society for the Protection of Birds, and the hearty co-operation of the local owners and sporting tenants, there is at least the hope that this happy result may be eventually realised.

What may be regarded as a somewhat similar reversion to long-lost habits is the instance related by Mr. Bidwell at the meeting of the British Ornithologists' Club, on May 15th last, of how a pair of Herons, in full possession of their powers of flight, built their nest on the base of the fountain near the palm-house in Kew Gardens.

NESTLING BIRDS, AND SOME OF THE PROBLEMS THEY PRESENT.

BY

W. P. PYCRAFT, A.L.S., F.Z.S., M.B.O.U.

PART I.

It is rather surprising that, while so much has been written about British birds, so little has been said about their nestling stages.

Judging from the meagre descriptions which even the best books give of nestling birds, we may assume that it has been taken for granted that birds, at this early stage, present no characters of sufficient importance to warrant closer study. That such a conclusion is not justified by facts I hope to show in the course of the following pages.

To adaptation to environment we may probably attribute the evolution of the two extreme types of nestlings to be met with to-day—the active, down-clad type, and the type which leaves the egg perfectly naked, and with sealed eyelids, and which, in consequence, is for some time absolutely helpless.

Both these types, I need hardly remark, are to be met with among our British birds; yet no one seems to have realized what a rich field they present for investigation. No one, for example, seems to have made any observations on the relative activity of such intermediate types as young Gulls and Guillemots—a matter of more importance than appears on the surface. Doubtless the investigation of this matter would yield results but slowly, and this is distinctly discouraging.

Such an objection, however, will not apply to a

number of other problems which are very far indeed from solution.

As a case in point, we may take the coloration of the nestling, and the relation thereof to the bird's environment. Hardly anything of a systematic nature has yet been done in this matter which should yield most valuable data of first rate importance with regard to the general problems of evolution.

The study of this coloration presents two more or less distinct aspects—the coloration of the down, or of the bare skin of the surface of the body; and the coloration of the mouth and surrounding areas.

In nestlings which are active at birth the coloration of the down presents its most primitive aspect. In the majority of cases, however, this aspect has been greatly changed, apparently in response to the demands of the environment, though as to how far this is the case remains for future investigations to decide.

Those markings which take the form of longitudinal stripes are no doubt the most primitive, and such markings are to be found, among our British birds, only in the Grebes and Gamebirds. In the Grebes this scheme of black and white, as may be seen by a reference to the very beautiful photograph by Miss E. L. Turner here reproduced, is continued on to the beak in the form of black and white mottlings; and, further, the striping is less apparent in the newly-hatched bird than at a somewhat later stage.

Though the nestlings of many of these birds are so easily observed, yet there appears to be no information published as to whether, and, if so, to what extent, this pattern affords protection to the living young. The number, colour, and distinctness of these stripes, in the types here mentioned, differ considerably, and it may be that, whatever their original purpose, they do not to-day play any very important part. At any rate, when a large series of nestlings belonging to different groups of birds, which are active at birth, is examined, there will be found



Young of Great Crested Grebe, showing Striped Markings. (Photographed by Miss E. L. TURNER.)

every gradation between striped and whole-coloured young.

The Gulls and Plovers show these intermediate gradations extremely well. In their downy state the young of these birds appear to be more or less irregularly mottled; but if these markings are more carefully studied, they will clearly be found to have been derived by the breaking up of stripes. The Skuas have passed beyond the mottled into the whole-coloured stage, while other whole-coloured nestlings, such as those of the Rails, show in certain lights distinct traces of the earlier striped plumage.

Are these differences due to the needs of protection, or to the inevitable progress of a striped plumage through a mottled stage to one of uniform colour? A comparison of a series of young Gulls and Terns and of Plovers, such as the Lapwing, Oyster-catcher, and Ringed Plover—I use the term Plover in a wide sense—seems to show that protective coloration is still a factor at work.

When the young remain for a long while helpless the down is always of the whole-coloured kind, and this, for many reasons, one would expect; and especially so if the striped down-plumage is a protective device, for this would benefit active young which scatter when alarmed, whereas this same striped livery displayed in a mass would serve only to betray the wearers thereof. Further, the down of most nestlings of the helpless type is of a very degenerate character, and the loss of the original pigmentation has followed as a consequence of this degeneration.

While immature birds are commonly duller in hue than their parents, there are certain cases wherein the downy nestling displays vivid colouring, which is in no way represented during later life.

The young of the Great Crested Grebe, for example, has in the middle of the crown a bright vermilion, heart-shaped patch of bare skin. Does this patch of colour serve any purpose, or is it merely a precociously-developed ornament? And the same question may be asked of the curious, fleshy, scarlet papillæ which adorn the face of

the nestling Coot—papillæ which appear to differ in no way structurally from those on the face of the Pheasant? And since, by the way, the nestlings of the Coot and Waterhen are in all else so similar and live in similar environments, it is curious to remark how widely they differ in this matter of ornamentation. Again, it is curious that while in the adult Coot the ornamentation of the head is white, in the nestling it is red—the colour of the ornamentation of the adult Waterhen.

(To be continued.)

NESTING HABITS OBSERVED ABROAD OF SOME
RARE BRITISH BIRDS.

BY

F. C. SELOUS.

PART IV.

(Continued from page 80.)

LITTLE CRAKE. *Porzana parva* (Scop.).

I found this species nesting in some numbers on the islands in the Valenceze Lake in Hungary at the end of May, both in 1899 and in 1902, and also in some swamps on the other side of the Danube in the latter year. In my diary I wrote, on May 29th, 1899, concerning the first nests I ever saw of this species at the Valenceze Lake as follows :—

“In the course of the day I took two Little Crakes’ nests. One of these was built in an old nest of a Great Reed Warbler, about two feet above the water. The other was placed among some thick dry reeds, and at about the same height above the water. This nest looked just like a very small Moorhen’s nest, being built of flat dry reed leaves. The cup, however, was much smaller and deeper than in a moorhen’s nest.”

On May 30th I made the following notes concerning the nesting habits of this species :—

“Found three more Little Crakes’ nests containing seven, six, and five eggs respectively. Two of these nests were built close down upon the ground amongst reeds, on little swampy islands, and not covered over in any way ; but the third, which was placed in exactly the same position as the other two, except that it was just on the edge of a lane of open water, was completely covered so as to be invisible from above. It was exactly like a larger form of a nest of Savi’s Warbler, having a beautifully formed deep cup, and being made of the same flat and dry brown reed leaves.”

The eggs of the Little Crake are, on the average, distinctly larger than those of Baillon's Crake, and have not the same shiny appearance as the latter. The Little Crake seldom lays more than seven eggs, whilst Baillon's Crake often lays nine.

PURPLE GALLINULE. *Porphyrio cæruleus*.

The eggs of this bird have not often, I believe, been taken by British egg collectors, and although the bird is only a doubtful visitor to this country, the following notes from my diary for 1900 may be acceptable:—

“April 12th. Waded all day in a large reed bed (La Madre, in the south of Spain). Found a Purple Gallinule's nest with four eggs, very much incubated—within a few days of being hatched out. Also found several other nests building, but not yet ready for use, which apparently belonged to the same species. During the day we saw eight Purple Gallinules, which flew up out of the reeds close to us, and there must have been many more which did not rise.

“The nest which contained the four eggs, and the other nests which, though there were no eggs in them, belonged, we thought, to Purple Gallinules, were built about a foot above the water, in thick reeds, and were like large nests of the Moorhen, but were lined with the flowers of the reeds. Above the nests the reeds were broken and bent together, forming a kind of very light canopy over them.”

On May 24th of this same year (1900) we (Mr. J. C. Musters and I) visited the Laguna Medina, not far from the town of Jerez de la Frontera, and found a Purple Gallinule's nest containing four perfectly fresh eggs. This nest was built in the centre of a large tussock of high reeds growing in water about three feet in depth. These reeds had no flowers which could have been used as a lining for the nest, nor were they of a kind which could have been bent over in order to form a canopy above the nest.

ON THE MORE IMPORTANT ADDITIONS TO OUR
KNOWLEDGE OF BRITISH BIRDS SINCE 1899.

BY

H. F. WITHERBY AND N. F. TICEHURST.

PART III.

(Continued from page 85.)

ALPINE ACCENTOR *Accentor collaris* (Scop.). S. page 95.

HAMPSHIRE.—One shot by W. Humby in 1885 at Christchurch is in the Hart Collection (*Birds of Hants*, p. 34).

SURREY.—One in the Charterhouse Collection is said to have been killed whilst hopping about a heap of stones on the roadside at Milford in the winter of 1840 by a boy, and Mr. Bucknill sees no reason to doubt its authenticity (*Birds of Surrey*, p. 830).

NORFOLK.—One seen and carefully observed with glasses for some time at very close range by A. H. Patterson on Gorleston pier, September 21st, 1894 (A. H. Patterson, *Zool.*, 1900, p. 400).

The above occurrences of this exceptional visitor are not noted by Mr. Saunders.

CORNWALL.—An adult male was shot at Looe on November 11th, 1906 (J. Clark, *Zool.*, 1907, p. 283).

BEARDED TITMOUSE *Panurus biarmicus* (L.) S. page 99.

NORFOLK.—In a valuable article on this species Mr. J. H. Gurney estimates that the total number of nests in the Broads had decreased gradually from 200 in 1838 to 33 in 1898 (*Zool.*, 1900, p. 358). We have good reason to believe that since that date the birds have increased in number.

RUTLAND.—Two males shot at Burley Ponds, January 18th, 1905. The first records for the county (C. R. Haines, *Birds of Rutland*, p. 27).

SURREY.—Mr. G. Dalglish informed Mr. Bucknill that he saw a party of five at Milford, near Godalming, and was confident of their identity (J. A. Bucknill, *Zool.*, 1902, p. 226).

HERTFORDSHIRE.—One seen at the end of January, 1905, by an observer well acquainted with the species in a reed-bed in the western part of the county. Only three previous records—

the last in 1888—are known for this county (W. Bickerton, *Trans. Herts. Nat. Hist. Soc.*, Vol. XIII., Part I., p. 52).

SCILLY.—In some MS. notes drawn up in 1863, Rodd says that it has occurred once on St. Mary's Moors (J. Clark and F. R. Rodd, *Zool.*, 1906, p. 246).

LONG-TAILED TITMOUSE *Acredula caudata* (L.). S. page 101.

OUTER HEBRIDES.—A "company" was seen in 1903 in Lewis in the Outer Hebrides, in which islands the bird had not before been recorded (D. Mackenzie, *Ann. Scot. Nat. Hist.*, 1904, p. 188).

GREAT TITMOUSE *Parus major* (L.). S. page 103.

SCOTLAND, *Caithness*.—A pair seen at Wick, November, 1904 (*t.c.*, 1904, p. 188). *Shetlands*.—One killed on October 16th, 1906, and single birds seen on the 17th and 21st at Unst (T. E. Saxby, *t.c.*, 1907, p. 50).

The Great Tit had not previously been recorded as occurring in Caithness, and only doubtfully in the Shetlands.

CRESTED TITMOUSE *Parus cristatus* (L.). S. page 111.

The bird observed by Baron von Hügel in 1874 was at Plymouth and not at Bournemouth (*Birds of Hants*, p. 40).

YORKSHIRE.—The reported occurrence of one near Keighley, Yorks., said not to be authenticated, but another not mentioned by Mr. Saunders was taken at Thirsk "many years ago" (*Birds of Yorks.*, p. 115).

NORFOLK.—One, "unmistakably of this species," seen by A. Patterson in some firs near Yarmouth in the autumn of 1888 or 1889 (A. Patterson, *Zool.*, 1900, p. 401). Has not yet been obtained in Norfolk.

TREE-CREEPER *Certhia familiaris* (L.) S. page 117.

FAIR ISLE (SHETLANDS).—A male was found exhausted on December 27th, 1906, and is pronounced by Mr. Clarke as belonging to the "continental" race, but which, he does not state. Two previous occurrences of the Creeper in Shetland are known (W. E. Clarke, *Ann. Scot. Nat. Hist.*, 1907, p. 72).

WALL-CREEPER *Tichodroma muraria* (L.). S. page 119.

SUSSEX.—A female shot on December 26th, 1905, at Ecclesbourne, near Hastings (W. R. Butterfield, *Bull. B.O.C.*, XVI., p. 44).

CHANNEL ISLANDS.—One in Alderney, December 19th, 1899. "Brought for identification to Mr. E. D. Marquand, who informed me of the fact" (J. E. Harting, *Handbook Brit. B.*, Ed. II., p. 364).

These are the fourth and fifth occurrences of this Alpine species.

WHITE WAGTAIL *Motacilla alba* L. S. page 123.

Much has been added to our knowledge of the White Wagtail as a bird of passage since 1899. The "Third Interim Report" (1900), of the B.A. Migration Committee contains a valuable summary of its passage up our coasts in spring *en route* for Scandinavia and Iceland, and back again in autumn.

In spring it passes up the west coast in considerable numbers from Cornwall, Devon, and Somerset, along the Welsh coast to the Solway and Clyde areas; through the Isle of Man; through the Hebrides (Mull, Barra, Monach, Lewis, Tiree, Coll, Flannans), and through Fair Isle and Shetlands (*cf. B.A. Report, vide supra; Zool.*, 1902, p. 464, 1904, p. 86, 1905, pp. 226, 381, and 430; *Ann. Scot. Nat. Hist.*, 1905, p. 181, 1907, pp. 19 and 137; *Bull. B.O.C.*, Vol. XVII., p. 124, Vol. XX., p. 101; *Birds of the Isle of Man*, p. 41). In Ireland it is now known to pass regularly in the spring through Connaught and co. Donegal, and has been taken in the Aran Isle, co. Galway (R. J. Ussher *in litt.*; *cf. also Irish N.*, 1902, p. 160).

The return movement in autumn has not been so well recorded. It has been noted with some regularity in Shetland and Orkney, and was one of the commonest migrants in Fair Isle in September, 1905 and 1906. In Barra and Tiree it occurs with great regularity from the middle of August to mid-September, and it has been noted fairly regularly in the Flaunan Isles and Argyllshire. It also occurs on the north Somerset coast, and is not an uncommon visitor to Scilly, but elsewhere the autumn records are exceedingly scanty and irregular (*cf. B.A. Third Interim Report; Ann. Scot. Nat. Hist.*, 1901, pp. 5-12 and 76, 1902, p. 77, 1903, p. 144, 1904, p. 147, 1905, p. 206, 1906, pp. 19 and 145, 1907, pp. 25, 72, and 137; *Zool.*, 1902, p. 464, 1904, p. 86, 1905, pp. 226 and 430, 1906, p. 247).

On the east side of England, Scotland, and Ireland it is comparatively seldom noted. Indeed, on the east of Ireland there are only two records, one on May 21st, 1902, in co. Antrim, and one on September 4th, 1903, in co. Dublin, the only autumn Irish record (*Irish N.*, 1902, p. 221, and 1903, p. 300). Similarly there have been very few recorded in the south-eastern quarter of England, *e.g.*, Sussex, one seen May, 1902; one seen April 2nd, 1905 (M. J. Nicoll); May 9th, 1905; Essex, April 6th and 15th, 1906; Berkshire, May 8th and June 9th, 1906; Oxford, May 21st, 1904; Cambridge, April 25th, 1906; Surrey, April 17th, 1905, May 6th and 20th, July 3rd and September 2nd, 1906 (*Bull. B.O.C.*, Vol. XVII., p. 124, and XX., p. 101; *Zool.*, 1905, p. 187; 1906, pp. 434, 445; 1907, p. 101). In Norfolk and Yorkshire it has been noted more often, especially in the spring. In East Lothian and Fife Mr. W. Evans noted it as a regular bird of passage in spring and autumn (*Ann. Scot. Nat. Hist.*, 1901,

pp. 12-15), but north of Fife, on the eastern side of the Scottish mainland, the only definite record known to Mr. Clarke was at Inverness in April, and since then one has been noted at Peterhead on May 27th, 1904 (*Ann. Scot. Nat. Hist.*, 1904, p. 127).

A pair were seen with young not long fledged in June, 1899, by the Tees side (*Birds of Yorks*, p. 124.).

An old female and three or four young birds were seen by Mr. O. V. Aplin at Byfield reservoir, Northamptonshire, on July 19th, 1905, and supposed by him to have been bred there (*Zool.*, 1905, p. 963).

A nest and three eggs were found on May 31st, 1904, in Sussex (J. A. Walpole Bond, *Field*, June 11th, 1904).

Note.—As the Yellow Wagtails will shortly be fully dealt with in a separate article by N. F. Ticehurst, they are not here referred to.

TREE-PIBIT *Anthus trivialis*. S. page 131.

FAIR ISLE, SHETLAND.—Noted as a bird of spring and autumn passage (W. E. Clarke, *Ann. Scot. Nat. Hist.*, 1907, p. 72).

SCILLY.—Observed occasionally in autumn and may be a regular autumn visitor. An adult male was found dead on St. Agnes in June, 1902 (James Clark and F. R. Rodd, *Zool.*, 1906, p. 247).

RED-THROATED PIPIT *Anthus cervinus* (Pall.). S. page 135.

IRELAND.—A male shot by Mr. F. Coburn in Achill, co. Mayo, on May 26th, 1895, was exhibited by him at the B.O.C. on October 23rd, 1901 (*Bull. B.O.C.*, XII., p. 15, *Zool.*, 1901, p. 264); a second, shot by Mr. H. E. Howard in co. Donegal on August 9th, 1898, was recorded by Mr. F. Coburn, but afterwards referred to with doubt as to its authenticity (*Zool.*, 1901, p. 264, and 1902, p. 313, and *Irish N.*, 1901, p. 231).

SUSSEX.—A female (young) obtained in a garden at Ninfield on November 26th, 1901, was exhibited at the B.O.C. by Mr. Howard Saunders on behalf of Mr. L. A. Curtis Edwards (*Bull. B.O.C.*, XII., p. 35).

Only four previous occurrences of this bird were known, and none of them in Ireland.

TAWNY PIPIT *Anthus campestris* (L.). S. page 137.

SUSSEX.—Four were obtained by Mr. M. J. Nicoll on September 22nd and 24th, 1903, at Rye Harbour, and the following year on August 14th and 17th two more (adult male and female) were shot at the same place and recorded by the same observer, who also himself shot a further example (a young bird) near Bexhill on September 26th, 1904. Mr. Nicoll

has good reasons to suppose that the bird is a regular visitor to this part of Sussex (*Bull. B.O.C.*, XIV., pp. 18 and 25, XV., p. 12, and *Zool.*, 1904, p. 452, and 1906, p. 463). We believe others were obtained in 1905, and we should not be surprised to hear of its nesting.

NORFOLK.—An adult female netted on Yarmouth Denes, October 9th, 1897, is in Mr. Connop's collection (J. H. Gurney, *Zool.*, 1898, p. 114; 1900, p. 402).

CORNWALL.—A male was captured at Bodmin on September 16th, 1899 (J. Clark, *Zool.*, 1907, p. 283).

RICHARD'S PIPIT *Anthus richardi* Vieill.

[CORNWALL.—One seen on the Sandhills, near Hayle, December 22nd, 1903 (H. E. Howard, *Zool.*, 1904, p. 115).]

[NORTH WALES.—One supposed to have been shot on December 9th, 1840, at St. Asaph, by Dr. J. W. Moses (H. E. Forrest, *Zool.*, 1901, p. 425).]

SCILLY.—One shot in October, 1849, and three on September 19th, 1868, and a pair seen May 16th, 1903 (J. Clark and F. R. Rodd, *Zool.*, 1906, p. 247).

KENTISH KNOCK, L. V.—A male in "first plumage" captured September 25th, 1903 (W. E. Clarke, *Ibis*, 1904, p. 137).

A good many occurrences of this eastern Pipit have been recorded, chiefly on the south coast of England.

WATER-PIPIT *Anthus spipoletta* (L.). S. page 141.

ISLE OF WIGHT.—A young example shot at Freshwater in September, 1865, was identified by the late Rev. H. A. Macpherson (*Birds of Hants*, p. 46).

SCILLY.—One obtained on May 17th, 1903 (J. Clark and F. R. Rodd, *Zool.*, 1906, p. 247).

[OXFORD.—One seen Milcomb, March 22nd, 1903 (O. V. Applin, *Zool.*, 1905, p. 414).]

NORFOLK.—A female shot January 25th, 1905 (J. H. Gurney, *Zool.*, 1906, p. 124).

KENT.—One shot January 13th, 1905, at Littlestone (M. J. Nicoll, *Zool.*, 1906, p. 466).

SUSSEX.—1900, February 19th, one, Hollington; 1902, October 29th, one, Rye; 1904, October 12th, three seen, Pevensey; October 26th, one, Rye; November 12th, two seen, Pevensey; November 14th, two seen (one shot), Pevensey; November 17th, one, near Eastbourne; November 21st, one seen, Pevensey; November 23rd, one, Pevensey; November 25th, one near

Eastbourne; December 19th, one seen, Pevensey; 1905, February 25th, four seen, Rye; April 2nd, one seen, St. Leonard's; October 6th, one seen, Rye; 1906, spring, also seen (M. J. Nicoll, *Zool.*, 1906, pp. 463-467).

Writing in 1899, Mr. Saunders referred to this Alpine species as an unusual visitor to England, and at that time only nine *authenticated* examples were known. It is quite evident from Mr. Nicoll's observations (*cf. supra*) that the bird may now be regarded, like the Tawny Pipit, as a fairly regular visitor to the south coast on migration. It was formerly confused with the Scandinavian form of the Rock-Pipit, and it is still doubtful whether two other specimens, a male and female killed at Portslade, near Brighton, in March, 1867, were of this species or not. They were presented by E. T. Booth to J. Whitaker, and figure in the sale catalogue of his collection, Lot 63, May 22nd, 1890, as "Water-Pipits"—*cf.* Mr. Aplin's remarks on the plate of the Scandinavian Rock-Pipits in Booth's *Rough Notes*, *Zool.*, 1896, p. 302.

(*To be continued.*)

WIND AND FLIGHT.*

BY

F. W. HEADLEY, M.A., M.B.O.U.

PART I.

DESIGNERS of flying machines are many; students of the flight of birds are few, in spite of the fact that there is, in our own country at any rate, a great and growing interest in ornithology. This being so, I propose to say a very few words about the general subject of the flight of birds before I try to explain the various ways in which they utilise winds and currents of air.

Air will support a body propelled horizontally through it if only this body moves quickly enough. Speed of movement is an absolute necessity. Any bicyclist knows that the faster he travels, the harder it is to cut his way through the air, even if he does not know that its resistance increases as the square of his velocity. Supposing the figure 100 represents the resistance when he is going at ten miles an hour, it is represented by 400 when he quickens to twenty. This holds of all moderate velocities. At very great speeds the resistance increases even more rapidly. Here, then, is the principle that makes flight possible, for if a flying machine is well built the resistance will come mainly in the form of support. No sooner had Mr. Maxim's ponderous aeroplane attained a velocity of thirty-six miles per hour than it rose in the air. A bird is built on such perfect lines that the air hinders but little his progress onward. He sets his body, or the plane of his body and expanded wings, at a small angle to the

* The account I give of soaring in these articles is, I hope, definite and clear. It would certainly not be clear without a general account of wind and flight. This must excuse my recounting again some observations of which I have already published accounts.

horizon, and the wind due to his own velocity acts at right angles to the plane, offering much support and very little resistance. Great velocity is in all cases essential. When a Rook flaps leisurely along, yet the pace at which the extremities of his wings move is very great.

The next point to grasp is that the downward movement of the wings is able not only to lift the bird but to propel him. In rapid flight the wing is first raised high aloft,



FIG. 1.—Lesser Black-backed Gulls off Mogador.

and then its movement is at once downward and forward, the front margin being all the while lower than the hinder. The force of the air impinging against the wing acts at right angles to it, and, the wings having the incline I have described, the bird is not only lifted but urged forward. In fact the parallelogram of forces is energetically at work. The force acting at right angles to the wing is resolved into two—one lifting, the other propelling. On this resolution of one force into two all flight depends.

The principle is the same when the wing beats the air, and when the bird gliding with outspread wings inclines his body slightly upward, so that the air may act on his whole outspread surface. The accompanying photograph (Fig. 1) shows the position of the wing at important phases of the stroke.

GLIDING.

Gliding introduces us to another wonderful fact in the action of air in motion. We can understand this best by considering what happens when a boat is tacking, sailing close to the wind, so that the air impinges on the sail at an acute angle. It strikes against the foremost part of the sail, and, being prevented from continuing in its natural course, rushes along the sail—as shown by the arrows in the diagram—and thus, if the sail is a broad

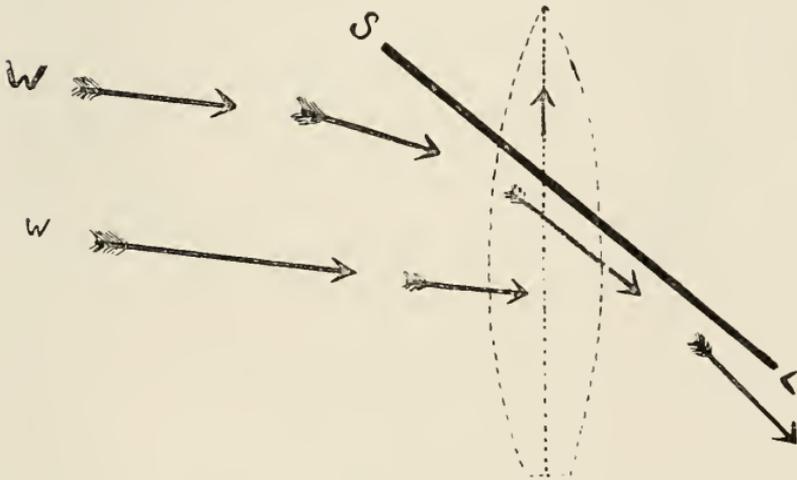


FIG. 2.—Diagram illustrating Gliding. s L, sail; w, wind.

one, its front margin does all the work. To apply this to gliding flight—it is the front margins of the wings that support the bird when he holds them outstretched, inclined only slightly to the horizontal. Consequently, the greater the extent of the front margin, the better able will he be to maintain his level or even to ascend. If he wishes to descend as he glides, he will partly flex his wings.

RISING.

Everyone is familiar with the fact that birds face the wind when they wish to rise, though the reason for this is not so generally known. A wind blowing in the bird's face would not help him to rise except for the fact that the wind increases in velocity with altitude—a fact that can be verified with an anemometer. I have found that when there is a wind of 770 feet per minute at a height of 2 feet from the ground, the anemometer will record a velocity of over 1000 feet at a height of $7\frac{1}{2}$ feet. We may for the sake of clearness divide the air into distinct successive streams, the second more rapid than the lowest, and each, as we ascend, more rapid than the one below it. Imagine a bird rising with wings held rigidly expanded through these successive streams. The wind will, of course, drive him backwards, but in each stream he will have only the velocity of the one below, from which he has just emerged. Consequently he will offer resistance to the stream, will have, in fact, inertia, and the force of the horizontal wind will be divided into two forces, one of which will lift him. True, he cannot trust to the wind alone, so he plies his wings vigorously. Even the Lark, past master as he is in the art of upward flight, always lightens the work of his wings in this way. Moreover, the wind can depress as well as lift. Were the bird to look *down the wind* as he rises, then the air striking upon his back would tend to force him downwards.

Big birds such as Cormorants have the utmost difficulty in rising without a wind to help them. Indeed, a Cormorant will sometimes fly some distance in a direction in which he, as far as one can judge, does not wish to go, simply in order to get the help of the wind in rising. He has had his meal, and that a heavy one, and his fellow banqueters may be seen drying their wings upon a rock. He also wishes to get to this rock, but he first flies some distance in the opposite direction, because, as it so happens, he has thus the wind in his face as he rises. After attaining some little elevation, he swings round and makes for the rock.

There is no doubt that all large birds have much more difficulty in rising than small ones have, and this is markedly the case with big heavy sea-birds such as the Cormorant and the Gannet. Helmholtz attributed this to the fact that if the size of a bird is increased, the bulk (and consequently the weight) must, according to mathematical principles, increase more rapidly than the supporting surface. Therefore, he argued, a really big flying bird is an impossibility. This was before the day when Mr. Maxim's flying machine, weighing over three tons, rose buoyantly in the air. But, no doubt, big birds do rise heavily, and they have an easily observable anatomical peculiarity which partly accounts for it. When a lark ascends, he gives his body a steep upward incline. If, then, his wings are not simply to drive him backward, but are to beat up and down, they must be capable of rotating very freely at the shoulder joint. A pigeon also has much freedom of rotation at this joint, as the accompanying drawing from a photograph shows. If, on the other hand,



FIG. 3.—Pigeon Rising. (Drawn from a Photograph.)

you take a live Cormorant or Gannet (or one that has just been killed), you will find that it has very little power of

rotation at the shoulder. If a Cormorant were to slope his body steeply upward, his wings would beat forward and backward instead of up and down.

FLIGHT AGAINST THE WIND.

Birds, and notably small birds, may be seen making headway against very strong winds; but, of course, their pace is much less than it would be were the wind behind them, or if there were no wind at all. But they cannot fly against a regular gale. At New Romney, in 1894, I saw some Gulls flying dead against the furious blizzard, but they kept so near to the ground that their wings almost touched it, and even at that comparatively calm level, where friction took much of the sting out of the blast, they made but slow and laboured progress.

FLIGHT WITH THE WIND.

Homing pigeons make the best times when they fly with the wind behind them. Where a velocity of fifty miles an hour is recorded, it is always with the help of a "tailwind." But there is a general belief among observers that birds never fly with a regular gale behind them. Certainly, when they are feeding, they always face a high wind. Last year I was in Alderney, and, one day, when there blew what even an old sailor would call a stiff breeze, it was very interesting to watch the shore birds. They all, without exception, headed towards the wind as they walked on the sand or the rocks. A large flock of Oyster Catchers stood motionless, every single bird facing straight to the front like a regiment of soldiers. The horses and cows, on the contrary, all turned their heads away from the wind. No doubt, a bird very much dislikes having his plumage ruffled from behind by a gale. When the Ringed Plover and the Dunlins flew from one patch of sand to another (the patches were scattered among the rocks), they did not head towards what appeared to be their objective, if, in order to reach it, they would have had to fly with the wind behind them. They headed in a direction at right angles to the wind, and let it sweep them sideways

to the patch to which they wished (or I imagined they wished) to go. Of this I saw many instances.

Rooks very much enjoy a stiff breeze. You can see them over their rookery hanging in air, head towards the wind. Sometimes they turn and fly with it, but, as far as I have observed, they do not equal it in pace, and so they lose altitude. It impinges on their backs, and so tends to drive them downwards.

If a bird flying with the wind only equals its velocity, he is part of the moving current, as a balloon is. The air does not resist, and consequently does not support him. If his pace is not equal to that of the wind, not only does it not support him, but it assists gravitation. It would also ruffle his plumage, a thing he much dislikes. It may be urged that, since he is part of the moving current, he has only to ply his wings vigorously, and he will, as a matter of course, outpace the wind, and so will have no difficulties. But he must first get started. He cannot rise facing in the direction in which the wind blows. He rises with the wind in his face, thus getting it to help him. When he has reached the altitude he wants, he must turn, and at first will have no pace to speak of. The wind will buffet him, and, striking on his back, send him downward. Moreover, and perhaps this is the greatest difficulty, wind comes in gusts. Though his own velocity may be superior to the wind's average velocity, yet a sudden gust may deprive him of this superiority, may inconvenience him, and cause him to lose altitude.

When, during a high wind, a bird wishes to alight, he descends with the wind, then, when he nears the ground or his perch, he wheels round and faces it. The resistance of the air checks him and steadies him. A bird's mode of alighting is always a fine thing to see. The outspread wings, even the little bastard wings extended (a back stroke being thrown in if necessary), prevent all jar, and as he comes to earth he is, unlike man-made flying machines, under perfect control.

(To be continued.)



NOTES

OCCURRENCE OF THE FIELDFARE IN AUGUST.

ON August 14th last Mr. E. Offin handed to me an example of the Fieldfare (*Turdus pilaris*) which his brother shot the previous morning (13th) in his garden at Hockley, Essex. After taking its measurements and weight, I at once skinned it. It was a large male in partial moult, with an expanse of $17\frac{1}{2}$ inches, length $10\frac{3}{4}$ inches, wing 6 inches, and weight $3\frac{1}{2}$ ounces. Its gizzard contained the skins of six gooseberries and remains of skins of others, together with the pips and pulp. I found no insect remains or any other substance in it. The only tawny colouring on the undersurface is a pectoral band, the throat and foreneck being milky-white.

F. W. FROHAWK.

THE NUTHATCH AS A NEST-BUILDER.

A FEW observations I have been able to make on a nest of this species built in one of my nest-boxes may be of interest. The box in question is of the ordinary sort, that is, a hollowed pine trunk resting on a board, by which it is affixed to the tree. On April 14th last this was appropriated by a pair of Nuthatches. The nest was completed in four days. Now that the young ones have flown I am able to inspect the result of their labours. Not content with plastering up the entrance and the wall above it, they filled up the bottom of the box with mud, making a cup-shaped hollow, and even went so far as to plaster up a crack in one of the walls and the interstices on the outside where the trunk is fastened on to its support. They must have used fully three pounds of mud. On top of the saucer-shaped hollow a great quantity of silver birch bark was piled up. Of this I counted no less than one thousand eight hundred and twenty pieces. The nearest birch tree is two hundred and fifty yards away in a "bee-line" from the nest. Granted that only one piece was carried at a time, this would make a total journey of four hundred and fifty-five thousand yards, or two hundred and sixty miles. The nest, as I have stated before, was completed in four days; this would make an average journey of sixty-five miles a day. Taking into consideration the amount of labour required to collect and plaster that amount of mud in the same time, I think it must be granted that the Nuthatches were not idle. The remarkably clean state of the nest also surprised me; not a single sheet of this fine bark is soiled, nor is the entrance besmeared in the least.

PHILIP H. BAHR.

Oxted.

[This recalls to our mind an observation made by Mr. R. H. Read (*cf.* Bull. B.O.C., Vol. XIX., p. 22) who counted nine hundred and fifty-two feathers in the nest of a Long-tailed Tit. They were all feathers of the domestic fowl, and must have been procured from the nearest farmyard, which was about a third of a mile distant. Granting that only one feather was carried at a time, and that both birds were occupied in the task, then each bird must have covered some three hundred and twenty miles on its journeys to and fro.—EDS.]

BRAMBLING IN JUNE IN YORKSHIRE.

BRAMBLINGS remained in many places in the spring of 1907 beyond the average date of their departure; in Cheshire, for instance, they were with us until the end of April.

About the middle of June, Mr. S. Ratcliffe, who lives at Luddenden-dene, near Hebden Bridge, Yorkshire, heard the note of a bird which he could not identify, in a birch wood near his house. He pointed out the bird to Mr. Waterworth, of Halifax, who recognised it as a Brambling, and on the 23rd took a number of Halifax and Hebden Bridge naturalists to see it. On June 28th, by invitation, I accompanied Messrs. W. Greaves, Greenwood, and W. Nowell, to the wood, and both saw and heard the bird. The bird, a male in full breeding dress, gave us every opportunity for observation, remaining for some hours in one portion of the wood; indeed, it seldom moved from one particular group of birches. The brown tips and margins of the feathers had been shed, so that the bird's head, neck, and back were glossy black, and the lesser wing-coverts formed a conspicuous chestnut-buff patch; the white rump was only noticeable when the bird flew. The blue-black bill, so different from the yellow black-tipped bill of winter, was particularly noticeable.

From about 2.30 p.m. until 6 p.m., when we left, the bird called at intervals of about ten seconds the loud long-drawn "cree" of the breeding season. Every time it uttered this note it raised its head until its beak pointed upwards. This note, so like the monotonous cry of the Greenfinch, was the only sound we heard it make. Once or twice it flew for a short distance through the trees, and there was nothing in its flight to suggest that it had been in any way disabled, and so unable to leave the country with other Bramblings.

Mr. Ratcliffe saw the bird on June 30th, but after that it was not, to my knowledge, seen nor heard. We failed to find any evidence that a pair had remained to nest.

T. A. COWARD.

SOUTHERN GREY SHRIKE (*Lanius meridionalis*)
IN NORFOLK.

IN Part III., Vol. VIII., of the "Trans. Norf. and Norw. Nat. Soc." (1907), just issued, Mr. J. H. Gurney gives a short description of a specimen of *Lanius meridionalis* in the collection of Mr. E. M. Connop, which was shot at Drayton, near Norwich, in December, 1890.

The author points out that the Southern Grey Shrike has only once previously been recorded as occurring in Great Britain. This record was of a specimen taken near Colchester in November, 1875, and was communicated by Dr. Bree to the "Field," November 13th, of that year. This specimen is not referred to by Mr. Saunders in his "Manual." The species is resident in the Spanish Peninsula and in the south-east of France.

NUMBER OF EGGS LAID BY THE CUCKOO.

THIS year I found five Cuckoo's eggs in five nests of Reed Warblers; three on one day, and two on the next. The nests were in the reeds on a small stream, and all were within a short distance of each other—two hundred yards would cover the five nests. The eggs are evidently all laid by the same bird, as they are exactly alike in shape and colour, the latter being reddish.

The number of Reed Warbler's eggs in the nests were two, three, three, one, and four respectively.

Reed Warblers have bred here this year in thousands; every little clump of reeds was full of them.

Dovercourt.

F. KERRY.

A CLUTCH OF WHITE EGGS OF THE WOODCOCK.

IN the middle of May last, a keeper on the estate of Glenberrie (Kincardineshire) flushed a Woodcock off a nest containing white eggs. As the bird had deserted, I did not see it when I visited the place on the 18th, but the nest was there, and contained four eggs of the usual size and shape (one measured 1.75 by 1.3 in.); but all were pure white, except for a faint reddish stain in places. This stain was evidently caused by the clayey soil and was easily rubbed off. The nest was among dead beech leaves, on a thinly-wooded slope. The eggs are now in the museum at Marischal College.

A. LANDSBOROUGH THOMSON.

[Mr. H. E. Dresser, to whom we submitted a photograph of the nest and eggs sent by Mr. Thomson, writes: "I know of another instance of a Woodcock's nest containing white eggs, but the occurrence is rare in the Woodcock, although most birds which usually lay coloured eggs occasionally lay pure white ones."—EDS.]

THE PACIFIC EIDER (*Somateria v-nigrum*).

ALTHOUGH the V-mark on Mr. Smalley's specimen of *S. mollissima* (*vide supra*, p. 71) is rather indistinct, that on the Oldham Museum specimen is very clear. In a profile photograph now before me the visible arm of the V is practically as large and distinct as the prolongation of the black cap that borders the lower edge of the culmen. In the case of our bird the error was excusable, although the knowledge (*Zool.*, 1905, p. 142) that it differed from Gray's and Salvadori's descriptions should certainly have aroused our suspicions.

Mr. Smalley asks for information of Eiders possessing signs of this chevron. I should suggest that owners of skins also note the area of the green bordering the cap, and the shape of the bare spaces of the bill. If the green be found to reach the eye in any British Eider, the European specimen of Dresser's Eider (Saunders' *Man.*, ed. II., p. 460) will need to be re-examined, for I have noticed considerable variation in the shape of the bill in *S. mollissima*.

While being quite in accord with the major part of Mr. Smalley's remarks, I cannot refrain from pointing out that the combination of long tertials, yellow bill, and (occasional) black V, said by Sanford to mark the Northern Eider, is found in our specimen. Perhaps someone better endowed for the task than I may find a vague race, distinguished by the above characters, with a range comprising the eastern coast of Greenland and the extreme western coasts of Europe. We must remember that if we accept this theory of reversion in the Eiders, we shall have to bear it in mind every time a casual belonging to a genus with British representatives (*Larus*, for instance) reaches our shores.

Oldham.

FRED. STUBBS.

THE TAIL-FEATHERS OF THE GREBES.

MR. W. P. PYCRAFT, to the July issue of the "Ibis," contributes a short paper on the tail-feathers of the Grebes. So far, these birds have always been described as tail-less, or as having the tail "obsolete." But no attempt seems to have been made to determine the extent of the degeneration which has taken place in these feathers.

Mr. Pycraft shows that, in the matter of number, there has been a marked reduction, not more than eight being apparently present. Structurally, they appear to be less reduced in *Podiceps rollandi*, wherein a fairly perfect vane is still preserved. In the Dabchick (*Tachybaptus fluvialis*), however, and in the Red-necked Grebe (*Podiceps griseigena*), the vanes of the feathers

are quite degenerate, being made up of a series of long, weak barbs, which have quite lost the power of interlocking.

In the matter of position with regard to the vertebræ, these feathers show still further signs of degeneracy, since they do not hold their normal relationships with regard to the pygostyle, but form, on the contrary, an irregular series arranged in a U-shaped fashion.

More work remains to be done on this subject. Not only do we want to know exactly what obtains in all our British Grebes when adult, but also whether the tail-feathers of the young in their first plumage are relatively more perfectly developed than in the adults.

This investigation is by no means an easy one, for, in most cases, some considerable difficulty is found in distinguishing the caudal feathers from the general plumage of the body, while no reliable facts can be obtained as to the number and position of these feathers except from freshly killed or spirit specimens. Embryos would probably reveal some interesting facts in this connection.

* * *

LESSER WHITETHROAT NESTING IN FORFAR.—Mr. T. F. Dewar records the nesting of a pair of this species, the eggs of which he identified, in his garden in the Burgh of Forfar, in June, 1907. The bird is very rare in the north of Scotland (*Ann. Scot. Nat. Hist.*, 1907, p. 185).

* * *

LESSER WHITETHROAT IN CORNWALL IN AUTUMN.—Dr. J. Clark gives records showing this species is a casual autumn bird of passage in the north-east of Cornwall (*Zool.*, 1907, p. 281).

* * *

GARDEN WARBLER IN SHETLAND.—One found dead in a tank on June 9th last, at Lerwick (J. A. Harvie-Brown, *Ann. Scot. Nat. Hist.*, 1907, p. 184).

* * *

DARTFORD WARBLER IN CORNWALL.—Dr. Clark says that it was unrecorded after the hard winter of 1886-7 until May, 1889, when one was seen at Hayle. In April, 1904, a nest was found near Penryn, and in 1905 one at Linkinhorne, and another at St. Buryan (*Zool.*, 1907, p. 282).

* * *

FIRECRESTS IN CORNWALL.—Firecrests have always favoured Cornwall, and Dr. Clark records the following: 1900, October, several at the Lizard; November, two near Truro. 1901, January, about a dozen near Tregothnan; November, one at Kea. 1904, December, two near Gulval and one at Helston. 1905,

November, not at all uncommon from Malpas to King Harry Passage. 1906, November, seen near Bissoe (*Zool.*, 1907, p. 282).

* * *

MELODIOUS WARBLER IN CORNWALL.—An adult male was shot on May 12th, 1905, near Sandplace, Looe, and identified by Dr. Clark. It was shot by a farmer "so that people should not laugh at us when we said we had heard the Nightingale in Cornwall" (*Zool.*, 1907, p. 282).

* * *

LATE STAY OF SWALLOWS, HOUSE- AND SAND-MARTINS IN HAMPSHIRE.—Mr. Harry Beeston gives (*Zool.*, 1907, pp. 227-234, 267-271, 303-306) some very full details of the late stay of some examples of these species near Havant in 1905 and 1906. He comes to the conclusion that the birds deliberately stayed on because of a plentiful supply of food, and he believes that if our winters were only a few degrees milder they would winter with us. But, as so few individuals lingered, this seems an unwise argument, and it is much more likely that they were prevented for some physical reason from undertaking the long journey south, and that the abundance of food enabled them to live longer than is usual in these cases. Briefly, the observations are as follows:—1905, November 18th, six Swallows and one Sand-Martin; 19th, five Swallows; 20th, one; 21st to 23rd, two; 24th to December 8th, one. 1906, November 11th, three House-Martins; 18th, five Swallows; 25th, three Swallows, two House- and one Sand-Martin; 27th, two Swallows; 28th, five Swallows; November 29th to December 21st, one Swallow and two Sand-Martins were seen fairly regularly, except that the Swallow disappeared on December 12th and reappeared on the 21st, only to disappear finally on the next day. On the 29th only one Sand-Martin was left, and this survived until January 23rd, 1907, when it was seen for the last time.



REVIEWS

Notes on the Birds of Rutland. By C. Reginald Haines, M.A., F.S.A., etc. Illustrations and Map. Porter. 7s. 6d. net.

MR. HAINES need have made no apology for his little book, for, as he writes in his preface, every county should have a separate history of its avifauna.

Its small size, inland position, the sameness of its physical features, and the fact that few have taken any interest in its avifauna, go to make Rutland a poor county for birds. Only two hundred species are here included, and some of these are recorded on slender evidence. Mr. Haines has had little help, but he has done his work well and conscientiously.

Attention may be drawn to the following points:—The Stonechat appears to be a rare bird notwithstanding abundance of gorse; the note (p. 16) on the "Dartford Warbler" certainly does not refer to that bird; the evidence for the occurrence of the Firecrest, in a letter by Mr. Mitchell (p. 18) appears strong; two Bearded Tits visited Burley Ponds on January 18th, 1905; trinomial are used in brackets and for some of the Tits only (!); the Willow Tit is not a subspecies of the Marsh Tit; the Pied Flycatcher occurs in the breeding season, and there is strong evidence of its having nested; the Hawfinch is increasing, as elsewhere; the Twite was definitely added to the list in March, 1905; on page 79 is a record of what *might* have been a specimen of *Picus martius*; the inclusion of the Egyptian and Canada Geese and the Green-backed Gallinule as "British" birds we cannot agree to; the Redshank appears to have first visited the county in 1890, and has bred there since 1893; Bonaparte's Gull is admitted on evidence not altogether satisfactory.

In conclusion, a word should be said about the eight illustrations, which we cannot consider satisfactory. Most of them are unsuitable to a county avifauna, which should be provided, in the first place, with illustrations to show the character of the country and the haunts of the typical species, and, secondly, only with portraits of the typical species. Such illustrations as that of a Snipe being shot (p. 144) seem altogether out of place. We should rather, had it been necessary, have dispensed with all the illustrations and been provided with a better map.

BOOK OF THE MONTH.

The Birds of Yorkshire, by T. H. Nelson, M.B.O.U., W. Eagle Clarke, F.R.S.E., F.L.S., and F. Boyes. 2 vols. 899 pp. 164 plates. (Brown & Sons.) 8vo, 25s. net; 4to, 42s. net.

BRITISH BIRDS

EDITED BY H. F. WITHERBY, F.Z.S., M.B.O.U.
ASSISTED BY W. P. PYCRAFT, A.L.S., M.B.O.U.

CONTENTS OF NUMBER 5. OCTOBER 1, 1907.

Nestling Birds, and Some of the Problems they present, by W. P. Pycraft, A.L.S., F.Z.S., M.B.O.U. (Part II.)— <i>continued</i> <i>from page 106</i>	Page 129
On the Yellow Wagtails and their Position in the British Avifauna, by N. F. Ticehurst, F.R.C.S., M.B.O.U.	133
Wind and Flight, by F. W. Headley, M.A., M.B.O.U. (Part II.)— <i>continued from page 121</i>	143
On the More Important Additions to our Knowledge of British Birds since 1899, by H. F. Witherby and N. F. Ticehurst (Part IV.)— <i>continued from page 114</i>	147
Notes:—Interbreeding of Ring-Ousel and Blackbird. Combined Nest of Whitethroat and Hedge-Sparrow (E. C. Arnold). Wood-Wren in East Ross-shire (C. B. Rickett). Late Nesting of the Bearded Tit (W. P. Pycraft). White Wagtail in East Ross-shire (C. B. Rickett). Richard's Pipit in Cornwall (C. B. Rickett). Nesting of the Lesser Redpoll in Kent (Percy F. Bunyard). Nesting Sites of the Common Heron (W. J. Clarke), (Francis C. R. Jourdain). Nesting Habits of Great White Heron and Common Heron (R. B. Lodge). The Pacific Eider (W. J. Clarke). Red- shank Breeding in Warwickshire (A. H. Etches)	153
Reviews:—Transactions of the Hertfordshire Natural History Society, Vol. XIII., Part I. Transactions of the Norfolk and Norwich Naturalists' Society, Vol. VIII., Part III.	160

NESTLING BIRDS, AND SOME OF THE PROBLEMS THEY PRESENT.

BY

W. P. PYCRAFT, A.L.S., F.Z.S., M.B.O.U.

PART II.

(Continued from page 106.)

ANOTHER promising field which awaits the ornithologist seeking new pastures, will be found in the colouring of the inside of the mouth of nestling birds. This colouring appears to be conspicuous only in nestlings of the helpless type, especially in those which are reared in dimly-lighted

places. As a rule, among British birds, the inside of the mouth is of a bright yellow, and this is sometimes relieved by black spots upon the tongue and palate. In the Hedge-Sparrow, for example, black spots are found upon the



FIG. 1.—Mouth of Hedge-Sparrow, showing Spots on the “Spurs” of the Tongue. (From a Photograph by MISS E. L. TURNER.)

tongue. In the Bearded Tit, on the other hand, these spots are white on a yellow ground, and in this species, furthermore, as a reference to our figure shows, these spots are more numerous than in the Hedge-Sparrow, occurring on the palate in the form of a rosette, as well as on the tongue.

In how many other of our native birds such markings are to be found there is, at present, no source of information save that of direct observation. The nestlings

of the Pied Wagtail are among those species with unspotted mouths, but the colouring is very striking, being of a



FIG. 2.—Nestlings of Bearded Tits, showing the Spots on the Tongue and Palate. (From a Photograph by MISS E. L. TURNER.)

luminous gamboge yellow, outlined by the pale yellow of the gape flanges.

As above remarked, the conspicuous coloration of the inside of the mouth appears to be most strongly developed in those nestlings which are reared in dimly-lighted places, and it may well be that this colour has been developed to serve as a guide mark to the parents when feeding their young. Without such an aid, indeed, the food might as often be dropped outside the nestling's mouth as within it. The fact that such guide-marks are found to-day in nestlings which are reared in

the open air does not necessarily militate against this interpretation : for they may be regarded as survivals of an earlier phase when such marks were useful. Like many other characters now useless, they may have survived because their suppression has not been necessary for the welfare of the species.

The wide, highly-coloured membranous flanges that occur at the gape of all nestlings of the helpless type may also be regarded as adaptations to facilitate the work of feeding. If they also are indeed guide-marks, it would be interesting to discover whether they are larger in those birds whose mouths are not conspicuously coloured inside. But the want of information on this subject is deplorable, and it is to be hoped that those who have suitable opportunities will hasten to fill this gap in our knowledge. Notes concerning this coloration should always be made having regard to the nature of the nesting site and the relative amount of light which reaches the interior of the nest and its occupants.

Whenever possible photographs should be taken. But this will be found a task which will tax even the most skilled photographer. Probably none but those who have attempted, or may attempt, this feat will appreciate the skill and labour which Miss E. L. Turner has expended on the photographs which illustrate this article, and I should like to take this opportunity of expressing my thanks to her ; these pictures having been taken after an immense amount of trouble, in response to my appeal to Miss Turner for help. So far as I know they are, of their kind, unique.

(To be continued.)

ON THE YELLOW WAGTAILS, AND THEIR POSITION IN THE BRITISH AVIFAUNA.

BY

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

IN 1832 the late John Gould pointed out that the British Yellow Wagtail was a different species from that inhabiting the nearest parts of the continent and at the same time clearly showed that, while the continental bird was of rare occurrence in this country, our common species was almost equally rare on the continent.*

The common Yellow Wagtail (*Motacilla raii*, Bonaparte) is a regular summer migrant to the British islands, which form its head-quarters throughout the breeding season. It arrives on our south coast during the last ten days of March, throughout April and during the first week of May, the males generally appearing a full fortnight before the females.

Its breeding range extends from the southern counties of England as far west as Somerset, northward to Inverness and Aberdeen, throughout which area it is generally distributed in suitable localities.

In Devon and Cornwall it occurs chiefly as a spring and autumn migrant, though in the former county it breeds in limited numbers. In Wales it is local as a breeding species, while to the north of Scotland it can only be regarded as a rare visitor. It is said to have occurred in the Shetlands, and an adult male was obtained on Fair Isle, 8th May, 1906, and in Ireland it is extremely local, breeding in one or two localities only.

In most parts of the continent it occurs only as a straggler during the periods of migration, but in France it is found in summer as a breeding species to the west of

* "Proc. Zool. Soc.," 1832, p. 129.

Dieppe, and occurs regularly as a migrant through Portugal and the western half of the Spanish Peninsula.

In winter it is found over a large part of the continent of Africa and has even reached the Transvaal, but it is of most frequent occurrence along the west coast.

The nesting habits of this bird are given more or less fully in all the text books, and are so well known to British ornithologists that there is no need to recapitulate them here.

On the continent of Europe our common species is replaced by one or other of the numerous forms of the Blue-headed Wagtail, the males of which all differ from the males of the Yellow Wagtail in having the head of a lighter or darker shade of bluish-grey instead of greenish-yellow, and having a white streak above the eye (absent in some of the forms) instead of a broad streak of canary-yellow. The females and young birds are less easily distinguished. These various forms are only separable from one another by the differences in shade of the colour of the head and the presence or absence of the white eye-stripe. Of these forms the following five have occurred in this country :

1. BLUE-HEADED WAGTAIL. *Motacilla flava flava* L.

The Blue-headed Wagtail is found over the greater part of Europe, ranging from as far north as central Scandinavia and northern Siberia, to the shores of the Mediterranean. The adult male has a bluish-slate crown, a white stripe above the eye, and nearly always an ill-defined white streak through the ear-coverts, which are darker than the crown. The female can be distinguished from that of *M. raii* by the slightly bluer tint of the crown and the purer whiteness of the eye-stripe and chin. The young birds in autumn are much less easy to identify with certainty, especially in the field. In the latter part of August, and from thence on till the beginning of October, when they are to be found on our coasts, the autumn moult is taking place, and being a gradual process, a good deal of variation is to be met with according to the ages of the individuals and the consequent different degree to

which the moult has progressed. The Wagtails as a whole, too, seem prone to a certain amount of individual variation, particularly in the distribution and intensity of colour of the lighter parts of their plumage. It is difficult, therefore, to lay down hard and fast distinctions between the young of the two species at this season, but from the examination of a good series the following points may be enumerated as being pretty constant throughout:—In *M. raii* the throat and upper breast are a warm pinkish buff, and may have some of the darker feathers of the first plumage still showing along the sides and below if the moult is not complete. Below the base of the mandible the colour is often inclined to be paler, but is *never white*.

In *M. flava flava*, the throat in the majority of specimens is white, but it may be mixed with a few yellowish feathers. On the breast the white shades gradually into pinkish buff, with a good many yellow or ashy-brown feathers intermingled, and so on the belly into a purer yellow, which varies in intensity enormously in individuals of both species. The eye-stripes are pinkish buff or buffish white in all the *M. raii* I have examined, while in the other species they are never of this colour, but vary from yellowish white to almost pure white.

These characters, besides being the most constant, are useful ones in the field, as when the observer has once got them firmly fixed in his head he can be almost certain of picking out, with the help of a good glass, the young Blue-headed Wagtails in a mixed flock.

The tints of the back show a great deal of variation within small limits, and are dependent on the stage to which the moult has advanced. On the whole, the head and back of *M. raii* are inclined to a warmer tint of brown than those of *M. f. flava*—almost a clove-brown on the heads of some specimens, and with a tinge of yellow if the bird is only just beginning to moult. In *M. flava flava* the tint is decidedly colder and a more greenish-brown, and the green of the rump seems to be more decided in most specimens.

The Blue-headed Wagtail has now been recorded from most of the southern and eastern counties of England, several times from Scotland, and from Derby, Cumberland and the Shetlands, but its occurrence in Ireland is doubtful.

As would be expected by its geographical range, it has occurred more frequently in the British Isles than any other of the following forms, and I shall give later a more detailed account of its status in this country.

2. SYKES' WAGTAIL. *Motacilla flava beema* Sykes.

This form represents the above in western and central Siberia, and winters in Afghanistan and India. It occasionally occurs in western Europe and the countries bordering the Mediterranean during migration. It differs from *M. flava flava* in having a pearl-grey head and a white face and ear-coverts, with a pearl-grey band through the eye.

A male of this race was obtained at Rottingdean, Sussex, on April 20th, 1898, and is now in the Tring Museum. It was recorded in the "Zoologist"* by Mr. Butterfield. The male bird that was obtained with the first Sussex nest of the Blue-headed Wagtail on 31st May, 1901, was said by Mr. Dresser to "come nearest to *M. beema*,"† but it could not to my mind be described as having white cheeks, and was without doubt, I consider, a somewhat worn specimen of *M. flava flava*. So that the only typical specimen of *M. f. beema* that has yet occurred in this country is the one in the Tring Museum.

3. GREY-HEADED WAGTAIL. *Motacilla flava borealis* Sund.

This is the race which breeds in northern Scandinavia, Russia, and Siberia. It occurs on migration throughout southern Europe, and winters in north-east Africa, India, Ceylon, and Burma. The head and nape are a dark slaty-blue; the lores and feathers round the eye and ear-coverts darker, almost black; the sides of the neck are slaty-blue, the cheeks and chin white, and the eye-stripe is absent.

Of this form, as might have been expected by its distribution, a number of specimens have now been obtained in the British Isles. Two birds that occurred on the Pentland Skerries have been assigned to it by Mr. Harvie-Brown,‡ the first being obtained on May 19th, 1888, while the second was seen by the same man who shot the first, on May 3rd of the following year.

* "Zoologist," 1902, p. 232. † *T.c.*, 1901, p. 389.

‡ "A Vertebrate Fauna of the Orkney Islands," p. 108.

In the spring of 1901 an adult male was captured in a lark net at Halifax, and was exhibited by Mr. W. E. de Winton at the British Ornithologists' Club on May 20th, 1903.*

On May 13th, 1903, two adult males were shot at Willingdon, in Sussex; they were recorded in the "Zoologist," and exhibited at the British Ornithologists' Club by Mr. Butterfield on the 20th May of the same year.†

Another adult male was shot near Winchelsea, Sussex, on May 2nd, 1904, and was exhibited by Mr. M. J. Nicoll at the British Ornithologists' Club on May 18th.‡

Lastly, a pair were obtained, with their nest and eggs, by Mr. Bristow in Romney Marsh, near the Kent and Sussex border, on 20th June, 1906. Mr. M. J. Nicoll had seen the birds near the spot where they were afterwards obtained, but he failed to locate the nest. The birds and eggs were subsequently purchased by Mr. P. F. Bunyard, who exhibited them at the British Ornithologists' Club on November 21st of the same year.§

4. BLACK-HEADED WAGTAIL. *Motacilla flava melanocephala* Licht.

This bird is found in south-eastern Europe in summer, and in north-east Africa, Arabia and south Persia in winter. The adult male has the entire head black and the whole of the underside, from the base of the bill, a brilliant yellow. An adult male was shot at Willingdon, in Sussex, on May 13th, 1903, and recorded in the "Zoologist" for that year.|| The specimen was exhibited by Mr. Butterfield at the British Ornithologists' Club, on May 20th, 1903.¶

So far this is the only specimen of this form that has occurred in this country.

5. ASHY-HEADED WAGTAIL. *Motacilla flava cinereocapilla* Savi.

The basin of the Mediterranean is inhabited by this race, the adult male of which has the head and nape,

* "Bulletin B.O.C.," Vol. XIII., p. 68.

† *T.c.*, Vol. XIII., p. 69; "Zoologist," 1903, p. 420.

‡ "Bulletin B.O.C.," Vol. XIV., p. 84. § *T.c.*, Vol. XIX., p. 23.

|| "Zoologist," 1903, p. 420. ¶ "Bulletin B.O.C.," Vol. XIII., p. 69.

hind-neck and sides of neck dark slaty-grey; the lores, feathers round the eye and ear-coverts *jet-black*, and the cheeks and entire throat white. The eye-stripe is absent. The first example of this form obtained in England is the one figured by Gould and mentioned in a footnote in Yarrell.* It was shot near Penzance and was in Mr. Rodd's collection. It is said to differ from the typical *M. flava cinereocapilla* by having a short white superciliary streak behind the ear only.

A second specimen was obtained at Sheringham in Norfolk "about May, 1842." It was originally recorded by Messrs. Fisher and Gurney in the "Zoologist" as the Grey-headed Wagtail, *M. neglecta*, but on further examination by Mr. Gurney it has been assigned to the present form.†

Returning once more to the Blue-headed Wagtail (*M. flava flava*), a critical examination of the records reveals the fact that it has occurred more frequently in Sussex than in all of the other counties of England and Scotland taken together. Its visits to the south-eastern corner of England indeed are now so frequent and regular that, as I pointed out at the meeting of the British Ornithologists' Club on November 19th, 1902, this species must now be regarded as a regular spring visitor in small numbers to that area. It arrives from 20th April to 1st May, and a few pairs remain to breed. In autumn the return flight, consisting chiefly of young birds, moves along the coast about the third week of August, in company with the pied and common Yellow Wagtails.‡

It seems highly improbable that Sussex alone should be so favoured by this species, and I am strongly of opinion that it is very generally overlooked. The females and young birds of the year require to be very thoroughly known before one can be certain of recognizing them in the field, but when once the characteristics are known careful observation with a good glass is only necessary for

* "Birds of Great Britain," Pt. XXII.; "British Birds," Vol. I., pp. 559—560.

† "Handbook of British Birds," Ed. II., p. 364; "Zoologist," 1846, p. 1310; Gurney, "Trans. Norf. Nat. Soc.," 1876, p. 226.

‡ "Bulletin B.O.C.," Vol. XIII., p. 20

their identification. My own observations and those of Mr. Michael J. Nicoll, carried on chiefly in Sussex, extend only a short distance into Kent, but from what we have seen we consider that the Blue-headed Wagtail is at least as common a bird along the south coast of Kent as it is in Sussex. The bird has been observed several times near the north coast of Kent by Dr. A. G. Butler, and altogether there are a fairly large number of records for this county, so that it is highly probable that it is of as frequent occurrence in Kent as in the neighbouring county. I note, in a recent article in the "Zoologist" (1907, p. 92), that it occurred at least twice last year in Surrey, and it would be well worth the while of county ornithologists to work out in greater detail the distribution of the Blue-headed Wagtail in this country. I should not be surprised to hear that it is an annual visitor in small numbers to the eastern and southern maritime counties, not only on migration, but as a breeding bird.

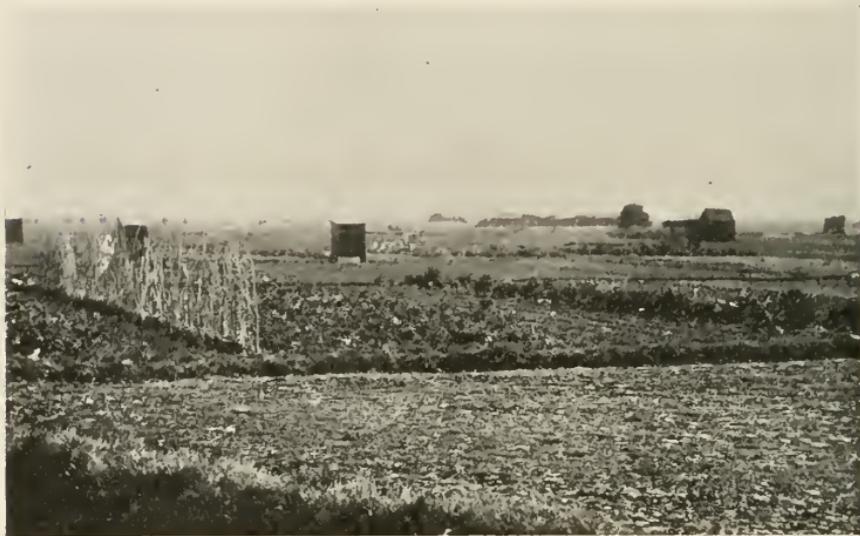
Up to a few years ago, the records of the nesting of this species in England were very few. In Stevenson's "Birds of Norfolk," Vol. I., p. 165, a nest, which is supposed to have belonged to this species, is mentioned as having been taken at Herringfleet, in Suffolk, in 1842. In the "Zoologist," pp. 2343 and 2406 will be found the accounts of two nests found in 1869, and another in 1870, near Gateshead-on-Tyne. In his "British Birds' Eggs," Dr. A. G. Butler describes what appears to have been a nest and eggs of this species sent to him from north Kent in 1885. There is also a certain amount of evidence that it has bred at least once of late years in the Broad district of Norfolk.

Turning now to Sussex, Booth says,* that though he had never had the fortune to meet with a nest, he was well acquainted with certain spots between Brighton and Shoreham, where a pair or two of these birds could be found at almost any time during May, and that he had frequently noticed males in the vicinity of two or three

* "Borrer's Birds of Sussex," p. 96; "A Catalogue of Birds in the Dyke-Road Museum, Brighton," p. 102.

sheep ponds on the Downs, at seasons when it was most probable that the females were sitting close at hand. Subsequent experience goes to prove that Booth was probably perfectly correct in his surmise.

It was not, however, until May 31st, 1901, that the first authenticated nest was found in Sussex. On this date Mr. Bristow took a nest, with four eggs, near Winchelsea.* Three of the eggs were unfortunately broken, but the



Nesting-place of the Blue-headed Wagtail at Winchelsea, Sussex.
(Photograph by N. F. TICEHURST.)

fourth egg and the nest are now in the collection of Capt. Boyd Alexander at Cranbrook. I recorded the nesting of two pairs in 1903 at the same spot near Winchelsea. One of these nests was taken and was exhibited by myself at the British Ornithologists' Club. It contained five eggs and is the first Sussex nest with the full complement.† Since that year, a pair or two of these birds has appeared almost annually near Winchelsea, but it is to be feared that the publicity given to their first discovery has prevented them again rearing a brood.

* "Zoologist," 1901, p. 389.

† "Bulletin B.O.C.," Vol. XIII, p. 78; "Zoologist," 1903, p. 420.

Fortunately, investigation has proved that Winchelsea is not the only spot in Sussex favoured by this species, and at the present time four other localities are known to me, where single pairs have successfully reared their young within the last few years; so that now the Blue-headed Wagtail must be looked upon as a regular breeding species in small numbers in Sussex.

Whether it has always been so is uncertain, but in view of Booth's remarks referred to above, it would seem that this is probable, and that it has hitherto been to a great extent overlooked. If it be not so, the bird must be gradually extending its breeding range, and we may possibly look



Nest and Young of the Blue-headed Wagtail, Sussex, June 4th, 1905.
(Photograph by N. F. TICEHURST.)

forward to the time when it may become almost as common on our Sussex marshlands as our own Yellow Wagtail.

In food and nesting habits the Blue-headed Wagtail

differs in no way from our common bird, and where it occurs, lives in perfect harmony with it, nesting in the same fields. The accompanying illustration is reproduced from the first photograph ever taken of a nest of this species in England. The nest was found by Mr. M. J. Nicoll, Mr. C. B. Ticehurst and myself in a Sussex marsh, on June 4th, 1905. It was exceptionally well hidden in a field of very long grass and the birds were so wary that we spent three and a quarter hours watching them before we found the nest. It contained four young birds and an addled egg, which with the nest did not differ materially from those of the Yellow Wagtails nesting in the same field; both the parents were seen feeding and tending the young. The young birds left the nest between June 5th and 10th, and an attempt made by Mr. Nicoll to obtain photographs of the parent birds was frustrated by heavy rain, which fell almost continuously between those dates. The nest and addled egg are now in my collection.

In the nomenclature of the different forms of *Motacilla flava* I have followed that used by Dr. Hartert in his "Die Vogel der paläarktischen Fauna," as being the most recent revision of the genus, but in the case of our common Yellow Wagtail I have retained it as a separate species under a binomial. It seems only reasonable to do this, at any rate for the present, since I have shown that in the south of England the two birds are found breeding together, even in the same field, and so they can hardly be described as geographical races of one and the same species.

[Since the above was written, two pairs to my own knowledge have this year nested, one in one of the known localities in Sussex, the other, which I watched feeding their young on June 16th last, at a new locality in Kent; and further, we read (*supra*, p. 89) of an undoubted nest and young having been found in Wiltshire. Mr. F. C. R. Jourdain has called my attention to a record in Mr. E. Cambridge Phillips' "Birds of Breconshire," 1899, p. 50, of a nest found in that county by Capt. Sandeman.—N.F.T.]

WIND AND FLIGHT.

BY

F. W. HEADLEY, M.A., M.B.O.U.

PART II.

(Continued from page 121.)

ADVANCE WITHOUT MOVEMENT OF THE WINGS.

A GULL sometimes advances at right angles to the wind without beating his wings at all. Having attained some slight altitude he will partly flex his wings and advance rapidly, at the same time descending, till he almost touches the ground or the sea. He will then turn and face the wind, which will lift him till he attains his former altitude. The wind increasing in velocity as he ascends, aids him as it aids the lark to rise, only the lark beats his wings instead of trusting to the wind entirely. Gulls that are following a steamer may be seen advancing in this way when the wind is blowing at right angles to the ship's course.

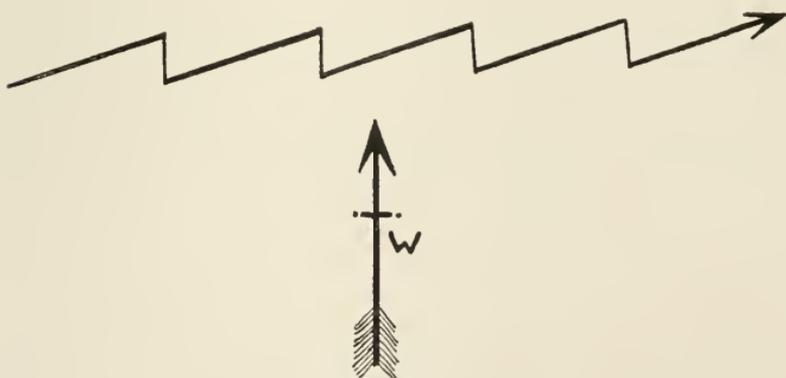


FIG. 4.—The upper line represents the course of the Gull's flight ;
W, the wind.

Often they get help from an up-current. In their

downward glide they make their way to the region where the upward deflection of the wind begins, a little to the windward of the vessel. This lifts them rapidly and easily. But sometimes there is no up-current in question. Occasionally I have seen them advancing in this way over a level plain. Then they have to trust solely to a horizontal wind having different velocities at different levels.

UTILISATION OF UP-CURRENTS.

As a rule when Gulls advance with wings held rigid, they are availing themselves of an up-current. Everyone must have noticed how they will often keep pace with a steamer, hanging over the stern, the only wing movements discernible being such slight adjustments as are required for the maintenance of balance. The Albatros is an adept at the same method of progress. Some time ago there was a letter in "Nature," the writer of which maintained that he had made a great discovery. The Albatros kept all the while beating his wings, but the human eye was unable to discern the movement, so rapid was it, the movement of these wings stretching twelve feet and more from tip to tip. This remarkable theory owed its birth to a photograph taken by the writer of the letter. In this photograph the wings of the Albatros were undoubtedly raised high above his back. The fact was that, the up-current happening to fail for a moment, the Albatros had given a vigorous stroke with his wings. The camera had recorded this, but the photographer had looked down at the moment he was pressing the button, and so had failed to see it. When a Gull advances in this way, there is always a wind coming from ahead. When it strikes the vessel it is deflected upward, a fact which can be detected by tying a handkerchief to a stick, or by letting fly small pieces of paper. It is this up-current that at once lifts the Gull and propels him. The bird inclines his body so that the general slope of its various surfaces is slightly downward. Hence the wind

drives him onward. It must do so as the accompanying diagram (Fig. 5) will show.

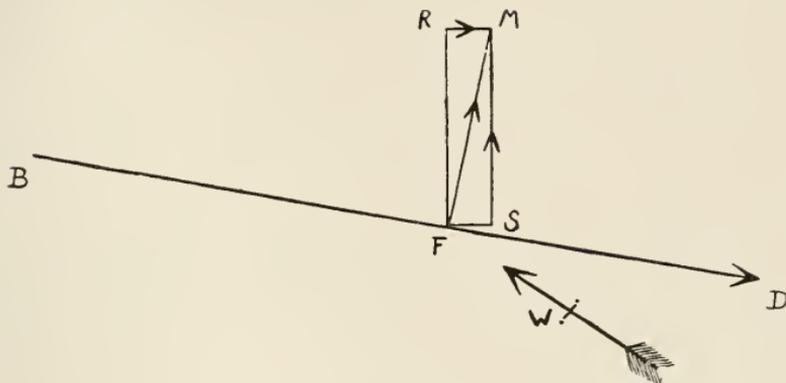


FIG. 5.—B D, the bird. W, the wind acting in the direction F M. The force represented by F M is resolved into F R, F S.

In Algeria I once witnessed a splendid performance by two eagles. They advanced for a good mile and a half in the teeth of the wind without a motion of their wings, as far as I could judge neither losing nor gaining altitude. They then returned, flying with vigorous strokes. After this, their wings held rigid as before, they travelled once more over the same mile and a half, but at a higher altitude. The wind was blowing over some high hills, which gave it an upward incline, of which even a handkerchief tied to the end of my umbrella gave evidence.

In Alderney I saw a Gull advancing *with* the wind and without a motion of his wings. The wind, blowing at a small angle against steep cliffs, had a marked uptilt. This advance *with* the wind is a thing not often seen. The position of the bird is the same as when he advances against it. Probably a more decidedly upward current is wanted when it blows from behind, otherwise all the feathers would be disarranged.

Gulls often employ another method when there is a wind blowing at right angles, or nearly so, to a steamer at sea. They face the wind which has an upward incline due to its striking the side of the vessel, and hang in the

air with their two wings pointing respectively towards the bow and stern. Thus they advance sideways, the point of one wing leading. Instead of a moving ship a cliff may supply the up-current required. The Gull flies to the bottom of the cliff, is lifted high above it, then he turns and faces the breeze and goes on his way, one of his wings pointing towards his destination. He descends slowly as he goes.

Sometimes Gulls utilize a very local up-current with remarkable cleverness. Behind a steamer, as it travels, the air rushes down to fill the space just vacated by the vessel. This down-rush of air strikes the water, rebounds and forms an up-current. Gulls, following the vessel, having obtained a certain altitude, will sometimes glide rapidly forward, descending all the while till they nearly touch the water, but their downward-onward glide carries them into the up-current which I have just mentioned and they are at once lifted as if they were nothing but feathers. Thus they regain their altitude and again glide forward and downward. The wings are held rigidly expanded all the while, but occasionally the system works imperfectly, and a stroke with the wings has to be put in.

Gulls and other birds often perform their evolutions in the air in a spirit of pure sport. Sometimes when the wind blows directly against a cliff, Gulls will fly to the base, get lifted high aloft by the up-draught, then descend to the same place and get another lift.

(To be continued.)

ON THE MORE IMPORTANT ADDITIONS TO OUR
KNOWLEDGE OF BRITISH BIRDS SINCE 1899.

BY

H. F. WITHERBY AND N. F. TICEHURST.

PART IV.

(Continued from page 114.)

GREAT GREY SHRIKE *Lanius excubitor* L. S. page 147.

SCOTLAND, *Tay Basin and Strathmore*.—Mr. Harvie-Brown gives many occurrences, and says: "I think I have quoted enough to justify the statement that it has occurred in every month of the year except January" (J.A.H.-B., *A Fauna of the Tay Basin and Strathmore*, pp. 102, 103). *West Ross*.—Mr. Osgood H. Mackenzie informed Mr. Harvie-Brown that on 12th January, 1904, he had seen a specimen at close quarters, and that later on the same, or another, was obtained (*Fauna of N.W. Highlands and Skye*). *Barra (Outer Hebrides)*.—One, April 12th, 1900 (*Ann. Scot. Nat. Hist.*, 1901, p. 77). *Mull*.—One, January 20th, 1907 (*t.c.*, 1907, p. 115). *Shetland, Unst*.—One, October 15th to 20th, 1903; one, October 24th, 1906 (*t.c.*, 1904, p. 53; 1907, p. 137). *Fair Isle*.—Once observed (*t.c.*, 1906, p. 20).

IRELAND.—Female shot, co. Meath, March 23rd, 1906 (*Irish Nat.*, 1906, p. 156).

This species very rarely occurs in the British Isles in spring or in summer. The bird had not before been recorded in West Ross and, according to Mr. Saunders, records were wanting from the Hebrides, while it is apparently rarely seen in the Shetlands. To Ireland it is a casual visitor.

The form with only one wing-bar (*L. major*) is not admitted as distinct by Dr. Hartert, and is placed with *L. excubitor* (*Vög. pal. Fauna*, p. 418; see also *Nov. Zool.*, XIII., pp. 386-405).

LESSER GREY SHRIKE *Lanius minor* J. F. Gm. S. page 149.

HAMPSHIRE.—A male in Hart's collection was procured on June 2nd, 1900, near Bournemouth (*Birds of Hants*, p. 50).

SUSSEX.—A young bird, shot October 14th, 1905, at Bosham, near Chichester (A. F. Griffith, *Bull. B.O.C.*, XVI, p. 37).

[SURREY.—A pair seen near Dorking in June, 1886 (J. A. Bucknill, *Birds of Surrey*, p. 87).]

NORFOLK.—A young bird was shot on October 11th, 1902, at Docking (G. E. Lodge, *Zool.*, 1902, p. 433).

YORKSHIRE.—A young bird was shot on September 20th, 1905, near Whitby (T. Stephenson, *Nat.*, 1906, p. 70).

BEDFORDSHIRE.—One found dead on January 25th, 1907, and

identified by Mr. Gardner, of Oxford Street (Rouse Orlebar, *Field*, 2, II., 1907).

Only six occurrences of this bird are recorded by Mr. Saunders.

RED-BACKED SHRIKE *Lanius collurio* L. S. page 151.

FAIR ISLE (SHETLANDS).—Several appeared on passage late in May and in early June, 1906 (W. E. Clarke, *Ann. Scot. Nat. Hist.*, 1907, p. 73).

The Red-backed Shrike is rare north of the Forth and has only twice before been recorded in the Shetlands.

WOODCHAT *Lanius pomeranus* Sparr. S. page 153.

YORKSHIRE.—A male was seen on May 9th, 1903, at Speeton (C. G. Danford, *Nat.*, 1903, p. 262).

Although it rarely reaches so far north as Yorkshire, the Woodchat is rather more frequent in its visits to south-eastern England, and about six have been recorded from that quarter during the last eight years.

WAXWING *Ampelis garrulus* L. S. page 155.

OUTER HEBRIDES.—One was obtained at Stornoway on November 19th, 1901, and another specimen said by D. Mackenzie to have been killed twenty-five years before (J. A. Harvie-Brown, *Ann. Scot. Nat. Hist.*, 1902, p. 52.)

SHETLAND.—One found dead at Unst, November, 1903 (T. E. Saxby, *t.c.*, 1904, p. 156).

IRELAND.—One was shot on December 4th, 1901, near Londonderry (D. C. Campbell, *Irish Nat.*, 1902, p. 22). During October, November and December, 1903, there was a remarkable visitation of these birds to Ireland (cos. Armagh, Antrim, Down, Kildare, Derry), over twenty being killed and many more seen (*cf. Irish Nat.*, 1904, p. 45; *Zool.*, 1903, p. 456; *Ibis*, 1904, p. 307).

ENGLAND.—In the winter of 1903-4 about sixty were killed in East Anglia, and this was "perhaps the largest visitation since 1866-7" (J. G. Tuck, *Zool.*, 1904, p. 115), and stragglers were obtained in Lincolnshire, Sussex and Kent.

Mr. Saunders had no evidence of the occurrence of Waxwings in the Outer Hebrides, while in Orkney and Shetland it is rare.

PIED FLYCATCHER *Muscicapa atricapilla* L. S. page 159.

In addition to the counties mentioned by Mr. Saunders, this species appears to breed in small numbers in Rutland and Lincolnshire (*Birds of Rutland*, p. 45; *Nat.*, 1906, p. 42).

Its migration route through the southern counties we hope will be worked out by the Migration Committee of the British Ornithologists' Club. It occurs annually in Norfolk, but south of that the records are scanty. It is numerous as a breeding bird in Carnarvon, Merioneth and other parts of Wales, yet it

appears to be an extremely rare visitor to Cornwall (*cf. Zool.*, 1907, p. 283), Devon and Somerset (*cf. Zool.*, 1900, p. 237), and how the Welsh birds reach their breeding-quarters is as yet unknown.

RED-BREASTED FLYCATCHER *Muscicapa parva* Bechst. S. page 161.

NORFOLK.—In 1900 one was shot at Wells and is in the collection of Mr. P. C. Musters; on September 22nd, 1904, one is recorded by "Richards" (J. H. Gurney, *Zool.*, 1905, p. 97). Another was identified by Mr. E. C. Arnold "near the sea" on September 20th, 1905 (*id.*, *t.c.*, 1906, p. 133); two young birds were obtained on September 18th, and one on September 20th, 1906 (*id.*, *Ann. Scot. Nat. Hist.*, 1907, p. 51; *Zool.*, 1907, p. 135).

Nine examples have now been recorded for Norfolk.

YORKSHIRE.—A male was reported as seen near Hull on May 20th, 1907 (B. Haworth-Booth, *Field*, 1907, May 25th), and a pair was described as frequenting a hedge near Beverley on June 4th, 1907 (H. R. Jackson, *Nat.*, 1907, p. 291).

CHESHIRE.—A male observed during six days at the end of June, 1903, at Paynton, Cheshire (E. Tristram, *Field*, 18, vii., 1903).

May and June are unusual months for this bird's occurrence.

FAIR ISLE (SHETLANDS).—Several were seen and two shot, September 20th and 21st, 1906 (W. E. Clarke and N. B. Kinnear, *Ann. Scot. Nat. Hist.*, 1906, p. 236), and one was obtained on October 4th, 1906 (*t.c.*, 1907, p. 51).

The Red-breasted Flycatcher had only once previously been recorded from any part of Scotland.

[CHANNEL ISLANDS.—At the meeting of the British Ornithologists' Club held on June 18th, 1902, Mr. E. Bidwell read a letter from Mr. R. W. Llewellyn, of Britonferry, describing a visit to the Casquets Lighthouse, Alderney, on May 14th, 1902. Early on that morning a great rush of birds had taken place, and two or three hundred dead ones had been picked up in the gallery outside the lantern. Mr. Llewellyn considered, from Seebohm's description and the plate in Lilford's "Birds of the British Islands," that they were all Red-breasted Flycatchers. Considerable doubt was thrown on the identification, and as through an unfortunate accident none of these birds was preserved, the value of the record must ever remain doubtful (*Vide Bull. B.O.C.*, XII, p. 83; *Ibis*, 1902, p. 673; 1903, p. 265).]

MARTIN *Chelidon urbica* (L.). S. page 165.

A clutch of eggs, all of which were marked with small red spots, was found on June 29th, 1907, near Newbury (Hy. S., *Field*, 20, vii., 1907).

GREENFINCH *Liquirinus chloris* (L.). S. page 169.

OUTER HEBRIDES.—Breeds at Stornoway and probably has done so for some time (N. B. Kinnear, *Ann. Scot. Nat. Hist.*, 1907, p. 19).

The Greenfinch was not previously known as a breeding species in the Outer Hebrides.

HAWFINCH *Coccothraustes vulgaris* Pall. S. page 171.

Mr. Saunders wrote in 1899 that the Hawfinch had been "steadily increasing in numbers during the last fifty years." The bird has undoubtedly continued to increase since Mr. Saunders wrote, and it is moreover extending its breeding range, especially in a northward and westward direction. This fact is a most important one, and it is to be regretted that there appears to be little accurate information available to trace the increase satisfactorily, although in those regions, such as Scotland, where the bird is still rare, its movements have been well recorded. Without more exact data it is impossible to discover the reasons for the increase.

The late Prof. Newton remarked in 1906 "eighty years ago or thereabouts, Hawfinches were accounted scarce visitors to England, and it was only a few years after that they were found to breed here. We do not know now what it is that tempts them, but it must be connected with new woodland growth, and it is instructive" (*Irish Nat.*, 1906, p. 136).

Mr. H. E. Howard has ascribed the increase of the Hawfinch to the increase of the human population and to the corresponding increase of market gardens, arguing that this provides food in June and July when these birds most need it, as in autumn and winter there are plenty of berries of various kinds (*Zool.*, 1901, p. 465).

This seems to be a plausible idea, and is borne out to a certain extent by the observations of others, but, without further facts, any reason assigned to account for the increase of the Hawfinch must be theoretical. We therefore beg the readers of BRITISH BIRDS to make careful observations, both of the numbers of this bird in their districts, as well as the nature of their food, and forward the results to the Editors, in order that a more exact "census" of the Hawfinch may be taken.

ENGLAND.—The increase in England has been chiefly noted in the north and west, where the bird was uncommon, but it is undoubtedly increasing also in those counties where it was formerly common. In certain parts of *Hampshire* there has been a notable increase; for instance, in the cultivated parts of the New Forest district (H.F.W.), and in other parts of the county (*cf. Birds of Hants*, p. 61, and *Zool.*, 1901, p. 465). "In *Shropshire* the Hawfinch was looked upon as a rare bird in the sixties, but by the year 1900 it had become numerous throughout

the county, especially in the southern part. I have known seven nests with eggs in a tall hawthorn hedge within a length of two hundred yards. Over thirty Hawfinches were lately shot in one garden (where they came after the green peas), without making any perceptible difference in the numbers locally" (H. E. Forrest *in litt.*). In *Cheshire*, where it was first recorded in 1860, it is now plentiful in some districts where a few years ago it was unknown (Coward and Oidham, *Birds of Cheshire*, p. 75). A marked increase is recorded in north-west Lindsey, *Lincolnshire* (M. Peacock, *Nat.*, 1906, p. 44). In *Yorkshire* it "has vastly increased of late years and extended its range northward. . . . now resident in many places where it used to be merely a winter visitant." "Since 1897 there has been a large colony in Cleveland, where some twenty or thirty pairs breed" (*Birds of Yorkshire*," pp. 165 and 168). In various parts of *Durham*, where it used to be only a rare visitor, it is now resident and breeding (J. W. Fawcett, *Nat.*, 1900, p. 113). In *Cumberland*, where it has nested once or twice before, it was recorded as nesting this year at Netherby (T. Harrison, *Field*, 13, VII., 1907). In *Northumberland*, where it is extremely rare and had not previously been recorded as breeding, a pair was found nesting near Chipchase, first in 1901, and again in 1902, 5 and 6 (A. Chapman, *Bird-Life of the Borders*, p. 144).

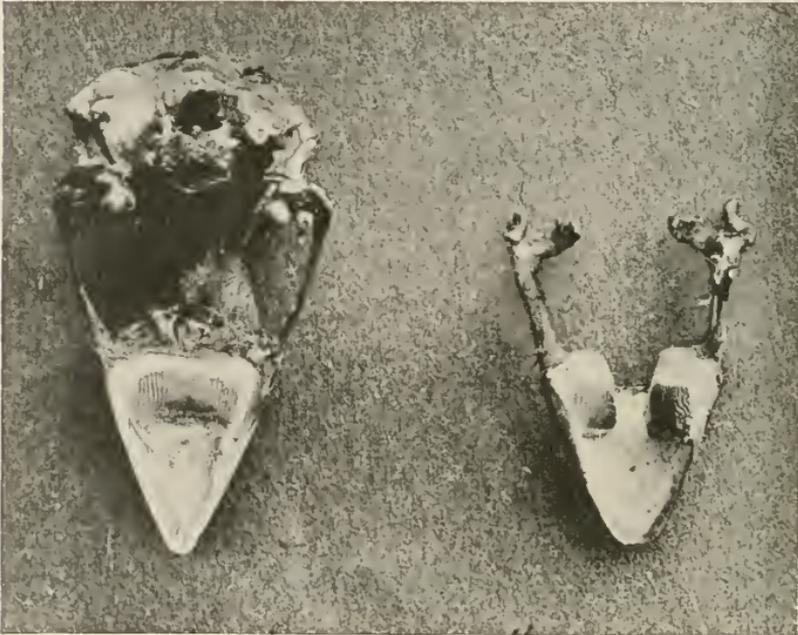
WALES.—In *Breconshire* where it was first discovered nesting in 1890, it has bred again and appears to be increasing and extending westward (E. A. Swainson, *Zool.*, 1902, p. 465, and E. Cambridge Phillips, *Field*, 7, IX., 1907). In north-west Wales it is "slowly spreading westward but is as yet rare in *Merioneth*; unknown on the west coast, in *Anglesey* or *Carnarvon*, except near Llandudno" (H. E. Forrest, *Zool.*, 1903, p. 178). Mr. Forrest writes to us, under date September 16th, 1907:—"In *North Wales* the Hawfinch appears to have been unknown until comparatively recent years, for none of the older writers mention it as occurring there. At the present time it is common in *Montgomeryshire* and parts of *Flint* and *Denbighshire*, and is gradually increasing and extending its range westwards, though it has not yet reached the west coast. Full details will be found in my forthcoming 'Fauna of North Wales.'"

SCOTLAND.—Although a young bird was caught near Edinburgh in 1894 (*cf.* W. E. Clarke, *Ann. Scot. Nat. Hist.*, 1894, p. 195), the breeding of the Hawfinch in Scotland had not been proved until in 1903 a nest near Newport, in the east of Fife, was reported by Mr. W. Berry (*t.c.*, 1904, p. 11). Although no more nests have been found in Scotland, the following occurrences of the bird have been noted:—1903, April 6th ♂ ad., Kinnelhead, Dumfriesshire (*t.c.*, 1903, p. 184); 1904, February, ♀ ad., East Lothian, April 28th, one taken at

Skerryvore Lighthouse (*t.c.*, 1904, pp. 126 and 187), May 3rd, ♀ Shetland, and July 19th, ♂ juv., Peterhead, Aberdeenshire (*Zool.*, 1904, pp. 230 and 384); 1906, November 11th, one caught at Skerryvore Lighthouse (*Ann. Scot. Nat. Hist.*, 1907, p. 26); 1907, March 18th, one shot at Touch, Stirlingshire, April 25th, ♂ ad., picked up dead at Smeaton-Hepburn, East Lothian (*t.c.*, 1907, pp. 181-2).

IRELAND.—Although it had occurred in all quarters, it was known only as a rare winter visitor (*cf. Birds of Ireland*, p. 53) until in 1902 an old bird was observed feeding young near Straffan, co. Kildare, and Hawfinches have been observed there all through the nesting season since 1896 (*Irish Nat.*, 1902, p. 250; 1903, p. 111). It is interesting to note that Mr. Ussher found remains of the bird in the upper stratum of the cave-deposits at Newhall, co. Clare (*Irish Nat.*, 1906, p. 136).

Mr. W. P. Pycraft has pointed out that near the gape on each



Horny "crushing pads" on the palate and lower jaw of the Hawfinch.

side of the lower jaw of the Hawfinch there is a large rounded boss, having a finely striated surface. On the palate, immediately above, there is an oblong horny pad similarly striated. Mr. Pycraft suggested that these protuberances served as crushing organs (*Bull. B.O.C.*, XV., p. 37).

(To be continued.)



NOTES

INTERBREEDING OF RING-OUSEL AND BLACKBIRD.

MR. TEMPLE KIRKPATRICK sends us an account of the interbreeding of the Ring-Ousel and Blackbird, which took place during the spring of this year in a garden in the Isle of Wight.

The Ring-Ousel, a hen, passed the winter in this garden and in the spring paired with a Blackbird and built a nest (like a Blackbird's) in a holly bush about eight feet from the ground, near a window. The eggs, unfortunately, were not examined, but the young, it is curious to remark, are said to have been "larger than their parents"; and, what is more strange, they are said to have had a "more powerful and more melodious note than the Blackbird, sufficiently so as to be at once distinguished when the bird was out of sight," but it must be remembered that the song of the Ring-Ousel is but a harsh echo of that of the Blackbird.

Mr. Kirkpatrick did not himself see the young birds, and in consequence is unable to describe their appearance, but he did see the female and satisfied himself that it was a Ring-Ousel.

"The family in whose garden the Ring-Ousel is," he writes, "are diligent observers of birds and intimately acquainted with Ring-Ousels."

From the diary which has been kept, it appears that this bird has been kept under observation since January, 1907.

Rare as such a union as this appears to be, it is indeed a matter for surprise that this same family should be able to record a similar case which occurred in their garden when living in South Devon four or five years ago, and here again the Ring-Ousel was a female.

It is on this account that we somehow suspect that, after all, some mistake may have been made—the coincidence is very strange. Moreover the description of the offspring, meagre though it is, somehow does not seem satisfactory. At any rate one cannot but express surprise that they should have been larger than their parents and have possessed a more melodious note.—EDS.

COMBINED NEST OF WHITETHROAT AND HEDGE. SPARROW.

MR. G. T. DENNYS lately gave me a nest which undoubtedly combines the characteristics of those of the Common White-

throat and Hedge-Sparrow. It is large, and outside a typical Whitethroat's, being made of dry grass, while inside it resembles that of a Hedge-Sparrow, being lined with moss and wool. It contained seven eggs, four being typical eggs of the Hedge-Sparrow and three typical of the Whitethroat. Mr. Dennys gives me the following details with regard to the nest, which he found on May 19th last.

"It was in a small coppice near Cambridge. The coppice consisted of small trees—mostly oaks—with a thick undergrowth of brambles and nettles. It was evidently seldom visited as there seemed to be no paths running through it, and it was full of nests (of Blackbirds, Thrushes and Greenfinches mostly), which were placed in the most conspicuous places where they could not fail to attract attention.

"We found at least twenty nests with eggs or young birds.

"The nest in question was in a low and straggling bramble bush which was in the middle of a dense patch of nettles.

"I do not think anyone had been to the nest before, as the nettles showed no signs of having been trampled under foot by anybody.

"The sitting bird slipped off the nest into the nettles on our approach, so that we only got a glimpse of it, but we were both of opinion that it was a Whitethroat.

"The situation was decidedly a 'Whitethroat' one.

"On blowing the eggs I found that they were all absolutely fresh."

E. C. ARNOLD.

WOOD-WREN IN EAST ROSS-SHIRE.

MR. HOWARD SAUNDERS mentions (*Manual*, 2nd Ed., p. 71) it as occurring in *west* Ross-shire. I have met with two or three pairs in the vicinity of Strathpeffer, on the eastern side of that county, during the summers of 1906, and 1907.

C. B. RICKETT.

LATE NESTING OF THE BEARDED TIT.

WHEN on Hickling Broad on September 3rd I was shown, under the guidance of Miss E. L. Turner, the nest of a Bearded Tit containing fully fledged young. When I first peeped into the nest—which was placed in a clump of reeds, on a small island, and about a foot from the water—all the nestlings were crouching together, but almost directly afterwards they scrambled out and hid themselves among the reeds. As we left, the old birds returned and, doubtless, the young crept at once back into the nest.

The watcher, who served as our boatman, assured me that one

pair had reared no less than *five* broods this year, while another pair had successfully brought off three broods. The first nest he found so early as March.

W. P. PYCRAFT.

WHITE WAGTAIL IN EAST ROSS-SHIRE.

ON 23rd June, 1906, I saw a White Wagtail perched on a low stone wall near Strathpeffer. I saw it again about the same place a few days later.

C. B. RICKETT.

RICHARD'S PIPIT IN CORNWALL.

ON 18th September, 1906, I saw an example of Richard's Pipit (*Anthus richardi*), at the Lizard (Cornwall). It was feeding among some *débris* at the foot of a cliff, and allowed me to approach it very closely.

C. B. RICKETT.

NESTING OF THE LESSER REDPOLL IN KENT.

ON May 3rd, 1896, a nest of the Lesser Redpoll (*Linota rufescens*) was found by Mr. R. Goodchild, of Farnborough, Kent, in one of his father's orchards. It was placed high up in a large greengage tree, and contained three eggs. I did not see the nest *in situ* but it was shown to Mr. A. H. Meiklejohn and myself, and we had no difficulty in identifying it, the nest and eggs both being typical. On May 24th of this year, with Mr. T. Gillah, I inspected a nest of this species at Lower Sydenham. It was placed about fifteen feet from the ground, in a small beech tree, in a narrow strip of wood on the edge of a field. The bird left the nest as I commenced to climb the tree, and remained in view for some time. We also visited another nest a short distance away. This was situated in a small white-thorn, but was unfortunately forsaken. References to this species, for Kent, by past writers are so meagre, that I have not thought it worth while to refer to them.

PERCY F. BUNYARD.

[Mr. Howard Saunders wrote (*Ill. Man. B.B.*, 2nd Ed., p. 191), that the Lesser Redpoll bred in Kent more often than was generally supposed; and of recent records it may be mentioned that Mr. Meade-Waldo, in remarking on the comparative commonness of the species in 1905 in the south of England, mentioned several nests in Kent (*Bull. B.O.C.*, XV., p. 88).—EDS.]

NESTING SITES OF THE COMMON HERON.

A NEST of the Common Heron which I found in the spring of 1904 near Scarborough, was perhaps even more extraordinary

than that described and figured by Mr. Ticehurst in the September number of *BRITISH BIRDS* (*supra*, p. 97).

This nest was built upon the ground at the foot of a fir tree, in a dry situation and within twenty yards of a high road, in the midst of a fir wood containing many trees suitable for herons'



Nest of Common Heron on the ground in a wood near Scarborough.
(Photographed by W. J. CLARKE.)

nest. The nest was composed of small fir branches, lined with finer twigs, and was about twenty inches in height. Four eggs were laid, and three young birds reared. The birds did not return to the nest in the following year, although they were left unmolested, and the nest was not disturbed.

A heronry formerly existed upon the estate where the nest was built, and a small one still thrives within a few miles.

W. J. CLARKE.

I HAVE read with much interest Dr. Ticehurst's account of the nesting of the Common Heron in a pool on Dungeness beach (*supra*, p. 97). Such instances are, of course, frequent enough in such districts as the West of Ireland. In the desolate country between Castle Bay and Maam Cross I have seen four or five nests built up to the height of a foot or two from the

ground, or perched on some low bush in a tiny islet in the middle of a secluded lough; and, as pointed out by Dr. Ticehurst, several pairs nest in the extensive reed beds of the Naarder Meer, in North Holland, where large colonies of the Purple Heron also breed in low sallow bushes, or among the dead reeds. Nests on the ground have also been recorded from Scotland. Mr. W. R. Bertram found one of this kind on an island in a loch in Lanark (*Field*, October 15th, 1904, p. 691); at Inverlussa, Jura, the gamekeeper reported nests on the ground on a high bank near the house (*Vert. Fauna of Argyll and Inn. Hebrides*, p. 117); and probably a long list could be compiled of cases in which nests have been found on low trees or bushes in islands, and also on rocky promontories. In England such cases are, however, very rare; but at least two instances furnish almost exact parallels to that recorded by Dr. Ticehurst. In the Farne Islands the Heron has been known to breed on the low, rocky coast of the Wide Opens on more than one occasion. Mr. J. C. Mansel-Pleydell, in his book on the "Birds of Dorsetshire," p. 129, writes as follows:—"In the summer of 1876 a pair built their nest at Littlesea, on the top of some reeds, not more than four feet from the ground: the only chick which was hatched tumbled out of its ark and was drowned." Until recently a Heronry existed in some tall Scotch firs close to Aqualate Mere, in Staffordshire; but, curiously enough, several pairs reverted to their primitive habit, and nested with tolerable regularity up to about 1893 or 1894, in the dense reed beds by the waterside. About the latter year the gamekeeper found two or three nests, one of which contained five eggs, among the reeds. A year or two afterwards, Sir Thomas Boughy gave orders for the birds to be killed off on account of the injury done by them to the fishing, and, when I visited the mere in 1902, I found them reduced to two pairs, which were very shy. Whether they have recovered in numbers under the protection now (nominally) accorded to them by the Staffordshire County Council I am unable to state.

FRANCIS C. R. JOURDAIN.

NESTING HABITS OF GREAT WHITE HERON AND COMMON HERON.

MR. F. C. SELOUS, writing of the Great White Heron (*Ardea alba*) says "it is, however, I think, quite possible that in countries where these birds are still numerous and unmolested, they may breed in colonies like other species of Herons" (*supra*, p. 78).

Last year (1906) I found a small colony of *Ardea alba* in Albania. There were about a dozen nests containing young birds at various stages of growth, and one nest which held four much incubated eggs.

This year, 1907, on April 15th, I found another colony of *Ardea alba* in Montenegro. On the 25th April this colony consisted of about twenty nests containing eggs. They were in some cases almost touching one another, in small groups of two or three, while others were scattered round in fairly close proximity, and with them were several nests of *Ardea purpurea*.

Amongst the colony above-mentioned in Albania, were half-a-dozen nests of the Common Heron, *Ardea cinerea*, all of which held nearly fully-fledged young birds. All these nests were built like those of the Purple Heron in the reeds in a large reed bed at heights of from five feet above the water to close above the surface. There can be little doubt, I should think, as Mr. Ticehurst remarks (*supra*, page 101) that this is the "ancestral habit which has been abandoned . . . in this country in consequence of human influence, but which yet survives elsewhere, in places where drainage has not robbed the birds of their original homes."

R. B. LODGE.

THE PACIFIC EIDER (*Somateria v-nigrum*).

Owing to absence from home, I have only just seen the August number of BRITISH BIRDS containing Mr. F. Smalley's most interesting article on the supposed occurrence of the Pacific Eider in British waters (*supra*, p. 69). He desires further information about the V-marked specimen of *S. mollissima* which I received last year.

The bird was shot near Graemsay, by George Sutherland, on February 21st, 1906, and was sent to me in the flesh. It was a fine adult, with very white plumage. Under the chin was a distinct V-shaped black mark, smaller and less conspicuous than that figured in BRITISH BIRDS on the throat of *S. v-nigrum*, but more distinct than that shown on the *S. mollissima* (*supra*, p. 71). The beak and feet were of the usual olive-green of *S. mollissima*. I sent the bird to Mr. Howard Saunders, who pronounced it to be merely a variety of the Common Eider, and it eventually found a resting place in the York Museum.

W. J. CLARKE.

REDSHANK BREEDING IN WARWICKSHIRE.

ON the 11th, 17th, 18th, and 19th July, 1907, I disturbed a Redshank from some low-lying swampy ground situate within ten miles of Coventry, and used in connection with the sewerage works of the district. The tenant of the land in question informed me that two birds of the same sort had been seen about the place for some time, but that lately only one of them had been in evidence. Each time I put up the bird it circled round me uttering its well-known note, but coming down to the ground for a few minutes at intervals.

I left home on the 20th July, and did not return till the 17th August. A few days after this I saw the tenant again, and he informed me that one of his men had picked up two young birds not knowing what they were, but had set them free again. From the description given to me there is no doubt they were young Redshanks. Moreover, four birds of the same kind (subsequent to the discovery of these young ones) were frequently seen on the wing together. Three of them afterwards disappeared, but the fourth stayed a little longer, though it had gone prior to the 17th August.

Is it not a most remarkable thing for Redshanks to be found staying and breeding so far inland, one may say in the central county of England? The time of their breeding, too, appears to be unusually late. Perhaps the sewage had some special attraction. I may add that Snipe breed regularly on the ground in question, and that in the spring of 1903 a pair of Golden Plover stayed there for some time, and were seen as late as the 13th of May in that year.

A. H. ETCHES.

[The Redshank has during the last few years been recorded as breeding in many inland counties for the first time. In Rutland, since 1893, when it first nested, it has increased as a breeding species (C. R. Haines, *Birds of Rutland*, p. 148). In Hertfordshire it was first found breeding in 1905 (*Trans. Herts. Nat. Hist. Soc.*, Vol. XIII., p. 60). As regards the Midlands, the Rev. F. C. R. Jourdain very kindly supplies us with the following information: "During the last thirty-five years the Redshank has established itself as a breeding species in the Trent Valley. About 1896 it began to breed near Sudbury, in the Dove Valley, and in 1901 near Norbury. In 1902 I recorded it from north-east Derbyshire for the first time (*Vict. Hist. of Derby*, I., p. 146). In Staffordshire I recorded it as breeding from Uttoxeter for the first time in 1902 (*Report N. Staffs. Field Club*, 1902-3, p. 65), and soon afterwards it was recorded from Kings Bromley. In 1905 it was reported as nesting near Stafford, Whichnor, Rugeley, Kings Bromley, and Colwich. (*Rep. N. Staffs. Field Club*, 1905-6, p. 47), so that it is now well distributed in Staffordshire as a breeding species. It may possibly have bred in Bucks, near Olney, but this has never been proved, nor has it yet, I think, been recorded as breeding in Worcester. In Bedfordshire, however, it bred in 1896-9, but not since (J. Steele Elliot, *Vict. Hist. of Beds.*, I., p. 132). It has increased in numbers and has extended its breeding range in Nottinghamshire of late years (J. Whitaker, *Birds of Notts.*, p. 273-4). Mr. O. V. Aplin found two pairs nesting in Oxfordshire in 1905 (*Zool.*, 1907, p. 324). It has not previously, I think, been recorded as breeding in Warwickshire."—Eds.]



REVIEWS

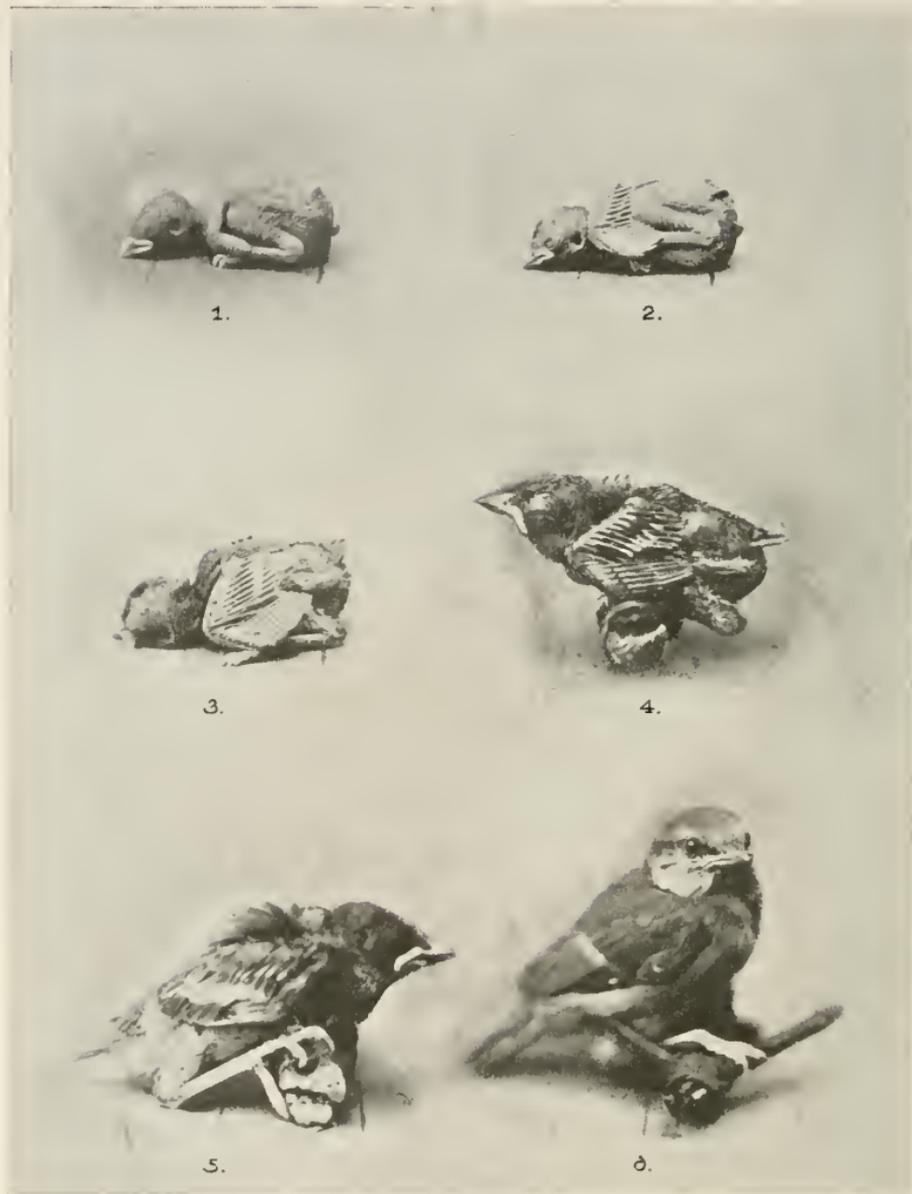
Transactions of the Hertfordshire Natural History Society,
Vol. XIII. Part I. Dulau & Co. 4s. 6d. net.

THIS part contains a valuable paper (pp. 49-64) entitled "Notes on Birds observed in Hertfordshire during the year 1905," by W. Bickerton.

Attention may be drawn to the following:—A specimen of *Leach's Fork-tailed Petrel*, which is an addition to the county list, was found dead in December, 1905, near Watford: the record of the *Bearded Titmouse* is referred to elsewhere; the *Cirl Bunting*, not recorded for many years, was heard singing near Tring, in June, by Dr. Hartert; a pair of *Ravens* visited Elstree Reservoir on July 27th; a *Stone-Curlew* was shot near St. Albans in November; the *Common Snipe* and *Redshank* were added to the list of birds breeding in the county; the *Tree-Creeper* and the *Corncrake* are reported as decreasing, and the *Yellow Wagtail* and *Goldfinch* as increasing. The Report closes with some dates of the arrival and departure of migrants.

IN Part III., Vol. VIII., of the *Transactions of the Norfolk and Norwich Naturalists' Society*, Mr. W. G. Clarke gives a summary of his notes on the Natural History of the Thetford district since his last communication, ten years ago. Ornithology, as one would expect, takes the foremost place in this communication, and some most interesting facts will be found recorded. Miss E. L. Turner contributes a delightful paper on the nesting habits of the *Coot* and *Great Crested-Grebe*, and Mr. A. Patterson a number of "Natural History Notes from Yarmouth" during 1906. On July 21st he had the good fortune to watch a *Pelican*, which we suspect was an escape, on Breydon Water, while a little later (September 3rd) he saw four *Glossy Ibises* on this famous sheet of water. On September 4th a flock of thirteen *Red-Crested Pochards* were seen there, nine of which were killed. Records of these have of course already appeared. His notes on migration, and on the movements of the birds during the hard-weather of Christmas, 1906, are extremely interesting.

This number also contains some very useful summaries with regard to the work of the Wild Birds Protection Societies on the Norfolk Coast. Reports are given from Wolferton, Blakeney and Cley, Wells, and Breydon Water.



STAGES IN THE PLUMAGE-GROWTH OF THE BLUE TITMOUSE.

FIG. 1: 2 days. FIG. 2: 5 days. FIG. 3: 7 days. FIG. 4: 9 days.
FIG. 5: 11 days. FIG. 6: 15 days.

(From Photographs by Miss E. L. Turner.)

NESTLING BIRDS, AND SOME OF THE PROBLEMS THEY PRESENT.

BY

W. P. PYCRAFT, A.L.S., F.Z.S., M.B.O.U.

PART III.

(Continued from page 132.)

(Plate IV.)

WE must pass now to the subject of the composition of the nestling down, about which by no means everything is known.

In the first place two quite different kinds of down are to be distinguished: (1) the down-feathers that precede, and are replaced by, the contour-feathers; such down-feathers I call *pre-pennæ*, and (2) the down-feathers which precede and are replaced by adult down-feathers; the down-feathers of this order I call *pre-plumule*.

To show the importance of this distinction I may cite, by way of illustration, the fact that the Owls and Hawks are, in the nature of their nestling-down entirely different one from another, for while in the Owls this down is represented by *pre-pennæ* only, in the Hawks it is composed of a mixture of both forms. More than this, if a young Hawk, of any species, be carefully examined, it will be found that the *pre-pennæ* are relatively feebly developed, while the *pre-plumule* are of considerable size, and make up the bulk of the downy plumage. This being so, it is not surprising to meet with instances wherein the *pre-pennæ* have been suppressed, so that the whole downy covering is composed of *pre-plumule* alone. This obtains in the young Cormorant for example.

Pre-plumule occur only in birds which have a sort of

“under-fur” of down in adult life. But they do not occur in all species which possess such down. The nestling-down of the Duck, for instance, is made up entirely of *pre-pennæ*.

It is impossible to distinguish in any given nestling between *pre-plumulae* and *pre-pennæ*, except in individuals which are just developing *teleoptyles* or contour-feathers, when, in addition to the downy-tufts which will in such

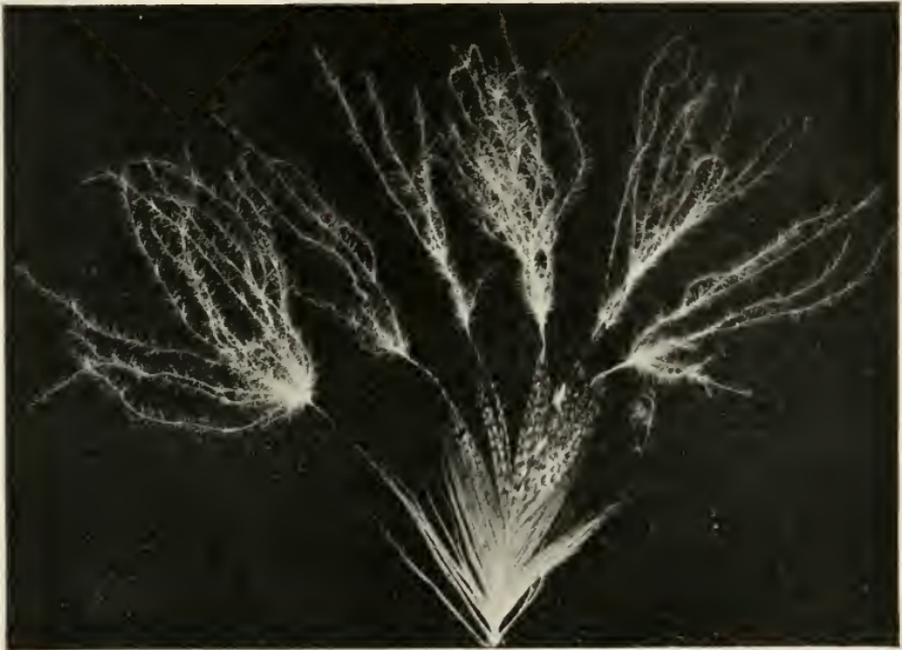


FIG. 3.—A *Pre-penna* of a Barn-Owl, disintegrated, and being replaced by a Contour-Feather.

birds be found adhering to the tips of the contour-feathers, as shown in Fig. 3, there may be found similar tufts adhering to the tips of the budding adult down-feathers.

But the study of the nestling-down embraces more curious facts than these, and happily all that are essential are illustrated in the birds of our own Islands. These facts are as follows.

I have shown elsewhere (in my *Report on the Anatomy of the Penguins*, published by the British Museum) that nestlings originally developed two distinct, successive, nestling-down plumages ; two distinct generations of *pre-penncæ*. In no case does the first generation retain its original character, and in the majority of instances it appears to be absent altogether, only the second generation being preserved, while in a great number of species even this has been suppressed, as for instance in the Crows and in the Sparrows.



FIG. 4.—A *Mesoptyle* Down Feather of a nestling Tawny Owl.
Note the well-developed shaft and lateral "barbs."

Among British birds these two distinct generations of down-plumage, preceding the advent of the typical feathers,

can best be studied in the Tawny Owl. In this bird the first down-plumage is composed of long delicate plumes, or rather tufts. This stage is succeeded by a quite peculiar plumage, made up of feathers of a semi-plumous type. Unlike the earlier down-feather, but like the typical feather, each of these semi-plumes is found to be composed of a long shaft bearing weak barbs, or rami, and still weaker barbules or radii (Fig. 4). In colour this plumage is faintly barred. The wing and tail quills are now assumed, and in this dress the bird remains until its first autumn, when, by moulting, the typical feathers are developed.

All the other Owls, I believe, will be found to agree in this matter, save only the Barn-Owls, in which the white, fragile down-tufts are replaced at once by feathers indistinguishable from those of the adult bird (Fig. 3). That this white down is really a degenerate form of the semi-plumous type seen in the Tawny Owl, the first generation having been suppressed, is, I think, certain.

In the Gamebirds, and Ducks and Geese, the nestling-down is composed of feathers of the semi-plumous type, which I have named, and shall hereafter in these pages call *mesoptyles*, while I shall use the term *protopyles* to designate the down-plumage of the first generation.

That the nestling-down of the Gamebirds and Geese answers to the *mesoptyle* plumage of the Tawny Owl we may be certain of for two reasons. Firstly because when completely developed, as in the young of the Common Fowl and Turkey, and to a less extent in the Pheasant, such feathers not only have a well-defined shaft, and barbs arranged along it in pairs, but also an aftershaft. This latter, however, is but feebly, if at all, developed in the Geese. Secondly, I have found, in the more primitive Geese, *e.g.*, *Clæphaga*, distinct remains of the *protopyle* plumage adhering to the tips of the *mesoptyles*.

The *mesoptyle* plumage in the Gamebirds, as I have already hinted, does not, in all species, exhibit the same perfection of development, and this fact is of some little

interest and importance. In the young of the Red Grouse, for example, these feathers are more degenerate than in the Common Fowl, or Turkey, since they lack a well-defined axis for the support of the barbs, and the same is true, though to a less extent, of the Black Cock. Carried a stage or two further we should get a semi-plume or *mesoptyle* structurally indistinguishable from a *protoptyle*, and this is evidently what has happened in the case of the Barn-Owl. In the Passerine birds the *mesoptyle* plumage is even more degenerate and in many species is wanting altogether, just as it is in most of the Picarian birds.

Let us suppose that we are describing the nestlings of, say, the Tawny and Barn-Owls, Kestrel, Pheasant, and Cormorant. This might be done as follows:—

Nestling-plumage (TAWNY OWL).—Composed entirely of *pre-pennæ*.

Specimen A, about three days old, with a *protoptyle* plumage of pure white.

Specimen B, about eight weeks old, with a well-developed *mesoptyle* plumage, buff coloured and barred with fine transverse bars. Quill and tail feathers well developed.

Nestling plumage (BARN-OWL).—Composed entirely of *pre-pennæ*. The nestling-plumage of this species is composed simply of degenerate *mesoptyles*, which are pure white in colour.

Nestling plumage (KESTREL).—The nestling-plumage of this bird is composed of *pre-pennæ* and *pre-plumule*, the latter being far larger, and making up the bulk of the down. Colour—white. Whether the *pre-pennæ* represent *protoptyles* or *mesoptyles* is a matter for further investigation.

Nestling plumage (PHEASANT).—The nestling-plumage is made up of *pre-pennæ* only. Only the *mesoptyle* plumage is developed, and this is marked by a broad dark median band and two lateral bands running down the back, etc., etc., etc.

Nestling plumage (CORMORANT).—The nestling-plumage of this bird is composed entirely of *protoptyles*, and is black in colour.

Though not generally realized, it is a fact that the relative amount of down which Passerine birds develop varies greatly, and its distribution also varies. The study of the nestling-down of other types is more complex and difficult: yet it will well repay a careful study. Of this I am convinced, because, in conjunction with my friend, Mr. J. L. Bonhote, I have already gone some way into this matter. Together, we hope shortly to lay before the readers of *BRITISH BIRDS* some of our conclusions.

Such, then, in bare, brief outline, are some of the main problems which await further investigation. On one or two points photography could be made to render good service. Thus, somewhat enlarged photographs are needed of nestlings such as have striped or mottled down, inasmuch as these patterns, in skins, are always more or less interfered with. Such photographs should show both the living and dead bird, the latter giving a full view of the upper surface; while photographs of nestlings of downy Passerine types would be invaluable, since skins at this stage are always more or less unsatisfactory, and collections in spirits can only be housed by museums. But these photographs, to be of any service, must be superbly good, *very* sharply focussed, and slightly enlarged. The method which we propose should be adopted, by way of illustrating the developmental stages of the down and feather plumage in Passerine birds, is shown in the plate which accompanies this article. These most admirable pictures we owe to the kindness and skill of Miss E. L. Turner, and in justice to her we should remark that some of the more delicate details of the down in the younger nestlings have inevitably been lost in reproduction.

A large series of nestlings of British birds dealt with after this fashion would prove of the highest value. By the way, I would mention here that, by a slip, the colour of the mouth of the nestling Bearded Tit was described in my last article as yellow instead of *pink*, spotted with white.

WIND AND FLIGHT.

BY

F. W. HEADLEY, M.A., M.B.O.U.

PART III.

(Continued from page 146.)

SOARING.

VARIOUS theories are held about soaring. Those who are prepared to treat mathematics and mathematicians with contempt maintain that a uniform horizontal wind is capable of lifting a bird when he faces it. But as a fact it will not help him at all unless he offers resistance, unless, in fact, he has inertia. If the wind were horizontal but its successive currents of different velocity, it is in theory possible that a bird might gain the required inertia by passing from a slowly moving current into a rapid one, as the lark does in rising. Possibly a bird may make use of eddies; he may pass from a part of an eddy where the air moves but slowly into a region of rapid movement. Thus he would not be like a mere floating balloon, but, resisting the wind, would be supported and, possibly, lifted by it. Soaring, then, is theoretically possible with a horizontal wind that is not uniform in velocity. But though theoretically possible it seems unlikely that it is actually effected in this way.

Let us first consider what goes on in regions where we can investigate facts. In the lower strata of air we find birds rising and advancing by means of up-currents which they find so effectual that they dispense with all beating of the wings. Gulls, hanging over the stern of a steamer, their wings held rigid, keep pace with the vessel which is travelling, say, fifteen knots an hour, and it is impossible

to doubt that this feat is achieved entirely by the aid of an up-current. We find Gulls rising to a great height over cliffs, which undoubtedly give the wind an upward incline. There they circle easily and gracefully in the air, a performance which they never attempt out at sea, where presumably the wind is horizontal. Eagles, vultures, kites, buzzards, ravens, and other birds, soar to great heights, and, more frequently than not, it is in hilly country, where the wind must in places have an upward incline. On the other hand, what is the utmost that the unequal velocity of horizontal currents effects for birds in the lower tracts of air? We find that in these lower tracts birds always face the wind; then they rise and so get assistance from it. But in almost all cases they give vigorous strokes with their wings during the whole time of the ascent. It is true that Gulls, when they advance at right angles to the wind (*vide supra*, p. 143), regain their lost altitude by suddenly facing the wind—in some cases a horizontal wind—which lifts them while they hold their wings rigid. But they mount in this way only to a height of a few yards, never, I think, more than ten or fifteen. And this reminds us of the fact that the velocity of a horizontal wind increases with altitude far more rapidly at low levels than at high. Here, then, are facts which ought to help us to form a sound theory of soaring. At low levels when birds get the wind to help them, it is to up-currents that their greatest achievements are due. In higher regions up-currents are no less effective, for it is beyond doubt that much of the noblest soaring takes place when cliffs or mountains give the wind an upward tilt. It seems probable, then, that in every case soaring must be explained in the same way—there must be an up-current to account for it. Mr. Peal who has watched the Adjutants circling over the great plain of Upper Assam, maintains stoutly that the wind there is horizontal; he has seen floating shreds of cotton pass horizontally across the field of his telescope. But it is very difficult to judge when you see shreds of cotton from far below,

whether they are sailing horizontally or travelling slightly upward or downward. And here is another argument, which any one who has watched birds soaring will, I think, account a strong one. They circle slowly, calmly, comfortably, round. Mr. Peal believed that they slept high aloft as they formed their spirals. Any one who has watched the constant slight adjustments for purposes of balance made by a Gull following a steamer with wings outstretched, will hardly agree with this. Still the soaring bird sweeps slowly, majestically round. Its movements suggest dependable up-currents, not the seizing of occasional opportunities, occasional differences of velocity, by passing from one part of an eddy to another, or by taking advantage of a gust from time to time.

If the soaring bird is poised upon an ascending current of air, it might be thought that there would be nothing to gain by circling round and forming a spiral or helix. But if an up-current is only local, the circling movement would be necessary in order that the bird may keep within its limits. I once used a vane made to work vertically in order to discover the extent and nature of the up-currents in the neighbourhood of a bank about six feet high. Several trials were made. On each occasion a fresh breeze was blowing. Before it reached the bank, at a distance of four yards from it, the wind was deflected so that it had a decided upward incline. On the other side, at a distance of five yards from the bank, it blew downwards, making a large angle with the horizon. Occasionally there was an upward gust. At a distance of ten yards the direction was much more of the downward than upward. At points between twenty and thirty yards from the bank there were wild gusts, now upward, now downward. I also tested the effect of a bank only two feet high. The vane was raised by its tripod four feet above the bank, yet it indicated a decided upward incline of the wind. A mountain barrier must cause up and down currents such as these, only on a far larger scale. The soaring Eagle is, I believe, practising the same art as the

Gull that hangs with wings held rigid over the stern of a moving steamer. Each is poised upon an up-current. But the soaring bird circles round in order to keep himself in the most favourable region. In a mountain country there are all the necessary conditions for this. The question is as to soaring over a wide-stretching level plain. There, too, there may be ascending currents, owing to the ground being heated by the sun.

The great cumulus clouds, with which we are familiar, are believed to be the tops of ascending currents of air. The warm air as it ascends, tends to collect in definite streams; it becomes chilled, its moisture is condensed, and the clouds are formed. Till recently I was not inclined to believe that there were any up-currents over wide-stretching plains strong enough to make soaring a possibility. I held to the view that the Adjutants over the plain of Upper Assam described their majestic spirals by the help of eddies in a horizontal breeze. But when we fix our attention on what we know takes place, rather than on theoretical possibilities, we must, I think, give up this view altogether. Even from the great plain of Upper Assam we have very strong evidence *against* the horizontal wind theory, and so *for* the up-current theory. Mr. Peal states (see especially *Nature*, 21st May, 1891), that the Adjutants and other soarers always rise the first hundred or two hundred feet by flapping their wings. But it is at the lower levels that the velocity of the wind increases most rapidly with altitude. It is at the lower levels, I believe, that the stream of the wind is fullest of eddies; they are due to the fact that the surface of the earth is not smooth or level. At low levels, then, horizontal winds have the irregularity of velocity that is said to be the all-important condition for soaring, and yet soaring does not take place there. At great altitudes, where we have reason to believe that the wind is much more uniform in velocity, we see soaring in perfection. It is true that birds may be seen circling round under circumstances that might be thought to exclude the

assumption of up-currents. I have sometimes seen birds soaring over plains—*e.g.*, in Egypt and in Spain—early in the day, before the sun had gained strength to cause the ascent of heated columns of air. But it is possible that the wind was deflected upward by hills that were not very many miles distant. If a small bank can cause the results that I have described, what cannot a high mountain do, a mountain which causes a mighty stream of air, a thousand or several thousand feet in depth, to flow upward?

There is one marvellous performance of which an up-current must undoubtedly have the credit. Every one is familiar with the hovering of the Kestrel. As a rule there is a wonderfully rapid beating of the wings, but occasionally, when the conditions are favourable, they are held outstretched and motionless. The bird hangs in mid-air as if gravitation were a myth. In Algeria I once saw an Egyptian Vulture thus poised on air. In this case, a horizontal breeze with varying velocity will avail us nothing. But in the case of the soaring bird it is no better. Let us consider how it will act. As he circles round he must now face the breeze, now turn his back towards it. When facing it, if he is passing from a slow-moving current into a rapid one, he will, no doubt, be supported, if not lifted. But how will it be when he turns his face away from the wind? Just after making the turn he will necessarily move more slowly than the wind, which striking upon his back will drive him downward. Gravitation will pull, the wind will push him down. In each circle he must lose far more than he can gain in altitude. But we know that as a fact he often completes a circle without losing altitude at any stage. A strong upward, slanting current would account for this. We know that Gulls maintain their level and occasionally glide upward as they hang with outstretched wings over the stern of a steamer, having all the while an upward slanting wind blowing in their faces, and I have described how a Gull in Alderney advanced without movement of his wings by the aid of a wind that

had an upward incline and which *blew from behind him*. From which we may infer that, provided that the wind has the required upward slant, the soaring Eagle may be lifted by it whether it blows from in front or behind him, he may maintain his level and even gain altitude during the whole of each round of the spiral.

In conclusion I wish to notice two minor points. No small birds soar. A very curious point this, of which I have never seen any good explanation. Their wings, in proportion to the weight they have to carry, are larger than those of larger birds. But though larger in proportion to the weight to be carried, they are, of course, actually smaller. They are so small that when they are held rigidly expanded, the air escapes past their edges without giving much support. Moreover, big birds have at the armpit an umbrella-like concavity which must act as a fine parachute. The small narrow wing is effective only when moved with lightning rapidity. The other small point is this. The soaring birds spread their great flight feathers like fingers, so that daylight can easily be seen between. If the edge of the wing formed an unbroken straight line, the air would be likely to escape suddenly and *en masse* from beneath it, and make balancing difficult. It was to obviate this same difficulty that Mr. Pilcher had a number of small holes made in the enormous wings by the aid of which he floated through the air.



THE RED-NECKED PHALAROPE IN IRELAND.

BY

HUGH S. GLADSTONE, F.Z.S., ETC.

IN setting down what I know of the Irish colony of the Red-necked Phalarope (*Phalaropus hyperboreus*), I regret that my experience of collectors, both of birds' eggs and skins, compels me to withhold those details I should like to have given.

The spot these birds have chosen as their breeding haunt is a small maritime marsh with a shallow stream flowing through it, dotted over with brackish pools left by the sea at high tide. The outskirts of their territory, bounded by low sandhills, are shared by Dunlins, where earlier in the year, Snipe have brought out their young before the Phalaropes' arrival during the first week of June.

How long the colony may have been in existence we do not know. Mr. E. Williams (*cf. Irish Nat.*, 1903, p. 41), states that the birds had bred in this place for "many years." I am told that it was in June, 1900, that two or three pairs of Red-necked Phalaropes were first noticed here, and their nests were subsequently discovered. They were in no way molested, and the following year about the same time they returned again to nest in increasing numbers. The tenant of the property wrote in 1902: "During my tramp through the bog I counted seventeen, but there may have been many more; the most of the birds I saw were females." In 1904, when I personally visited the locality on July 9th, I should guess there were thirty pairs. Next year, on July 4th, I walked over the ground carefully and should estimate that the pairs were then close on fifty in number, while the range of the nesting haunt had considerably increased.

Unfortunately, the tenant of the property had left in the previous winter, so that the birds had lost in him a protector both from the cattle and from would-be collectors. I was told that two men, well-known members of the British Ornithologists' Union, "had that season shot two pairs of birds and had taken forty eggs." As regards the latter, I hope that total included the eggs of Dunlin or other less rare birds. The fact of these two men coming expressly to that remote spot to rob these birds may mean the destruction of this colony: for already the natives had heard of their visit; and during my brief stay of two days one nest I knew of was robbed; and when on the marsh I saw a local man diligently searching the ground, apparently for eggs. I found twelve nests myself, one containing three, all the others four eggs. These figures show how the colony has increased, and would still further increase if adequately protected. The cattle I saw roaming about on my second visit were not allowed there by the tenant in former years: the damage they must do by trampling on nests must be enormous. Formerly the spot was left absolutely quiet, and being in full view of the windows of "Nonsuch House," no unwelcome visitor could disturb the sanctum without being seen by the vigilant tenant.

As regards the habits of the birds I have nothing new to relate. They arrived, I was told, about the first week in June, and departed about the third week in July, though birds with later hatched broods may stay till the first week in August. The first days of their arrival are devoted to courtship, in which the female plays the most conspicuous part. Showing off her larger stature and more brilliantly-coloured plumage, she swims coyly round and round the male, who though he may take flight to a neighbouring pool, is so assiduously persecuted that he at last falls victim to her wiles. The nests, never very deep, lined with dead grass and water-weeds, are well concealed in little tussocks of grass; never far from the water's edge, to which the sitting bird can on alarm creep off unnoticed.

Incubation is performed mostly, if not entirely, by the male. I flushed females off nests on two occasions, but in one case the full complement of eggs was not yet laid, and in the other I think they were only newly laid. The ground-colour of the eggs varied from stone to olive, and in one nest all four eggs were remarkably rotund. They take some eighteen days to hatch, and only one brood is hatched in the season, though if the first sitting is destroyed the bird will lay again. The nestlings, although they cannot fly for some days, are wonderfully precocious, and can swim immediately. Their beautiful golden downy plumage becomes paler and paler, even after the first twenty-four hours.

When the nest contains eggs the female bird shows the greatest anxiety. She can be seen swimming about in the pools; or, rising without any splash, flying up and down quite close to one, uttering a low cry of "plip, plip," varied by a hoarse "chiss-ick." This cry warns the male, which never flies off the nest, but always creeps through the grass and rushes, to some pool, near one of which the nest is invariably placed. Here he will soon be joined by the female, and they will swim about trying to hide their anxiety by preening their feathers or pretending to feed. Their food consists of small worms, tiny *animalcula*, insects, and flies, which they pick off the leaves of the bog-bean. The tameness of the Red-necked Phalarope is of course well known, but the following example may perhaps be given. I found a nest containing three nestlings just hatched, and a friend who was with me took one in his hand and held it on the grass. The male Phalarope came running up to it "clucking" like a brooding fowl, in response to the very feeble "cheeps" of the nestling. The female, meanwhile, never came near us, but swam about on a pool some thirty yards off.

I was much struck with the variation in the plumage of some of the birds, some females having the red gorget far more pronounced than others. One pair of birds I noticed on my second visit as most peculiar. They had white

foreheads and scapulars and speckled backs, while the red-brown gorget of the female was very faint, in fact only just discernible.

I am unable to compare the sites of the Irish and Scotch colonies of the Red-necked Phalaropes, as this is the only colony it has been my good fortune to have visited.

[The discovery of this nesting place constituted a great south-western extension of the previously known breeding range of the Red-necked Phalarope, consequently it is of great importance to chronicle the facts regarding its progress. It is equally of great importance, scientifically, that the progress of the colony should not be interfered with, and we are very sorry to have to say that many who consider themselves good ornithologists do not appreciate this fact. More knowledge of the wider aspects of our science may some day deter those, who—let us be charitable and say—in ignorance, have that utterly unscientific mania for British-taken eggs of rare breeding species. The continual harrying of Great Skuas, Kites, and many other birds—even the Ruff—are a disgrace, and every ornithologist who has his science at heart must feel it keenly when those who profess to be of his brotherhood deliberately do an unnecessary damage to his science.—
EDS.]



ON THE MORE IMPORTANT ADDITIONS TO OUR
KNOWLEDGE OF BRITISH BIRDS SINCE 1899.

BY

H. F. WITHERBY AND N. F. TICEHURST.

PART V.

(Continued from page 152.)

GOLDFINCH *Carduelis elegans* Stephens. S. page 173.

WRITING in 1899 Mr. Saunders stated that the Goldfinch had undoubtedly decreased in numbers during the previous half century in England, while beyond the border it had almost disappeared from the Lothians, but was again on the increase in the Solway district, though still very scarce beyond the Great Glen. In 1903 Mr. Harvie-Brown drew up a valuable summary of the status of this bird as revealed by the various county faunas published to the year 1894 (*Zoologist*, 1903, pp. 23-26), with a view to eliciting information as to its present status. In this he was fairly successful, and a good deal of useful information was subsequently published, but the authors were not always careful to distinguish between the numbers of the breeding birds and the migratory flocks.

In Mr. Harvie-Brown's summary this decrease of the species was almost universally manifest throughout England, with the exception of an increase that had been noted in the neighbourhood of London in 1893, and in Dorset between 1880 and 1887. In the west the decrease does not seem to have been so marked, as the bird was fairly plentiful in Hereford up to 1888, and common in many parts of Wales in 1893. During the last seven or eight years there has undoubtedly been an increase all over the country at the time of the autumn migration; but information as to the breeding stock in many districts is still required, though such data as are available seem to indicate that the bird is really recovering from its lately depleted condition in most counties. The past decrease of the Goldfinch has been ascribed by various authors to several different causes, among which may be mentioned high farming and the reclamation of waste lands, the depredations of bird-catchers, and the severe winters of the last half of the past century. Where an increase has been noted it is almost universally ascribed to the provisions of the Wild Birds Protection Acts.

Statistics of Breeding Stock.

ENGLAND.

East Sussex.—Numbers maintained (*Zool.*, 1903, p. 71). *Surrey*.—Distinctly uncommon and decreased 1900 (*B. of Surrey*, p. 102). Increasing near Lingfield (*Zool.*, 1902, p. 227) and near Richmond (*t.c.*, 1905, p. 187). *Herts*.—Considerable increase during the last three or four years (*t.c.*, 1903, p. 103). *Middlesex*.—Large increase (*t.c.*, 1905, p. 431). *Oxford*.—More common than twenty years ago; now fairly common as a breeding species (*t.c.*, 1903, p. 152). *Bedford*.—Most remarkable increase (*t.c.*, 1905, p. 463). *Cambridge*.—Formerly very abundant, still by no means rare (*t.c.*, 1903, p. 105). *Norfolk*.—(Yarmouth). So diminished of late years as to become almost a rarity (*t.c.*, 1900, p. 404). *Notts*.—Serious decrease during present generation (*t.c.*, 1903, p. 71). *Northampton*.—By no means rare as a resident, 1895 (*B. of Northants*, I., p. 191). *Rutland*.—Not common in 1875, and increasingly rare in 1889. By no means so scarce now, and nests plentifully in some localities, 1907 (*B. of Rutland*, p. 52). *Yorks*.—Local; not common; decreasing. *W. Riding*.—In the S., S.W., and S.E. portions almost extinct as a nesting species; slightly increasing about Ackworth. *N. Riding*.—Scarce in central valleys, and generally speaking a winter visitor only to the N.W. parts of the county. Slightly increasing about Scarborough. *E. Riding*.—Not uncommon in a few localities, but has greatly decreased in others, and is scarce, 1907 (*B. of Yorks*, pp. 169-171). *Hampshire*.—Decidedly increased during last ten years; fairly common in the south of the New Forest (*Zool.*, 1903, p. 71). Resident in all parts. The number of nesting birds does not seem to increase or decrease much, 1905 (*B. of Hants*, p. 59). *Dorset*.—(S.E.), increase in the last twelve years, and especially in the last four or five (*Zool.*, 1903, p. 190). *Devon*.—(N.), breeds locally (*t.c.*, 1905, p. 468). No increase since 1892 (*t.c.*, 1903, p. 105). *Somerset*.—(W.), not uncommon; steadily increasing during late years (*t.c.*, 1903, p. 104). *Shropshire*.—Has increased noticeably in recent years, and is fairly common and generally distributed throughout the county (*H. E. Forrest*, 1907, *in litt.*). *Cheshire*.—Rapidly becoming rarer as a resident, 1900 (*B. of Cheshire*, p. 76). *West Cheshire*.—Rare (*Zool.*, 1903, p. 104).

WALES.

Brecon.—Fairly common, and nesting in the lowlands (*Zool.*, 1903, p. 104). *Montgomery*.—Generally distributed. More numerous in the eastern parts of the county, and particularly plentiful in some districts, 1903 (*t.c.*, p. 70). *Carmarvon*.—

Scarce except in the lowlands, and there not numerous. Plentiful in the Conway Valley, and fairly common though sparsely distributed in the extreme west (Lleyn), 1903 (*t.c.*, pp. 71, 104). *Merioneth*.—Fairly common in some valleys, and particularly in Dovey (*t.c.*, p. 72). *Denbigh and Flint*.—Generally distributed, but not numerous except in the vales of Clwyd and Ceiriog (*t.c.*, pp. 72, 104). *Anglesey*.—Fairly common in the east of the island (*t.c.*, p. 71); not uncommon (*t.c.*, 1904, p. 19). *N. Wales generally*.—No increase except in Montgomery (*t.c.*, 1903, p. 71). *Isle of Man*.—Increase during last ten years after a decrease (*Zool.*, 1903, p. 71).

SCOTLAND.

Mr. Harvie-Brown believes that there is an increase of these birds, and that Perthshire is the present headquarters of the species. At the present time it is entitled to be designated fairly common, but still rather local in dispersal, and breeds in suitable situations where found (J. A. H.-B., *Fauna of Tay Basin*, pp. 112, 113).

IRELAND.

Well known in every part from which bird-catchers have not driven it, though they have done this for miles round our larger towns (*B. of Ireland*, p. 54). A common bird. In co. Wicklow it is very numerous, and in Wexford and Carlow equally so (Allan Ellison, *Zool.*, 1903, p. 191).

SISKIN *Carduelis spinus* (L.). S. page 175.

SHROPSHIRE.—The first and only recorded instance of its nesting was in 1898, when a nest was found in a fir tree on Erinshill Hill (H. E. Forrest, *Fauna of Shropshire*, p. 119).

DERBY.—A pair nested and had fertile eggs near Repton in the summer of 1902 (C. R. Gurney, *Field*, 8, VIII., 1902).

YORKSHIRE.—In recent years one or two pairs have nested near Pickering (T. H. Nelson, *Birds of Yorks.*, 173).

SCOTLAND.—The Siskin appears to me to be a species increasing its distribution towards the south (J. A. Harvie-Brown, *Fauna of Tay Basin*, p. 114).

SUTHERLAND.—Mr. Eagle Clarke is of opinion that its presence there (Assyut) two years in succession (1902, 1903, the latter in June) indicates that it was breeding somewhere in the district of Assyut (*id.*, *Fauna of N.W. Highlands*). Hitherto only known as an autumn migrant in the west of Sutherland.

ORKNEY.—Several small flocks of fifteen to thirty individuals arrived on the south-east mainland on September 21st, 1901, and were seen there in decreasing numbers for the two following days (N. F. Ticehurst, *Zool.*, 1901, p. 425). The occurrence of the Siskin had not previously been authenticated in Orkney.

OUTER HEBRIDES.—*Barra*.—About a dozen were seen at the end of October and during November, 1897 (*Ann. S.N.H.*, 1902, p. 145). The species had not before been recorded in the Outer Hebrides.

IRELAND.—A nest was found by H. F. Witherby in *co. Galway* in May, 1903, and several other breeding pairs were seen; a young bird, just fledged, was found in *co. Kerry* on July 8th, 1906 (*Field*, 28, VII., 1906). Mr. Ussher suspected that the bird bred in both these counties (*Birds of Ireland*, p. 56).

SERIN *Serinus hortulanus* Koch. S. page 177.

KENT.—Two were caught at Dover, November 16th, 1904 (D. Seth-Smith, *Zool.*, 1904, p. 457).

SUSSEX.—A female was caught in a clap net at Rottingdean on November 28th, 1906 (J. B. Nichols, *in litt.*). Some were reported in May, 1907, near Lewes (*cf. antea*, p. 57).

NORFOLK.—A male was caught near Yarmouth, April 28th, 1904 (J. H. Gurney, *Zool.*, 1905, p. 92).

OXFORD.—One was seen near Crowmarsh, Battle, on May 5th, 1904 (O. V. Aplin, *t.c.*, 1906, p. 445).

YORKSHIRE.—One seen at Beverley, May 26th, 1897 (T. H. Nelson, *Birds of Yorks*, p. 175).

HOUSE-SPARROW *Passer domesticus* (L.). S. page 179.

OUTER HEBRIDES.—Seems still to be confined to Castlebay, Barra; Tarbert, Harris; and Stornoway, Lewis (N. B. Kinnear, *Ann. S.N.H.*, 1907, p. 19; also *cf. J. A. Harvie-Brown, t.c.*, 1902, p. 145).

TREE-SPARROW *Passer montanus* (L.). S. page 181.

WALES.—*Anglesey*.—A large breeding colony was discovered in 1902 (Coward and Oldham, *Zool.*, 1902, p. 404). *Denbighshire*.—A breeding colony was found in May, 1907, near Llandulas (C. Oldham, *t.c.*, 1907, p. 235). *Cardigan*.—Several were seen near Aberystwyth in December, 1901, and February, 1902 (Prof. J. H. Salter, *t.c.*, 1902, p. 25, 1904, p. 66). Mr. H. E. Forrest in writing to Prof. Salter on the distribution of this bird in North Wales noted that he had identified a small colony at Llanrwst, and that it occurred at Conway, Colwyn Bay, St. Asaph, and along the Shropshire border of Montgomeryshire (*cf. t.c.*, 1904, p. 66).

ISLE OF MAN.—Evidence of its breeding (F. S. Graves, *t.c.*, 1903, p. 313).

SCOTLAND.—*Shetlands*.—Breeding at Unst (T. E. Saxby, *Ann.*

S.N.H., 1903, p. 211). *Bute*.—A breeding colony was found in 1906 (J. Robertson, *t.c.*, 1906, p. 237). *Outer Hebrides*.—Besides *Barra*, where there is an old established and increasing colony, six pairs were found nesting at Stornoway (N. B. Kinnear, *t.c.*, 1907, p. 19).

IRELAND.—*Co. Mayo*.—A colony was discovered at Belmullet (R. Warren, *Irish Nat.*, 1905, p. 72), and has existed there since 1902 (R. J. Ussher, *in lit.*); and another was found near Killala (R. Warren, *Zool.*, 1907, p. 344). *Co. Derry*.—A pair was found nesting August 16th, 1906 (N. H. Foster, *Irish Nat.*, 1906, p. 221). *Co. Donegal*.—Four nests with eggs were found June, 1907 (R. Patterson, *t.c.*, 1907, p. 239). *Co. Sligo*.—A solitary bird was seen at Castle Connor August, 1907 (R. Warren, *Zool.*, 1907, p. 344).

The Tree-Sparrow seems to be gradually extending its range westward, though in some cases, where it has been reported as nesting for the first time, it may have been previously overlooked.

LINNET *Linota cannabina* (L.). S. page 187.

SHETLANDS.—*Halligarth*.—One seen (T. E. Saxby, *Ann. S.N.H.*, 1905, p. 117). *Fair Isle*.—Adult male obtained April 18th, 1906 (W. E. Clarke, *t.c.*, 1907, p. 69). The Linnet has very rarely been observed in the Shetlands.

MEALY REDPOLL. S. page 189.

Linota linaria holboellii (Brehm).

One shot at Achill Island, co. Mayo (F. Coburn, *Bull. B.O.C.*, XII., p. 15). One shot near Tring (E. Hartert, *Vög. pal. Fauna*, p. 80). Amongst a large flight of Mealy Redpolls in Holderness, Yorkshire, in 1881, several were noted as having very large bills, and these may have belonged to this form (*cf. Birds of Yorks.*, Vol. I., p. 187).

Linota linaria rostrata (Coues).

The following, obtained by Mr. W. L. MacGillivray on Barra, have been assigned to this form by Mr. W. E. Clarke, viz., ♂ October 8th, 1896; one November 10th, 1898; one October 13th, 1900; and two September, 1901 (W. E. Clarke, *Ann. S.N.H.*, 1901, p. 131, and 1902, p. 118).

A number was seen and several obtained at *Fair Isle* in September and October, 1905 (W. E. Clarke, *t.c.*, 1906, p. 17; 1907, p. 70). Several from Achill, co. Mayo, and two from Tearaght, co. Kerry, have been identified as belonging to this

form (R. J. Ussher, *Birds of Ireland*, p. 64; W. F. de V. Kane, *Irish Nat.*, 1902, p. 56).

Linota hornemannii Holböll.

Five specimens of this species were obtained on Fair Isle in September and October, 1905 (W. E. Clarke, *Ann. S.N.H.*, 1906, p. 17). Two are recorded in Mr. Saunders' "Manual," while two more obtained at Spurn in 1883 and 1893 are placed under this species by the authors of the "Birds of Yorkshire" (p. 189).

Linota hornemannii exilipes (Coues).

One obtained at Easington, Yorkshire, in the winter of 1893-4 and two others obtained in the same district on December 30th, 1898, were assigned by Mr. Cordeaux to this form (*Birds of Yorkshire*, Vol. I., p. 188).

As Mr. Saunders remarks, the whole question of the Mealy Redpolls is "incrusted by a voluminous literature in which hardly two authors agree as regards specific value." Dr. Hartert, in the latest review of the genus (*Vög. pal. Fauna*, p. 77 et seq.), regards *holboellii* and *rostrata* as subspecies of *L. linaria*, and the other Greenland Redpoll, *L. hornemannii*, as a separate species with the circumpolar *exilipes* as a subspecies of it. Now that more attention is being bestowed by British ornithologists on the study of geographical races, the occurrence of these forms in the British Islands will be, no doubt, more often noted and our knowledge of their migrations increased.

LESSER REDPOLL *Linota rufescens* (Vieillot). S. page 191.

SOMERSET.—Records of its nesting in the northern parts of the county on the central levels and near the south-western boundary (F. L. Blathwayt, *Zool.*, 1902, p. 67; H. Meyrick, *t c.*, 1903, p. 457).

SUSSEX.—A nest and egg were taken near Midhurst, 4th May, 1901 (A. Byatt, *Bull. B.O.C.*, XII., p. 15). Young birds were seen being fed by their parents on August 22nd, 1907, at Maresfield, and a nest like that of this species was found near by (R. Morris, *Zool.*, 1907, p. 352). A nest was found with four eggs, 15th May, 1895, at Brightling, Sussex (N.F.T.).

KENT.—In addition to the records mentioned *supra*, p. 155, it was numerous and breeding near Canterbury in May, 1897 (N.F.T.); becoming a common breeding species in the Darent Valley, 1905 (*vide* J. R. Hale); breeds somewhat sparingly in north Kent (A. G. Butler, *Br. Birds' Eggs*, 1886); nest and three eggs found 8th May, 1896, at Leigh, near Tonbridge (*vide* C. B. Ticehurst); has increased wonderfully during the last

few years round Bromley, and knows of twenty or thirty nesting pairs (J. Walpole Bond, *Field*, 5, x., 1907).

BERKS.—Abundant as a nesting species in 1905 (F. W. Proctor, *Bull. B.O.C.*, XV., p. 88). Nest found in 1906 (Graham W. Kerr, *Zool.*, 1906, p. 231).

SURREY.—Nest and eggs taken on 20th May, 1894, near Epsom (J. A. Bucknill, *Zool.*, 1901, p. 250). Nest and two eggs found on Wimbledon Common, 29th June, 1902 (M. J. Nicoll, *t.c.*, 1902, p. 313). Pair seen feeding young at Lingfield, 19th July, 1887 (J. A. Bucknill, *t.c.*, 1902, p. 227). Nested near Godalming at the end of May, 1906 (L. B. Mouritz, *t.c.*, 1907, p. 100).

MIDDLESEX.—A pair nested at Staines in 1903 (Graham W. Kerr, *t.c.*, 1906, p. 230). Nest and five eggs found near Pinner, 28th June, 1902 (R. H. Read, *t.c.*, 1903, p. 26).

CHESHIRE.—A fairly common breeding species (S. G. Cummings, *t.c.*, 1903, p. 105).

OXFORD.—Two pairs breeding near Oxford in May, 1898 (F. L. Blathwayt, *t.c.*, 1903, p. 26).

RUTLAND.—Breeds sparingly in the Uppingham district, and not uncommonly near Stamford (C. R. Haines, *Birds of Rutland*, p. 58.)

OUTER HEBRIDES.—A nest and eggs taken at Barra are now in the Royal Scottish Museum (J. A. Harvie-Brown, *Ann. S.N.H.*, 1902, p. 146).

TWITE *Linota flavirostris* (L.). S. page 193.

A somewhat lengthy correspondence in the "Zoologist" (1905 and 1906) on the distribution of the Twite in the nesting season resulted in no new facts being disclosed, but Mr. Saunders' opinion—that it is local, and more abundant in the west than the east—was confirmed, while it appears to be almost unknown as a breeding species in Wales (*cf.* also J. H. Salter, *Zool.*, 1902, p. 6). A nest and eggs were taken at Westward Ho! on May 3rd, 1904 (C. E. Pearson, *Bull. B.O.C.*, XIV., 91), and a nest, supposed to be of this species, was taken in Surrey on June 24th, 1894 (J. A. Bucknill, *Zool.*, 1901, 250).

(To be continued.)



NOTES

RARE BIRDS IN SUSSEX, KENT, AND ESSEX.

I HAVE been much interested in Mr. H. Saunders' and Messrs. Witherby and Ticehurst's papers in BRITISH BIRDS on "Additions since 1899" to the British Bird List. I should like to supplement them with the following records of rare birds in my own collection.

BLACK-EARED WHEATEAR *Saxicola caterinæ*.

A male of this western form of the Black-eared Chat was shot at Winchelsea on May 2nd, 1907, and sent to Mr. Bristow. It was seen in the flesh by Mr. W. R. Butterfield, and is the third specimen of this species recorded in this country.

CETTI'S WARBLER *Cettia cettii*.

A female of this species, the second which has been obtained in this country (*cf.* BRITISH BIRDS, p. 9), was shot at Whatlington, Sussex, on September 1st, 1906, and sent to Mr. Bristow, of St. Leonards, to set up. It was seen in the flesh by Mr. L. C. Edwards, and is now in my collection.

BLUE-HEADED WAGTAIL *Motacilla flava flava*.

A very fine old male of this species was shot at Winchelsea on April 19th, 1905.

GREY-HEADED WAGTAIL *Motacilla flava borealis*.

A male of this northern race was shot at Winchelsea, on May 29th, 1907. I saw it in the flesh at Mr. Bristow's and have it now in my collection.

WOODCHAT SHRIKE *Lanius pomeranus*.

I have also received a male of this species which was shot at Hadlow, near Tonbridge, Kent, on July 4th, 1907.

NUTCRACKER *Nucifraga caryocatactes macrorhynchos*.

A fine male of the thick-billed (west European) form of the Nutcracker was shot at Broadoak, Brede, Sussex, on February 12th, 1907.

HYBRID TURTLE DOVE.

I have also a curious Turtle Dove, a female, which was sent me in May last. It was shot with an ordinary male wild Turtle Dove in the first week of May, 1907, at Stanway, near Colchester, Essex. I believe it to be a hybrid between *T. turtur* and *T. risorius*. I am informed that from June to August, 1906, there was an African Turtle Dove, *T. risorius*, flying about with common Turtle Doves at this place, and it disappeared with the

wild birds. The hybrid is a hen and had eggs well developed, and shows no sign of captivity.

I have to record my thanks to Dr. R. B. Sharpe and Mr. W. R. Ogilvie-Grant for kindly identifying these birds for me.

J. B. NICHOLS.

MARSH-WARBLER NESTING IN SURREY.

ON the 14th of June last I quite unexpectedly discovered the Marsh-Warbler (*Acrocephalus palustris*) breeding at Thorpe, in Surrey, in which county it has not previously been recorded as nesting. Until three years ago I lived quite close to the spot where I found the nest, and certainly up to that time the bird had never occurred in the neighbourhood. I am afraid that the birds will not become established, as already part of the plantation they frequent has been cleared. The nest was placed in the fork of a small osier, well hidden among a mass of tall grass, nettles, and other rank herbage, and was about three feet from the ground. The osier-bed faces on the river, but the nest was some distance back from the stream, and on quite dry ground. Reed- and Sedge-Warblers were breeding on the same spot. I discovered the nest by hearing the bird slip away in the undergrowth, and, although I waited a long while, she did not return, nor was the male seen anywhere in the vicinity. The nest, which contained four bold and finely marked eggs, was made entirely of grasses, finer grass being used for the lining. It seemed to be more substantially built than the nests of the Reed-Warblers found in the same place. On the 25th June I again visited the osier bed, and found a fresh nest placed about two and a half feet from the ground in a clump of tall grass, four or five stems being woven into the sides, and, as in the first case, it was composed entirely of grasses and contained four eggs. On the 13th July Mr. Mouritz accompanied me to the plantation, but, unfortunately, the second nest seemed to have been disturbed, and we could find no trace of the birds anywhere in the neighbourhood.

GRAHAM W. KERR.

THE TONGUE-SPOTS OF THE NESTLING GRASSHOPPER-WARBLER.

WITH reference to Mr. W. P. Pycraft's article on the colouring of the inside of the mouth of nestling birds, I have noticed that the nestlings of the Grasshopper-Warbler (*Locustella naevia*) have three distinct dark-coloured spots placed at right angles to each other on the base of the tongue. J. S. T. WALTON.

[Notes like this by Mr. Walton will, we hope, frequently appear in these columns, for the number of such records is astonishingly small.—EDS.]

GREAT AND BLUE TITS COVERING UP THEIR EGGS.

LAST year for the first time I put up five or six nesting boxes in my garden. During the spring all but one of these were inhabited by Great and Blue Tits. The boxes were so made that I could very easily lift off the top to inspect the nest and eggs. This I did fairly frequently, and was much struck with the apparently untidy condition of the nests, which for days were without a "cup" and contained no eggs that I could see. I was much surprised one day at finding a bird sitting on one of these nests, which on examination proved to contain a full clutch of eggs. I concluded that she must have been covering up her eggs as they were laid. This year I have watched the nests more closely, and have proved that the bird invariably keeps the eggs completely covered with a piece of moss or rabbit's fur (usually the latter) between her visits to the nest for the purpose of laying. I have observed this in all my nests—four of the Great Tit and two of the Blue Tit.

After the full clutch of eggs is laid and the bird is sitting, the eggs are no longer covered when the nest is left. The egg-covering is then, I believe, used for the sides of the nest, and gives it its very deep cup-shaped appearance.

I am not aware that this interesting habit of these Tits has ever been recorded before. Of course it is possible that it may be only a comparatively uncommon habit, and it may be only by chance that in all the nests I have been able to watch closely the eggs have been thus covered. I hope that other ornithologists will be able to confirm my observations. It would be also interesting to know whether the Coal-Tit and Marsh-Tit behave in the same way. A few birds (such as the Hedge-Sparrow) occasionally cover their eggs before commencing to sit, and such well-known instances as the Ducks and Grebes need hardly be mentioned. But of all birds the Tits would seem to profit the least by this habit.

NORMAN H. JOY.

OCCURRENCES OF THE BLUE-HEADED WAGTAIL AT LYNMOUTH, NORTH DEVONSHIRE.

ON September 7th, 1901, I saw two birds in our garden at Lynmouth which seemed to be of a species I had not seen before. My brother and myself saw them on several occasions later in the year, and having examined them through field-glasses, made them out to be *Motacilla flava*, but to our surprise in every case the white streak over the eye, described by writers as a distinguishing mark of this species, was either almost or entirely obsolete. During 1901 we saw these birds after September 7th, on the 14th and 24th, and on October 3rd, 5th,

and 24th. In 1902 they were seen frequently, and in 1903, when I saw one on December 15th within a few feet of where I was standing I came to the conclusion that here at least the species was non-migratory. In the following year, 1904, I have the strongest belief that they nested at Lynmouth, for we saw a pair of them on March 18th on the top of the sea wall of our esplanade, and again in the same place on April 8th; and frequently from that date to May 19th, when only one, the male, was seen. Afterwards both birds were seen carrying food in their beaks up the cliff, and on July 30th the pair were there with their young ones. The wall of the esplanade is about three feet high, and about the same breadth, flat on the top, then comes a footpath and a road, at the back of which is a nearly perpendicular cliff about 300 feet high, which is a great place for birds as it is very little disturbed. Other dates on which we saw them in that year were October 9th, November 25th and 27th, and December 28th, and had we looked I expect we could have seen them every day in the year. In 1905 the dates were January 22nd, February frequently, March 23rd, and June 4th (a young cock). In 1906 I did not see this bird till November 20th, and this year (1907) for the first time on September 12th, and again on the 13th. Both last year and this, however, there have been very late cold springs.

The following is a description of the birds:—

Adult ♂.—Size of *M. raii*; crown and nape, bluish-grey, darker in some examples; lores and ear-coverts paler, but in no case with a distinctly pale line over the eye; back, greenish-yellow; wing-coverts, greenish-brown edged with a paler colour; chin and upper breast, white; underparts, deep yellow; tail-feathers, blackish brown, sometimes almost black, except the two outer pairs, which are white with a faint tinge of yellow, and with black edges to the inner webs; beak and feet, dark greyish brown, not black as described in most books.

Adult ♀.—Duller, with less pronounced colours.

Young.—Back greyer, with much less yellow on the underparts; less marked difference in the colour of the tail-feathers, and paler beak and claws.

T. H. BRIGGS.

LESSER GREY SHRIKE IN KENT.

AN immature example of *Lanius minor*, only partially through the autumn moult, was shot at Brookland, October 7th, 1907. For former records cf. *antea*, p. 147. N. F. TICEHURST.

HAWFINCH BREEDING IN NORTHUMBERLAND.

ANENT the interesting notes on this bird in the October

number of BRITISH BIRDS, and the references to its breeding in Northumberland, I may add though I have not seen any nests myself, yet I have excellent authority for stating that more than one pair are in the habit of breeding within seven miles from here (Stocksfield-on-Tyne). Also old birds with young have been seen in the neighbourhood of Chollerfield, North Tyne.

J. S. T. WALTON.

SNOW-FINCH IN KENT.

THE spell of cold weather that swept across Europe at the end of last year resulted in one of the most remarkable daylight migrations that has ever been witnessed in the south of England. Amongst other birds procured at this time was a specimen of the Snow-Finch (*Montifringilla nivalis*), the second that has been obtained in this country (*cf.* H. Saunders, *supra*, p. 13). It was shot from a flock of four or five similar-looking birds (whether of the same species or not, I do not know) at Paddock Wood, in Kent, on December 28th, 1906. I examined the bird in the flesh, and still in a quite fresh condition, on January 2nd. A second was, I believe, procured at the same time, but as I have no personal knowledge of it I do not venture to record it.

N. F. TICEHURST.

ROLLER IN SUSSEX.

ON July 31st, 1907, a gamekeeper in St. Leonard's Forest observed one of these birds, a fine male, flying in the forest near Colgate.

So conspicuous a bird can hardly escape notice, nor the desire of man to capture it, and the specimen in question met with the usual fate. I saw it in the flesh on August 2nd, and it has now been added to my collection.

Formerly the Roller was a regular though scarce summer visitor to this part of England, but now its appearance is distinctly rare. As far as I can ascertain this is the only example that has been killed during the past ten years in West Sussex. The throat and crop contained several small beetles.

J. G. MILLAIS.

EARLY NESTING OF THE SHAG IN ORKNEY.

THIS year the Green Cormorants or Shags (*Phalacrocorax graculus*) started nesting remarkably early in Orkney. They commenced building their nests in January, and the first eggs were found on February 24th on the Island of Sules Skerry. The weather during these months was very stormy but not cold, and perhaps this latter fact had something to do with their early nesting, which is much earlier than has ever been known in Orkney before.

H. W. ROBINSON.

GLOSSY IBISES IN ORKNEY.

ON September 24th last, a flock of about twenty Glossy Ibises (*Plegadis falcinellus*) appeared at Sandwick, a small township about four miles inland, and about eight miles from Stromness, Orkney, where they frequented some marshy ground. The man who made the discovery did not think of shooting them at first, and so for three days they remained in peace, but on the 27th this idea seemed to strike him, and from this date until October 1st he shot two or three each day as they were feeding in a burn, until he had accounted for no less than ten. They were very wary, and rose high in the air when disturbed. Most of them were sent, I believe, to Mr. Mallock, of Perth, and it would be interesting to know whether they were old or young birds. I do not think there are a dozen records of this bird having visited Scotland, and the occurrence of a flock of them in Orkney is most unusual, as I believe the species has only occurred twice before in these islands, viz., a young bird near Stromness on September 19th, 1903, which I mentioned in the "Field," etc., at the time, and another near Kirkwall as long ago as September, 1857. It will be noticed that the three occurrences were all in September, during the autumn migration.

H. W. ROBINSON.

PALLAS'S SAND-GROUSE IN MIDDLESEX.

AT noon on Monday, September 23rd, when sitting with Mr. Henry M. Hill on the lawn in front of his residence, Downage, Hendon, I saw a Pallas's Sand-Grouse (*Syrrhaptes paradoxus*) flying towards us. It was alone and, at an altitude of not more than sixty feet, passed directly over our heads, giving me a splendid opportunity of carefully observing and identifying it. It flew rapidly over the house, taking a course due north. I have never previously had the pleasure of seeing this bird alive, but have had ample opportunities of studying, amongst others, the specimens which were obtained in Staffordshire, in 1863, by the late Mr. Samuel Yates of Eccleshall.

W. WELLS BLADEN.

PARTRIDGE CARRYING A YOUNG ONE.

ON August 28th last, on the downs near Corfe Castle, I put up a covey of Partridges a little more than half grown. In the rear came the mother (unless it was the father) carrying one of her family, presumably a weakly one, in her claws. I was able to see this clearly, as I was quite near when they rose.

F. W. HEADLEY.

REDSHANK BREEDING IN WARWICKSHIRE.

IN the editorial note following the remarks of Mr. A. H. Etches on this subject (*antea*, p. 159), the Rev. F. C. R. Jourdain observes that, to his knowledge, the Redshank has not been recorded as previously breeding in Warwickshire.

This reminds me that on May 20th, 1905, I found a nest of the Redshank with four eggs, well concealed in coarse grass, in Sutton Park. I had on several occasions in previous years met with them during the breeding season in the Trent Valley, near Armitage, but was not aware that as a nesting species they had not been recorded in Warwickshire.

I visited the nest again on May 22nd, and also on several occasions afterwards. On my last visit I found the nest empty, and saw no trace of the birds, which made me rather suspicious that someone had taken the eggs, but one of the park keepers, to whom I showed the nest, was quite confident that they had been hatched, and another of the keepers, who appeared well acquainted with the birds, assured me that he had seen three at least of the young birds, but at some considerable distance from the nest.

WILLIAM DAVIES.

DURING the years 1895-1898 I was in the habit of paying one or two visits every week during May, June and July, to the swampy ground lying behind the rifle butts at Rugby.

I always saw a pair of Redshanks on every visit, never more than one pair, and I never succeeded in locating the nest, but that there was a nest I have little doubt from the behaviour of the birds and the time of year.

The Redshank here in the extreme north of Lancashire, and on the Westmorland borders, are showing a marked tendency to come further from the marshes on the coast-line, and are now found breeding on certain low-lying cultivated moss-lands where they were unknown to breed some two or three years ago. I am inclined to believe that they are adopting these tactics to avoid the constant persecution to which they are subjected on the unreserved and public marshes during the nesting season.

FRED. SMALLEY.

REPORT ON THE FOOD OF BLACK-HEADED GULL.

AT the request of the Cumberland County Council Messrs. D. L. Thorpe and L. E. Hope undertook to investigate the nature of the food of the Black-headed Gull (*Larus ridibundus*) for the purpose of ascertaining whether or not this species was to be regarded as harmful from an economic point of view.

To this end they issued a number of circulars, containing a series of questions, with a view to ascertaining the opinions of Naturalists, Anglers, Fishermen, Farmers and Gamekeepers, and, as a result, received sixty-two replies.

Naturally, wide differences of opinion as to the harmfulness, or otherwise, of this bird have been brought together by this means, but the result, as a whole, is emphatically in favour of the bird.

But the evidence which Messrs. Thorpe and Hope have accumulated, as a result of the examination of the stomachs of one hundred birds, is far more important, since most of those who returned schedules had never actually made a similar examination, but founded their remarks on observations in the field only.

This post-mortem work has shown that, in the area under investigation at any rate, the Black-headed Gull lives largely upon earthworms, these making up no less than 42 per cent. of the food examined. Of the 100 birds, 41 per cent. had been feeding on the larvæ of insects harmful to grass and root crops, such as wire-worms, and the larvæ of the "Daddy-long-legs."

Although, as the replies sent in show, not a few people were convinced that the Black-headed Gull lived largely upon fish and was to be reckoned a most undesirable bird in the neighbourhood of fish-hatcheries, it has now been conclusively shown that fish form but a fraction of this bird's diet. Only 9 per cent. of the birds examined contained traces of fish of any kind, and in this report mollusca and shell-fish appear to be included under the common term "fish."

But not the least extraordinary part of this report is the decision to which the authors have come: since they suggest, in spite of the fact that the Black-headed Gull is to be regarded as an ally of the farmer, and is innocent of all harm whatsoever to the fishing interests, that no "harm would be done to the species by relaxation for a term of years of the protection now given it"! The prisoner at the bar having been honourably acquitted is to be penalized lest in future he may deserve punishment!

Economic ornithology has been very little practised in England, and it is a matter which should be taken up in a very thorough way by the Board of Agriculture, or some other properly constituted authority. For years past this has been done in the United States and, as a consequence, a vast amount of valuable facts, upon which absolute reliance can be placed, has been accumulated. Throughout the United States Gulls are almost everywhere protected, and the same is true of Canadian Provinces; in Manitoba alone are Gulls exempted from protection.

RED-BACKED SHRIKE NESTING IN YORKSHIRE.—This species is a rare bird in Yorkshire, and has seldom nested in the county. Mr. Oxley Grabham records that a pair nested this year in the Pickering district and brought off their young (*Naturalist*, 1907, p. 325).

* * *

WOODCHAT IN OXFORDSHIRE.—Mr. C. B. Chambers saw and watched near Fifield, Milton-under-Wychwood, from May 20th to 23rd, 1905, a Woodchat (*Lanius pomeranus*) (O. V. Aplin, *Zool.*, 1907, p. 323).

* * *

NESTING OF THE LESSER TERN IN NORTH UIST, OUTER HEBRIDES.—Mr. P. F. Bunyard has recorded in the "Field" (September 21st, 1907) the finding of the eggs of a Lesser Tern, *Sterna minuta*, on the north side of North Uist. At a distance the birds were mistaken, curiously enough, for Roseate Terns, but we cannot agree with the Editor of the above-mentioned journal that this casts any doubt on the record, since there could have been no mistake about the eggs which were found, and when the birds were seen at close quarters they were at once recognized as Lesser Terns. Mr. Bunyard is entirely wrong in supposing that the bird had not been previously recorded as breeding in the Outer Hebrides, since Mr. W. L. MacGillivray found a small nesting colony in Barra in 1902 (*Ann. S. N. H.*, 1902, p. 237), but, according to Mr. N. B. Kinneir, they have not breed there since 1903 (*t.c.*, 1907, p. 85). A colony, well-known to a good many ornithologists, breeds in another of the outer islands and has done so since 1885 or 1886 (*cf.* J. A. Harvie-Brown, *t.c.*, 1903, p. 16). Mr. Bunyard's record is, however, of considerable importance, because, as we believe, North Uist is the most north-westerly point at which the Lesser Tern has been found breeding.

* * *

WEIGHT OF BIRDS' EGGS.—Mr. Nevin H. Foster gives measurements and weights of the eggs of a number of species as supplementary to his previous observations on the subject (*Irish Nat.*, 1907, pp. 315-319).



REVIEWS

The Birds of Yorkshire, by T. H. Nelson, M.B.O.U., with the co-operation of W. Eagle Clarke, F.R.S.E., and F. Boyes. 2 Vols. Illustrated. Brown & Sons. 25s. net.

SINCE Yorkshire is the largest county of England, and possesses a great diversity of physical features, and has, moreover, a long coast-line favourably situated as a landing place for migrants, it is not surprising that it should possess a richer avifauna than any other county. The total of Yorkshire birds as given in this work is 325, as against 315 species computed as having occurred in Norfolk. Long ago the Yorkshire Naturalists' Union promised a history of the birds of its county, and the work begun by Messrs. W. E. Clarke and W. D. Roebuck, has at last been completed by Mr. T. H. Nelson, with the assistance of Mr. F. Boyes, and many other Yorkshire ornithologists.

On the whole the two volumes before us are worthy of the importance of the subject, but it is a very great pity that so fine a work should be marred by blemishes altogether avoidable. Some of these are of the most surprising nature. All through the book the authority for the scientific name of a species is placed within brackets, whether the generic name adopted was employed by the original describer or not! We understand from the preface that the authors have had the assistance of Mr. T. Sheppard for proof reading, and it is extraordinary that this gross mistake, and many minor misprints should have escaped the detection of so many eyes. Some of the misprints have been corrected in an *errata* slip which itself contains an error—Liberian being printed for Siberian Meadow Bunting. The volumes contain no map—an unaccountable omission. A history of the birds of a county is, in our opinion, incomplete without a map, and it should contain, besides, illustrations showing different types of country frequented by typical species. These volumes are crowded with illustrations, excellent of their kind, but nine-tenths are entirely unsuited to the needs of a work such as this. We find innumerable photographs of the nests of every common bird, but we look almost in vain for illustrations of bird-haunts, of which Yorkshire can boast so many of such varied character. We cannot lay to the charge of the authors the absurdity of these illustrations, for they are certainly well aware of the requirements of a county avifauna in this respect, and we can only regret that it was found necessary for a committee, seemingly out of sympathy with the subject, to meddle with what was an ornithologist's affair.

It must not be supposed that these blemishes, to which we

have felt it our duty to refer, seriously affect the authors' work. This has been well done. The history of each species is a thoroughly exhaustive and conscientious piece of work, and the important task of sifting the records of rarities has been done with caution and sound judgment. The notes under each species connected with its migrations are also extremely useful, but the subject of migration as a whole, as observed in Yorkshire, has been shirked, and we are only given an extract from Mr. Eagle Clarke's British Association "Digest."

The work contains much information hitherto unpublished, and amongst the records referring to species already dealt with, before the publication of this work, in the series of articles now appearing in these pages on the "Additions since 1899," the following may be mentioned, while others will be incorporated in their correct places in future instalments of the above-mentioned articles. *White's Thrush* has occurred five times in Yorkshire, and not four, as stated *antea*, p. 53; the *Rock Thrush* is admitted on the evidence of one seen at Whitby in 1852, a record probably rejected by Mr. Saunders; the authenticity of the specimen of the *White-spotted Bluethroat* obtained at Scarborough in April, 1876, is fully established; a *Red-spotted Bluethroat* was identified at close range at Easington on September 10th, 1901; a valuable account is given of the range of the *Nightingale* in Yorkshire, from which it appears that it is not so rare in the lowlands as stated *antea*, p. 55, except in the western side of the county where it is unknown. The authors are not always up to date: there are now four records for the *Orphean Warbler*, not two, as stated on page 69, and at least double the number of *Barred Warblers* stated on page 75 as having occurred in the British Isles, and about fourteen of the *Icterine Warbler* instead of eight. The record of one of the latter seen in September, 1897, near Easington, Holderness, by Messrs. Clarke and Laidlaw appears to be new; four *Black-bellied Dippers* (seldom satisfactorily identified) are recorded; the *Coal-Tit*, although recognized as an insular form of the continental species, is yet called *Parus ater*; the *Crested Tit*, mentioned by Mr. Saunders (*Ill. Man.*, 2nd. Ed., p. 111), as having been shot near Keighley, is here considered not authentic: on page 124 is an apparently good record of the nesting of a pair of *White Wagtails* at Cleveland, in 1899; there are several records of occurrences of *Blue-headed Wagtails*.

In conclusion we may offer our hearty congratulations to the authors for having completed a most valuable and highly necessary work. A few small criticisms on the production of the book may be useful. It is nicely printed and the letterpress is upon suitable paper, but the illustrations are printed upon heavily "loaded" paper, which as is well known crumbles away in a few years, and had the illustrations been of more

scientific value this would have been a drawback. We may also complain of the edges of the volumes being cut, and so closely, that rebinding (the present covers are poor) will be a difficulty.

A *Special Photographic Number* of BRITISH BIRDS will be issued shortly. It will be an entirely separate publication, and will take the form of a book of some 60 to 70 pages of letter-press, with 32 full-page plates. The subject will be the HOME LIFE OF SOME MARSH-BREEDING BIRDS, photographed and described by Miss E. L. Turner and Mr. P. H. Bahr. The selected illustrations are not only excellent as photographs but they have also been chosen with a view to their illustrating the various points brought out in the narrative with regard to the nesting habits and young of the birds dealt with. It is hoped that the book (which will be obtainable at the office of BRITISH BIRDS, or at any bookseller, for 2s. 6d.), will be strongly supported by the readers of BRITISH BIRDS, and will be made widely known to their friends.

BOOKS OF THE MONTH.

- Birds of Great Britain and Ireland.* Order Passeres. Complete in two vols. By A. G. Butler, M.B.O.U., F.L.S., F.Z.S., etc. Illustrated by H. Grönvold and F. W. Frohawk. Vol. I. 210 pp. (Caxton Pub. Co.) £4 4s. net.
- A Bird Collector's Medley*, by E. C. Arnold. 14½ pp. Illustrated. (West, Newman.) 10s.
- Wild Life on a Norfolk Estuary*, by A. H. Patterson, with a prefatory note by Her Grace the Duchess of Bedford. 352 pp. Illustrated. (Methuen.) 10s. 6d. net.
- Notes on the Birds of Kent*, by R. J. Balston, F.Z.S., M.B.O.U., Rev. C. W. Shepherd, M.A., F.Z.S., M.B.O.U., and E. Bartlett, F.Z.S. Illustrated. (Porter.)



Vandyke Photo

Orbach Bros
VALLEY

Howard Saunders

Born Sept. 16, 1835—Died Oct. 20, 1907.

BRITISH BIRDS

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

ASSISTED BY W. P. PYCRAFT, A.L.S., M.B.O.U.

CONTENTS OF NUMBER 7. DECEMBER 2, 1907.

A Memoir of Howard Saunders, by Abel Chapman	Page 197
Some Observations on the Breeding Habits of the Red-necked Phalarope, by P. H. Bahr, B.A., M.B.O.U.	202
On Birds Represented in the British Isles by Peculiar Forms, by Ernst Hartert, PH.D.	208
The Semi-Palmated Sandpiper (<i>Ereunetes pusillus</i>) in Kent, by N. F. Ticehurst... ..	223
Notes:—Economic Ornithology (W.P.P.). The Tongue-marks in Young Birds (W.P.P.). The Soaring of Birds (W. W. Lowe). Woodchat in Kent (H. C. Alexander). Icterine Warbler in Norfolk (E. C. Arnold). Titmice and other Birds Covering up their Eggs (Francis C. R. Jourdain, E. G. B. Meade-Waldo, and others). The First British Example of the White-spotted Bluethroat (T. H. Nelson). Grouse-Disease. The Movement of the Beak in Snipe. American Pectoral Sandpipers in Sussex (N. F. Ticehurst and E. C. Arnold). The Breeding Habits of the Pectoral Sandpiper. Bonaparte's Sandpiper in Kent (N. F. Ticehurst). Red-breasted Snipe in Kent (N. F. Ticehurst). The Food of the Black-headed Gull (T. Harrison). Nesting of the Lesser Tern in the Outer Hebrides (The Duchess of Bedford), etc.	224
Letter:—"The Birds of Yorkshire" (William Eagle Clarke)...	233
Reviews:—Notes on the Birds of Kent. A Bird Collector's Medley. Wild Life on a Norfolk Estuary	234

HOWARD SAUNDERS.

IN the death of Howard Saunders ornithology has lost one of the keenest intellects and most devoted workers—and these number not a few—that have adorned our branch of science; while many of us have lost in him a personal friend of the truest and best. My acquaintance with Howard Saunders dates back to 1872 when, on my return from a year spent in the Spanish Peninsula, he wrote asking for a list of the birds met with therein. Even that first letter illustrated the peculiar faculty he possessed of

going straight to his point; it was a bare list of names he wanted—no notes. Those might come after, if required to amplify the record.

For five-and-thirty years the friendship so begun grew and ripened, and not a year but carries pleasant memories—memories of his infinite good nature, of sound, clear views, counsel and advice, of self-sacrifice where needed; in a word, of true friendship. Howard Saunders was, before everything, a man of the world in the best sense. He realized the age in which he lived, and, after that, two attributes in him always struck me as remarkable—I refer to method and memory. These qualities are no mere natural inheritance as some may suppose. The aptitude, of course, in greater or less degree, is innate. The finished product, such as his, has been acquired solely by mental and personal effort and no small perseverance; without that, it is not too much to say that his life's work could never have attained that high level we all recognize and admire.

Howard Saunders was a worker: he performed prodigies, yet without "fussiness" or display. In his hundreds of letters to me those stereotyped phrases "in haste" or "written against time" find no place. To possess time enough for all its manifold uses means method. Those who saw in progress the MS. of, say, his "Manual"—those acres of paper covered with pasted slips, dotted with notes, corrections, contradictions and excisions; illegible with transpositions, interpolations, questions and references—a maddening labyrinth of detail—will yet remember how, in the midst of it all, he could always spare an hour for a friend, given ungrudgingly and without a suspicion of interrupted trains of thought.

Again, as to memory: to such perfection had that faculty been brought that his brain became literally a compendium of precise science, a living encyclopædia, and that by no means confined to ornithology. Hardly a subject, scientific or other, but had its allotted pigeon-hole within that spacious storage. Thus, at a recent

meeting of the British Ornithologists' Club the question of the domestication of the African elephant was raised. Authorities ancient and modern were learnedly adduced on either side till Saunders clinched the matter by quoting Polybius, chapter and verse, with the Carthaginian general's report, ascribing his defeat by the Romans to the Indian elephants employed by them and which were larger than his own Lybian elephants. Nowadays there are no Lybian elephants, and those elephants that survive in Africa exceed in size the Indian species. Such instances might be multiplied indefinitely.

It is to such qualities, coupled with a whole-hearted enthusiasm, that we are indebted for that splendid series of works that he has left behind him. To me, who have often had to refer to them, his exposition of the distribution of *Laridæ* and *Larivæ* (*Proceedings Linnæan Society, etc.*) is nothing less than masterly; and no less so his "Catalogue" of the *Gaviæ*. Then, to quote but a few, there is the fourth edition of "Yarrell," his own "Manual" in two editions, and his twice-repeated editorship of the "Ibis," in addition to the time and close attention devoted to the many scientific societies of which he was a member—and always a working member. But it is not for me to recapitulate his manifold activities.

Of field-sports, as such, our late friend was never really enamoured. He enjoyed a ramble on moor or marsh, but always with an eye as keen for any other interesting bird as for the game. In September, 1889, when staying with me for the meetings of the British Association at Newcastle, we had some such days. Once, on coming over a ferny ridge, we surprised a Blackcock that distinctly gave a low "chuckle" as it flew. Saunders, who had just revised my "Bird-life of the Borders," turned on me: "Why, you said that bird never utters a sound except in spring!" Well, I never heard one do so before, and only twice or thrice since, in eighteen years! In 1897, we went to Norway, together with the late Mrs. Saunders and their two daughters, and a pleasanter trip I never enjoyed. We

found a pendent nest of the Long-tailed Tit swinging from a lichen-clad birch. His trained eye at once discriminated the continental form of the sitting owner (the true *Acredula caudata* of Linnæus) by its whiter head, barely visible within the entrance; and also pointed out that the long tail protruded from the hole above the said head. Steaming along the Norsk coast, Saunders, ever keen on the *Laridæ*, surveyed all that passed in view, but the muttered verdict was usually, "*Canus* again." On landing, among the first birds seen was a Green Woodpecker, which he examined with wrapt attention and then excitedly exclaimed, "Certainly, *canus*; distinctly *canus*!" "Oh, father," protested his daughters, "are *all* the birds in Norway *canus*?" Into the sacred precincts of home-life one may not intrude; yet it may be permissible to add that such, in his case, was ideal and a joy to have shared.

Through long practice, both at home and amid the denser jungles of southern lands, he had acquired remarkable quickness in identifying small species in the open, even though but half-seen among foliage or reed-growth. While staying here in spring, I attempted to surprise him by showing him Pied Flycatchers breeding, but long before reaching the place he had already "spotted" the inconspicuous female. Rarely was he mistaken; but one morning he was confident he had recognized (by its darker legs) a Chiffchaff—a species I had not heard here. I should mention that during his later years, Saunders was a little handicapped by deficient hearing—not conversationally so, but in such cases as this. A second observation confirmed the previous opinion, but next day he insisted on the bird being secured, when it proved to be a Willow-Wren with peculiarly dark legs. These are small matters, but may serve to illustrate his ways and methods.

It may be interesting to recall that only a year ago, though already suffering from his fatal malady and also engaged upon the preparation of a third edition of his "Manual" (a work he had set his heart upon completing

but which it was painfully evident would never be accomplished), he undertook to revise a new edition of my "Bird-life." It may surprise those who have not had personal experience of the labour involved in such publications, that this book underwent no less than five revises on "slips" before reaching the final "paged" form. Yet, ill as he was, every one of these six stages my old friend insisted on supervising! Being, moreover, printed in successive sections, it resulted that a single morning's post often brought him three or four different batches of proof from as many different parts of the book, not consecutive—a nice tangle! His criticisms usually came back by return of post—trenchant, perspicuous and delightfully on the spot. He never spared the rod.

Living three hundred miles apart, it was impossible for me to be in such close personal touch as were many of his colleagues and collaborators in London, and a memoir far worthier of its subject might have been penned by one of these. Though utterly unqualified to do it even a measure of justice, yet I cannot refuse the Editors' request to pay this humble tribute to my dear old friend's unrivalled qualities, alike of heart and head.

ABEL CHAPMAN.

[Some prints of the portrait accompanying this Memoir have been specially prepared in a large size suitable for framing. Full particulars will be found on page 3 of the wrapper.]

SOME OBSERVATIONS ON THE BREEDING HABITS
OF THE RED-NECKED PHALAROPE.

BY

P. H. BAHR, B.A., M.B.O.U.

THE published descriptions of the singular habits of the Red-necked Phalarope (*Phalaropus hyperboreus*) being somewhat meagre and inadequate, I thought that a few observations which I was able to make this summer might be acceptable to the readers of BRITISH BIRDS.

Thanks to the kind permission of the authorities, I was allowed to stay in a certain place in Scotland, where, under very efficient protection, these birds are, I am glad to say, still plentiful. As is well known, the numbers of this species to be found in a particular locality vary considerably from year to year. So it was that this year many of their favourite haunts were untenanted where on a former occasion I had counted many couples. I am not far wrong when I say that scarcely a third of the usual number remained to breed. Perhaps the arctic conditions prevailing forced them to seek "pastures new," and, moreover, had such an influence on those remaining that they were very late in beginning to nest.

On May 28th, during the course of a perfect hurricane, we observed the first arrivals. On June 2nd one pair already seemed to have settled its affairs. On the 3rd, 4th and 5th we saw four female Phalaropes and only one male. These amazons were fighting continuously amongst themselves and were causing the solitary male much anxiety. From this it would appear that the female, being the stronger and more venturesome, is the first to arrive, and is followed later by the male.

On the 5th of June we watched the phenomena of polygamy, and of attempted polyandry in this species.

At one end of the loch the former condition held sway, two energetic and quarrelsome females having attached themselves to one miserable-looking male, and it was ludicrous to behold the awe in which he held them. Once in particular he nearly swam between my legs in his efforts to avoid their attentions. Till our departure on the 27th



FIG. 1.—“Two males were continuously circling round the head of a female.”

these three birds were constantly to be seen together. At the other end of the loch two males were seen continuously circling round the head of a female, as I have attempted to show in Fig. 1. This “marriage flight” we

constantly observed later and I shall refer to it again. On settling on the water the unwelcome suitor was repulsed. The two birds would face each other with lowered beaks and ruffled plumage, just like two "fighting-cocks" (Fig. 2).



FIG. 2 — "With lowered beaks and ruffled plumage, just like two fighting cocks."

From this time onwards, till June 26th, we hunted daily for nests without success. Each pair we found had its own boundaries, any intrusion on the part of neighbours being vigorously resented, but all were engaged in courting, and had not begun the more serious business of nest-building.

There is such an infinity of grace in its every movement that we never tired of watching this gem of a bird. Whilst engaged in feeding, a happy couple twittering contentedly to each other would hurry along paddling through the mud, and swim the puddles amongst such marshy spots as



FIG. 3. — "They appeared to find abundance of food on every leaf."

are loved by the bog-bean and marsh-marigold. Moving their heads quickly from side to side in their characteristic way they appeared to find abundance of food on every leaf (Fig. 3). Quite an original method is employed, while feeding in shallow water. In doing so they

“pirouette” round and round, as if endeavouring to stir up animalculæ from the bottom (Fig. 4).

Bathing was a favourite enjoyment. This they performed by bobbing up and down in the water, for all the

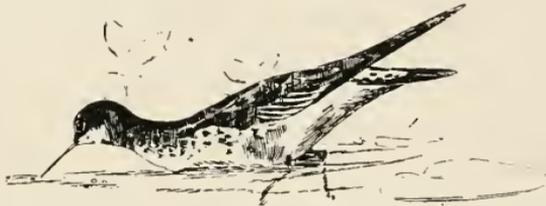


FIG. 4.—“They ‘pirouette’ round and round, as if endeavouring to stir up animalculæ from the bottom.”

world like miniature “jacks in the box” (Fig. 5). Having splashed themselves sufficiently they retired to land to preen themselves, an action quite in keeping with their invariably neat appearance.

On the evening before our departure we resolved to make an extra effort, and once more we hunted the marshes, but in vain. The birds showed no anxiety whatever, and all appeared intent on courting, in which I



FIG. 5.—“Bobbing up and down in the water.”

believe the male takes a more prominent part than he is credited with. I frequently observed the male performing evolutions, which I have previously described as the “marriage flight.” Zigzagging from side to side with amazing rapidity he would hover with dangling legs over the head of the female, who, circling placidly in the water, appeared to take no notice of his attentions. Then settling beside her he would peck and chase her as if endeavouring to make her take to flight. Failing in

this he would dash off once more across the marsh uttering a warbling sort of song much like that of the Ringed Plover. Then he would settle in a reedy spot, such as would be chosen for the nesting site, and would call vigorously, looking always in the direction of the female, as if expecting her to follow. I observed several pairs behaving in this manner, and such was their fervour that the males continued this performance even in the midst of one of the worst storms we experienced. Often the female would resent these attentions, and a pitched battle would ensue.

As a last resource we dragged the boat across to another arm of the loch, and explored an island inhabited by some fifty pairs of Arctic Terns and a few pairs of Common and Black-headed Gulls. To our surprise we also discovered two pairs of Phalaropes. The male of one pair showed signs of great anxiety and flew round uttering shrill cries. We were not long in finding the cause, for staggering amongst the grass, and looking like gigantic spiders, were four fluffy young, evidently newly-hatched.

The extreme attachment which the male exhibited for the young would hardly be credited. He uttered the most heartrending cries, shuffled through the grass and, in fact, tried every device to lure us away. The young were so weak that when placed in a slight hollow they were unable to crawl out and run away. The camera was focussed on the young at a distance of a few feet, and left without any covering whatsoever, and I took my stand behind it, merely wrapping up my head in the focussing cloth. The extreme tameness of the male may be judged by the fact that I obtained five photographs of him in as many minutes. When I changed the plate he would just run away a few yards and then hurry back as fast as he could directly I sat down again.

The most pathetic part of the scene came when the piping of the young, which were evidently benumbed with exposure, became almost too feeble to be audible, then in his fervour the male nestled a clutch of Tern's eggs close

by, but only on poking them with his bill did he find that they were inanimate objects and then rush off to find his charges. One would have thought that he would have learned by experience, but he repeated this performance time after time, and I greatly regretted the fact that I had not enough plates to take him thus employed. The female showed no traces of anxiety at all but held herself aloof, swimming and feeding quite unconcernedly in the loch beyond.

The young showed no desire on this, or on the following day, to take to the water, in fact it would appear that they were not yet fitted for it, for on the next day we found three of their number drowned in a shallow puddle. Fig. 6 is from a photograph, and shows the male bird



FIG. 6.—The male endeavouring to entice away the young.

endeavouring to entice the remaining young one out of the range of the camera.

Although other observers have noted much variation in the time at which this species breeds, yet I think it must be admitted that this was an extreme case, since no other pair in the vicinity had as yet begun to lay.

ON BIRDS REPRESENTED IN THE BRITISH
ISLES BY PECULIAR FORMS.

BY

ERNST HARTERT, PH.D.

As late as 1892, A. R. Wallace accepted only three birds as peculiar to the British Isles (*Island Life*, second ed., p. 340); the same number was admitted by Howard Saunders in 1899 (*Ill. Manual of Brit. Birds*, second ed.). The former author quoted "*Parus ater*, *sub.sp. britannicus*," "*Acredula caudata*, *sub.sp. rosea*," and "*Lagopus scoticus*," while Mr. Saunders only distinguished by special names "*Motacilla lugubris*, *Motacilla raii*, *Lagopus scoticus*," not even separating the Long-tailed Titmouse.

Mr. Dresser, in his "*Manual of Palæarctic Birds*," 1902, added to the three allowed by Mr. Saunders, "*Acredula rosea*" (though he partially united it with the continental *europæa*—*cf.* "*Vög. pal. Fauna*," I., p. 384—and consequently gave it too wide a range) and "*Parus britannicus*." This was undoubtedly a step forward, but recent investigations have shown that over twenty British breeding birds are separable from their continental allies.

In the following article I have given short notes on twenty-one forms more or less strictly peculiar to the British Islands. It may be that the characters of one or two of these will not be found constant enough to recognize them as different, but all the others are easily separable, and must undoubtedly be considered as geographical representatives of continental forms. There can hardly be any doubt that one or two more will be found to differ, when carefully compared, so that the

number of birds peculiar to the British Isles cannot fall short of twenty.

Looking at this small list the following facts are noticeable :—

1. All, with the exception of three, belong to the “Passeres.”

2. Only three can be called migrants, and even those (*i.e.* the two Wagtails and the Robin) are partly resident, especially the Robin.

3. There is a tendency for these British races to be duller or darker in colour, and smaller than their continental representatives.

1.—*GARRULUS GLANDARIUS RUFITERGUM* Hart.

British Jay.

Garrulus glandarius rufitergum Hartert, “Vög. pal. Fauna,” I., p. 30 (1903—Great Britain and Ireland; typical loc. : Tring).

British specimens of the Jay differ from continental ones—especially from a series of more eastern examples—by their more uniform vinous upper side, there being no, or hardly any, greyish or slaty wash on the back. The difference is “slight” and can only be seen when a series is compared.

[The continental *G. glandarius glandarius* seems to visit the British Isles only sporadically.]

2.—*LOXIA CURVIROSTRA ANGLICA* Hart.

English Crossbill.

Loxia curvirostra anglica Hartert, “Vög. pal. Fauna,” I., p. 119 (1904).

When I separated the English Crossbill, in 1904, I had examined large numbers and found them to differ from

continental Crossbills in having a duller coloration in both sexes, while the bill was, as a rule, less elongated and less pointed, and often slightly higher. It has been pointed out to me since that so few Crossbills breed regularly in England that it is not likely that they form a special race; moreover, I must admit that I have hardly seen British examples shot near the nest. On the other hand, the differences which I have pointed out are obvious when comparing our series in the Tring Museum, and they are evidently not due to stages of plumage. Crossbills are essentially nomadic, but I do not think they are true migrants anywhere, and I must hold that the flocks of Crossbills observed in England are hatched in England or Scotland, and not for a moment do I believe that they are migrants from Scandinavia or Central Europe. I have, however, received Crossbills from Scotland, which are not *L. c. scotica*, but *L. c. anglica*. Therefore it is quite possible that both these races breed in Scotland. It is to be hoped that our Scottish ornithologists will make observations and clear up these questions as to whether both forms breed in Scotland, whether side by side or in different districts, in the lowlands or the highlands, etc. I shall be pleased to examine series from various places. At present we must admit in Europe and the Mediterranean countries:—

Loxia pityopsittacus : Northern Europe.

Loxia curvirostra curvirostra : North and Central Europe generally; Northern Asia.

Loxia curvirostra hispana : Spain; nothing exact is known about the distribution.

Loxia curvirostra balearica : Balearic Islands.

Loxia curvirostra anglica : England (and Scotland).

Loxia curvirostra scotica : Scotland.

Loxia curvirostra guillemardi : Cyprus; a very distinct form.

Loxia curvirostra polioygna : Tunis and Algiers.

Loxia leucoptera bifasciata and, exceptionally, *L. leucoptera leucoptera* (*Vög. pal. Fauna*, I., p. 123).

3.—*LOXIA CURVIROSTRA SCOTICA* Hart.

Scottish Mountain Crossbill.

Loxia curvirostra scotica Hartert, "Vög. pal. Fauna," I., p. 120 (1904).

In Scotland occurs a form of Crossbill which stands between the Parrot-Crossbill, *L. pityopsittacus*, and the Common Crossbill, *L. curvirostra*. Its bill is huge, but not as high as that of the Parrot-Crossbill; the wings of the males measure 100-104 mm. Such birds I have seen in the collections of Col. Feilden and Messrs. Harvie-Brown (type East Ross-shire, 26, XII, 1870), and Millais, and in the Edinburgh Museum. They are very striking, and are a most interesting form, which appears to be rare. I hope that Scottish ornithologists will collect more material, which I want badly. I have elsewhere explained my reasons for looking upon this form as a subspecies of *L. curvirostra* (*Vög. pal. Fauna*, I., pp. 116, 117).

4.—*CARDUELIS CARDUELIS BRITANNICUS* (Hart.).

British Goldfinch.

Acanthis carduelis britannicus Hartert, "Vög. pal. Fauna" I., p. 68 (1903—Great Britain; typical locality: Sussex).

Differs from the continental form by its darker, more olive-brown upper surface, while the white nuchal patch is not well developed, the ear-coverts, rump, and upper tail-coverts are more or less tinged with brown, and the sides of the body are darker and more uniform brown. The red of the head is generally very bright.

There is little wonder that the Goldfinch, which forms so many local races, should be represented by a special subspecies in the British Isles.

5.—*MOTACILLA FLAVA RAYI* (Bp.).

Yellow Wagtail.

Budytes Rayi Bonaparte, "Geogr. and Comp. List of B. Europe and N. Amer.," p. 18 (1838—based on Gould's *B. Europe*, II., Pl. 145—*British Islands*).

As every ornithologist knows, the Yellow Wagtail which commonly breeds in England is easily distinguished from the forms of continental Europe by its greenish crown, yellow forehead and superciliary line. Outside the British Isles this form evidently breeds in small numbers in the coast-regions of Western France. The alleged breeding in Portugal requires, I should say, confirmation.

[It is well known that *M. flava flava* has been found breeding in England, but these occurrences are apparently rare and irregular. As recorded by Mr. Butterfield in the "Zoologist," 1902, p. 232, a *M. flava beema* was shot on April 20th, 1898, near Rottingdean, in Sussex, but there is no reason whatever to imagine that the birds which have bred in England belong to this form which inhabits Western Siberia!]

6.—*MOTACILLA ALBA LUGUBRIS* Temm.

Pied Wagtail.

Motacilla lugubris Temminck, "Man. d'Orn.," I., p. 253 (1820—ex Pallas MS. The description suits our British bird well, but it seems that Temminck mixed up with it some Asiatic form sent to him by Pallas).

The entirely black upper surface, as everyone knows, distinguishes this form from the White Wagtail, *M. alba alba*. Outside the British Isles the Pied Wagtail breeds, according to Collett, sometimes in Norway near Stavanger and Bergen, and on the western coast of Holland, Belgium and France.

[*M. alba alba* breeds here and there in Great Britain and,

maybe, Ireland, but I do not know on whose authority Stejneger states (*Smiths. Misc. Coll.*, 48, p. 480) that it is "the breeding bird of Ireland," a statement which is certainly quite wrong.]

The TITMICE are the most interesting British birds for students of geographical distribution, because all the forms of this family differ from their continental representatives, with the exception of the Bearded Tit, *Parurus biarmicus*.

7.—*PARUS MAJOR NEWTONI* Prazák.

British Great Titmouse.

Parus major newtoni Prazák, "Orn. Jahrb.," V., p. 239 (1894—England).

Easily distinguishable from *Parus major major* of continental Europe (typical in Scandinavia, Germany, France, Holland, Belgium, etc.) by its stout, powerful bill. The alleged differences in colour are not constant.

8.—*PARUS CAERULEUS OBSCURUS* Prazák.

British Blue Titmouse.

Parus caeruleus obscurus Prazák, "Orn. Jahrb.," V., p. 246 (1894—England).

Differs from *P. caeruleus caeruleus* of continental Europe in being darker and more greenish—less bright and less yellowish—on the back; size generally smaller, bill comparatively thicker; the white tips to the inner secondaries are as a rule narrower and are cut off in a straight line.

9.—*PARUS ATER BRITANNICUS* Sharpe & Dress.

British Coal-Titmouse.

Parus britannicus Sharpe and Dresser, "Ann. and Mag. Nat. Hist.," ser. 4, VIII., p. 437 (1871—England).

Differs from *P. ater ater* in having the back greyish

olive-brown, instead of bluish-grey. It is never difficult to distinguish the British Coal-Tit if compared with the true North European *P. ater ater*. On the other hand *P. ater vieirae* Nicholson (*Manch. Mem. L.*, No. 13, p. 16) is not so easy to distinguish, but its back is lighter, its flanks are brighter. *P. ater vieirae* was based on a single example from Portugal, but it is probably spread over Spain; apparently the flanks of the type of *vieirae* are abnormally rufous, for I have seen such aberrations from various countries. *P. ater sardus* from Sardinia is also more like *britannicus*, but its colours are not so dull. I hope soon to be able to discuss the south European Coal-Tits more exhaustively.

10.—*PARUS PALUSTRIS DRESSERI* Stejn.

British Marsh-Titmouse.

Parus palustris dresseri Stejneger, "Proc. U.S. Nat. Mus.," IX., p. 200 (1886—England).

The nearest ally of the British Marsh-Tit is not the light-coloured Scandinavian *P. palustris palustris*, but *P. palustris longirostris* from the Rhine, Belgium, Holland and France. The British form, however, differs from the latter in its smaller size (wing ♂ 62—65 mm., very rarely 66, against 65—68 mm. in *longirostris*), darker and more olivaceous-brown upper surface.

11.—*PARUS ATRICAPILLUS KLEINSCHMIDTI* Hellm.

British Willow-Titmouse.

Parus montanus kleinschmidti Hellmayr, "Orn. Jahrb.," 1900, p. 212 (England, near Finchley).

See also Kleinschmidt, "Orn. Monatsber.," VI., p. 34 (1898); Hartert, "Zoologist," 1898, p. 116; Hartert, "Bull. B.O.C.," XIV., p. 79; Rothschild, *antea*, p. 44.

The British form of the Willow-Tits, or Marsh-Tits

with dull black crowns, differs very conspicuously from the Scandinavian *Parus atricapillus borealis*, as well as from the Alpine *P. a. montanus*, but it is closely allied to *P. atricapillus rhenanus*, from which it only differs in its smaller size and more brownish, darker upper surface. As Mr. Rothschild has fully explained the differences of *P. a. kleinschmidti* and *P. palustris dresseri* (*antea*, p. 44), I need not repeat them here. This bird is evidently stationary all the year round, and it is to be hoped that British ornithologists will pay more attention to it. Nest and eggs, with parent birds, have been taken near Tunbridge Wells and St. Leonards.

12.—*PARUS CRISTATUS SCOTICA* (Prazák).*

Scottish Crested Titmouse.

Lophophanes cristatus scotica Prazák, "Journ. f. Orn.,"
1897, p. 347 (Scotland).

Differs from *Parus cristatus cristatus* of north and east Europe, and from *P. cristatus mitratus* from Central Europe, by its much darker, more olive-brownish upper surface.

* In a footnote to his article on the "supposed new British Tit" (*antea*, p. 23), Dr. Selater says: "Dr. Hartert writes the subspecific name (of the Scottish Crested Tit) as "*scotica*," but I cannot agree to use false concords. Latin having been universally adopted as the language of science, we are bound . . . to follow the ordinary rules of its grammar." To those who have followed the apparently endless controversies on nomenclature of the last twenty years this note is perfectly clear, but to uninitiated readers it will not be so. I must, in their interest, explain that *I did not choose to write the name as "scotica,"* but that its author spelt it thus. It is true that it has been the custom to bring the gender of specific and subspecific names into concord with the generic name, even if the gender of the latter was originally different. From this rule I have so far deviated that *I have preserved the original spelling of every name*, no matter whether the gender of names with adjectival endings agreed with that of the genus into which they are now placed or not. The aim of all recent efforts in nomenclature is *stability*, and stability in nomenclature can only be effected if we allow no alterations in the spelling of names. If we agree to alter

The wings are shorter—those of the few specimens I have been able to measure being only 60-63 mm. Flanks very brown.

This is the Scottish form, which breeds in Strathspey. The few examples which have been observed in south and east England were apparently stragglers from the Continent.

the gender of adjectival names, we have to alter it again and again, and different spellings are thus inevitable. As a rule, the knowledge of a schoolboy is sufficient to know the gender of generic names, but nevertheless ornithologists do not always agree. Every scholar will know that "*Nucifraga*" (meaning the Nutcracker) is masculine, yet ornithologists have always treated it as feminine. *Halcyon* is undoubtedly feminine (*Halcyone* was the faithful wife of *Ceyx*, and was transformed into a Kingfisher), yet in the "Catalogue of Birds" it has become masculine, and so it has been treated since in most writings. The Greek word "*Ammomanes*" is masculine, yet among ornithologists it is feminine. I maintain that there is altogether little sense in considering a specific name as an adjective of the generic name. "A name is only a name, and need not necessarily have any meaning." Stability in names is of greater importance than grammatical exactness. The custom of "correcting" names leads to inconsistency and oscillation. (*Cf. Novitates Zoologicae*, 1907, p. 338.) If we never alter the spelling of specific names we make a wide step towards stability. Nor am I the only person or the first author who refused to alter the gender of names. *Dyar*, in his great work on American Lepidoptera, has not altered it; *Staudinger*, in his "Catalogue," has not always done it; *Rothschild* and *Jordan*, in their monographic works on lepidoptera, have never done it; and in many single instances authors have forgotten to do it!

Dr. Scater says that "Latin has been universally adopted as the language of science." But surely nowadays hardly anybody writes in Latin; and it is for scientific persons of far greater importance to understand German, French, and English than Latin. The only relic from the times when Latin was the language of science is that some authors still publish a Latin diagnosis when "describing" a new species. I myself have mostly done so, and given long Latin diagnoses, until the editor of a periodical altered my correct Latin into incorrect Latin. Many prolific species-mongers have never written a Latin diagnosis in their lives. There is a danger in Latin diagnoses. Many writers are so little accustomed to that language, and know so few words, that they give short and insufficient diagnoses. In

13.—*AEGITHALOS CAUDATUS ROSEA* (Blyth).

British Long-tailed Titmouse.

Mecistura rosea Blyth, in White's "Selborne," p. 111 (1836—England).

The British Long-tailed Tit differs at a glance from *A. caudatus caudatus* of N. and E. Europe in having a broad black band on the sides of the head, in having shorter body-feathers, etc. It is, however, closely allied to *A. caudatus europaea* of southern and western Middle-Europe, of which it may be called an extreme form, differing only in having a shorter wing and invariably a wide black stripe on the sides of the head, while *A. c. europaea* varies from a pure white head to a black-striped variety.

A. c. rosea is the only form breeding in Great Britain and Ireland, but it is probably not quite restricted to the British Isles, as specimens from the Pyrenees seem to me absolutely indistinguishable. The true *A. caudatus caudatus* straggles occasionally into Great Britain, but very rarely.

such cases it would be far better if they wrote in the English, German, or French—languages, which are and must be understood as well as Latin by anyone who claims to be a scientific ornithologist. Our nomenclature even is not Latin any longer. Can one say that ugly hybrid names like *rufigaster*, *leucocapillus*, etc., or the many dedication names in use (for example, *hansi*, *möbiusi*, *mohammed-ben-abdullah*, *grun-grzmailoi*, *tshitscherini*), or names like *timneh*, *urubitinga*, *chimachima*, *chiriri*, *chiripepe*, *curucui*, *chii*, *jacutinga*, *jacupeba*, *zabelé*, *boraquira*, *guira-yacu*, *irupero*, *jacquacai*, *quirayacu*, *loreto-yacuensis*, *jala*, *fanny*, and so on, or the many awful names of P. L. S. Müller, or the nonsense-names of some coleopterists and lepidopterists, are Latin? We are not nowadays following any pedantic rules imposed on natural science by philologists; but we study Nature itself, unfettered by philology, and use "nomenclature" only as a means to have names for our objects. It is very regrettable that so many of these names have been made without knowledge of, or without regard to, grammar and classical feeling; but we must not alter them, and have to adopt them, even if they shock our classical nerves, and they must remain as mementoes of the recklessness or stupidity of their creators.

14.—*REGULUS REGULUS ANGLORUM* Hart.

British Goldcrest.

Regulus regulus anglorum Hartert, "Bull. B.O.C.," XVI., p. 11 (1905).

Differs from *R. regulus regulus* of continental Europe as follows: the upper surface is darker, more olivaceous, the under surface is slightly duller, the size, as a rule, less. Wing mostly from 51·5 to 54, exceptionally 55 and even 57 mm.

[The north European form frequently crosses over to Great Britain in flocks in autumn and winter.]

15.—*SITTA EUROPÆA BRITANNICA* Hart.

British Nuthatch.

Sitta europæa britannica Hartert, "Nov. Zool.," 1900, p. 526 (England: type from Tring).

Differs from *S. europæa europæa* (*terra typica*: Sweden) in having the underside buff instead of white, from *S. europæa caesia* (*terra typica*: Germany) in having the chestnut colour on the flanks lighter, the breast and abdomen more or less paler, often strikingly pale, the bill generally more slender and more pointed, and the culmen mostly higher arched and more sharply ridged.

16.—*CERTHIA FAMILIARIS BRITANNICA* Ridgw.

British Tree-Creeper.

Certhia brittanica (!) Ridgway "Proc. U.S. Nat. Mus.," V., p. 113 (1882—England).

Differs strikingly from *C. familiaris familiaris* (*terra typica*: Sweden) in its rufescent-brown upper surface, and from *C. familiaris macrodactyla* (*terra typica*: Middle Germany) in having the rump more rufous, and, in freshly moulted specimens, the whole upper surface more rufescent; the bill is as a rule visibly longer.

[It is remarkable that only this form occurs, at least during the breeding season, in the British Isles, and that *Certhia brachydactyla* is unknown. On the Continent most countries are inhabited by two different creepers: a form of *C. familiaris* and a form of *C. brachydactyla*.]

17.—*ERITHACUS RUBECULA MELOPHILUS* Hart.

British Robin.

Erithacus rubecula melophilus Hartert, "Nov. Zool.,"
1901, p. 317.

Differs from *E. rubecula rubecula* (of Scandinavia, Germany, etc.) in having a much deeper brownish-red throat, and a darker, more rufous upper surface; the sides of the body are darker, and the brown colouring more extended. The British Robin is easily distinguished from the "typical" north European Robin, but the form from Teneriffe and Gran Canaria (*Erithacus rubecula superbus*) is somewhat nearer, and so are others, which I hope to discuss fully before long. The deep red throat of the British Robin is so striking that even ladies without any ornithological knowledge whatever, have noticed the difference between British and continental Robins.

When I first described this form I attached much importance to its domestic and garden-loving habits, nesting-sites, and song. My knowledge of Robins on the continent had been mostly derived from the eastern parts of Germany, where they are almost essentially forest-birds; but it now seems to me that such habits vary locally much more than I had supposed, and that in this case, as in others, the habits have been altered on account of the different surroundings. Vaster forests and less population in the east, more gardens, houses, and much thicker population in the west, account for these differences in habits; and in this as well as in other cases, such differences cannot serve to strengthen the systematic value of a subspecies.

[Continental Robins not infrequently, and perhaps regularly, pass through Great Britain on migration.]

18.—*TROGLODYTES TROGLODYTES HIRTENSIS* Seeb.

St. Kilda Wren.

Troglodytes hirtensis and *Troglodytes parvulus hirtensis*
Seeböhm, "Zoologist," 1884, p. 333 (St. Kilda).

While Wrens from Great Britain and Ireland are,

apparently, not separable from those of Central Europe and Northern Europe in general—I have not been able to study *Troglodytes bergensis*—those from St. Kilda have been separated, as above. There is no doubt that St. Kilda Wrens are larger than those from Great Britain, the wing being longer (about 55 mm.), and the feet a little stronger. The difficulty is, however, how to separate it from *Troglodytes troglodytes borealis* of the Faroe Islands. Unfortunately I have only been able to compare a very few specimens from St. Kilda, and, moreover, I suspect that all, with the exception of the type in the British Museum, have been for a time in spirits, and are therefore faded. If this is not the case the St. Kilda Wren is evidently paler on the under surface than *T. t. borealis*, while the dimensions are about the same, and probably the barring on the back and abdomen is stronger in *T. t. hirtensis*, but as these characteristics vary a great deal, it is desirable to examine a better series from St. Kilda. Even *T. t. borealis* from the Faroe Islands is most closely allied to *T. t. troglodytes*, and there is a specimen from Fair Isle, collected by Messrs. W. Eagle Clarke and Kinneir, which has the wing fully as long as the birds from the Faroe Islands, while other specimens from Fair Isle are not at all larger than those from Great Britain.

The Iceland Wren is still larger than *T. t. borealis*, and I have recently separated it as *T. t. islandicus*.

I may add that I see no necessity for the separation of the genera *Troglodytes* and *Nannus*, but if this separation is made the latter must be called *Nannus* Billberg, 1828.

19.—CINCLUS CINCLUS BRITANNICUS Tsch.

British Dipper.

Cinclus cinclus britannicus Tschusi, "Orn. Jahrb.," XIII., p. 69 (1902—Beaufort Castle, Scotland, etc.).

The British Dipper differs from *Cinclus cinclus aquaticus* of Germany at a glance by its deep, predominantly blackish upper surface and dark crown, from *Cinclus*

cinclus cinclus of Scandinavia in the conspicuously rufous breast-band, which it shares with *C. c. aquaticus*. *Cinclus cinclus aquaticus* is nearest to *C. c. pyrenaicus*, but the latter appears to be smaller, and will shortly be discussed by me more fully. Evidently *C. c. britannicus* is the only form of Dipper breeding in the British Isles. It is quite possible that the Scandinavian form visits our islands occasionally in winter, but many of the alleged occurrences of the latter appear to be based on erroneous identification.

20.—*DENDROCOPUS MAJOR ANGLICUS* Hart.

British Great Spotted Woodpecker.

Dendrocopus major anglicus Hartert, "Nov. Zool.," 1900, p. 528 (type: Horsham).

When compared with *D. major major* from Scandinavia, the British Great Spotted Woodpecker differs very strikingly by its smaller size, much slenderer, less powerful bill, shorter wing, and generally more brownish under surface. Since I described *D. m. anglicus* I have seen examples from western Germany which come very close to the English form, and I am not yet sure if the latter is actually restricted to the British Isles; should this not be the case it would not alter the fact, that it can never accurately, but only in a broad sense, be called "*Dendrocopus major*," as it differs so considerably from the northern form.

21.—*DENDROCOPUS MINOR COMMINUTUS* subsp. nov.

British Lesser Spotted Woodpecker.

Formae *D. minor minor* dictae similis, sed alis caudaque brevioribus haud difficile distinguendus. Gastraeo fulvescentiore.

The British Lesser Spotted Woodpecker differs strikingly from the Scandinavian *D. minor minor* by its much shorter wings and tail. The under surface is always buffish,

mostly rather dark, but its shades vary very much, and it is often soiled. It is strange that nobody has as yet emphasized the strikingly small size of this bird, as compared with typical *minor*. Wings of ♂ 85·5 to 88·5 mm., of ♀ 86 to 90 mm. (eighteen males and a few females measured). Swedish *D. m. minor* wings of ♂ 92 to 96·5 mm., ♀ equal but apparently often slightly larger. Type of *D. m. comminutus*: ♂ ad. Wingrave, Bucks., 22, iv, 1902. I hope to discuss some continental specimens which come near to *D. m. comminutus* on a future occasion.

[Probably some will be tempted to fall into the error of using Macgillivray's name, "*Picus striolatus*," for this bird, but this is not correct. Macgillivray may possibly have described a British specimen; he did, however, not name the British Lesser Spotted Woodpecker "*Picus striolatus*," but re-named the *Picus minor* of Linnaeus, because the latter was "by no means the smallest of even the Pied Woodpeckers" (*Hist. Brit. B.*, III., p. 90), and gave as its distribution Europe, especially the northern parts, France, Germany, and some parts of England.]

22.—LAGOPUS LAGOPUS SCOTICUS (Lath.).

Red Grouse.

Tetrao scoticus Latham, "Gen. Syn.," Suppl. I., p. 290 (1787).

The Red Grouse, indigenous only to the British Isles, is the representative of the Willow-Grouse (*Lagopus lagopus lagopus*) of northern Europe. As everybody knows, it differs from its continental ally in lacking the white primaries and other white portions in the summer plumage, and in having no entirely white winter plumage, the latter being not remarkably different from the summer plumage.

THE SEMI-PALMATED SANDPIPER (*Ereunetes pusillus*) IN KENT.

A NEW BRITISH AND EUROPEAN BIRD.

ON September 19th last I had the opportunity, through the kindness of Mr. Bristow, of examining a small wader which he had just received for preservation. He at first thought it was a Little Stint, but on taking it up to skin he noticed the webbing at the base of the toes and, as soon as he had finished stuffing it, he brought it up to me to identify. Having compared it with skins of the Little, Temminck's, and American Stints, and with descriptions, we made out that it was, without doubt, a specimen of the American Semi-palmated Sandpiper (*Ereunetes pusillus*).

It was an immature bird in autumn plumage, and had been shot two days previously by a shore-shooter at Jury Gap in Romney Marsh, not far from the Sussex and Kent boundary.

Of the three Stints mentioned above, the present specimen is most like the Little Stint (*Tringa minuta*) in a similar stage of plumage, but is paler on the back, and the edges of the long scapular feathers are of a paler sandy-white. It is also more easily distinguished from any of them by its comparatively larger and stouter bill and the characteristic webbing between the bases of the three anterior toes.

In Eastern North America this is a widely distributed species in the summer, migrating south in the autumn through the West Indian Islands to the coasts of South America. So far as I have been able to ascertain this is the first occurrence of this bird in Europe. As with all additions to the British Avifauna it is highly desirable that this bird should have been submitted for examination to a meeting of the British Ornithologists' Club, and the record first made public through the official "Bulletin," and it is with great regret that I have had to depart from this custom in the present instance. The gentleman, in whose possession the bird is at present, has declined to allow it to be exhibited, and in order that the record may not be lost it is here published.

N. F. TICEHURST.



NOTES



ECONOMIC ORNITHOLOGY.

MR. F. V. THEOBALD, vice-principal of the S. E. Agricultural College, contributes to "Science Progress" for October a long article on the subject of "Economic Ornithology in Relation to Agriculture, Horticulture, and Forestry," which should be carefully read by all who are interested in the very difficult problem of bird-protection.

Though Mr. Theobald puzzles us more than once by contradictory statements, and though in effect he tells us that our actual knowledge of the problems of economic ornithology is miserably small, there are many extremely interesting points in his paper. He insists, for example, that but for Rooks, Jackdaws, Starlings, Plovers, and Gulls, the white grubs, wireworms, leather-jackets, etc., would increase in such enormous numbers that our pasture-lands would be destroyed wholesale. That no man has devised, or is likely to devise, any method of dealing with these insect pests, whereby the services of these birds may be dispensed with. Such harm as these birds may do at certain times of the year is, in short, more than paid for by the benefits they confer at other times.

A ruthless war has been urged by some against Titmice, yet Mr. Theobald contends that the good these birds do in devouring the mussel-scale, codling-moth, woolly-aphis, etc., is incalculable. The attacks of Blue Tits on the buds of the monarch plum are, he says, instigated by their desire to get at the mites, *Eriophytes pruni*, which hibernate therein. The bunches of unopened apple and pear blossom which these birds peck contain insect *larvæ*. and the same reason, he suggests, prompts them in their attacks on the blossom of currants and plums. He contends that the present wholesale destruction of the eggs of the Lapwing calls for legislative interference, as the bird is extremely useful to agriculturists, and in this we agree with him. On some estates, where the collection of these eggs is carried out with discretion, no harm is caused. But this is rarely done: and the present system of exposing *boiled* eggs for sale renders such isolated regulations as may obtain nugatory.

The Jay is to be protected because of the toll it levies on the eggs of small birds, such as Finches, and the Thrush-tribe.

Some fifteen species are placed by Mr. Theobald on the "Black List." These are the Hooded Crow, Woodpigeon,

Stock-Dove, Turtle-Dove, House-Sparrow, Bullfinch, Chaffinch, Greenfinch, Hawfinch, Blackcap, Whitethroat, Blackbird, Mistle-Thrush, and Greater and Lesser Black-backed Gulls. On the other hand, Peregrines, Kestrels, Owls, Rooks, and Jays are to be protected, at any rate, with limitations.

The author finally insists, with good reason, that our present system, or lack of system, in the matter of bird-protection, is totally inadequate. There can be little doubt but that the whole subject of economic ornithology should be undertaken by a specially qualified staff, under the Board of Agriculture, as has long ago been done in America. Then, and not till then, shall we know to what extent our native birds affect our interests, and what measures may be taken to devise the increase of some or check the undue increase of others.

W.P.P.

THE TONGUE-MARKS IN YOUNG BIRDS.

IN the October number of the "Ibis" Mr. Collingwood Ingram gives a short, but interesting paper on the tongue-marks of nestling birds. He briefly describes and figures the tongues of several British species, such as *Acrocephalus phragmitis*, *A. streperus*, and *A. palustris*, wherein the tongue is marked by a pair of small black dots placed near its base. In *Locustella naevia* there is an additional spot on the tip of the tongue; while in *Alauda arborea* and *A. arvensis* there are three black spots, arranged in the form of a triangle, on the tongue, and a fourth near the tip of the lower jaw. While Mr. Ingram draws attention to the fact that in *Sylvia cinerea*, *S. atricapilla*, *S. hortensis*, and *S. orphea* the tongue is curiously marked by an indistinct, and more or less perfect, triangle of a dusky hue, he cautiously avoids drawing any inference therefrom. To us it suggests a very interesting phase in the evolution of the more distinct markings which have recently been described in our columns, and which Mr. Ingram also figures. In short, it would seem that this linear marking represents an earlier phase of colour-marking. The spots arose, in other words, by the concentration of the pigment to form spots; and that in more recently evolved species even these have disappeared. Herein we have a parallel to the development of longitudinal stripes in the nestling plumage, which show a later disintegration into mottlings, and finally disappear, leaving the nestling down unmarked.

W.P.P.

THE SOARING OF BIRDS.

I WAS surprised when reading Mr. F. W. Headley's article on

“The Soaring of Birds” that he states as a fact that no small birds ever soar. Surely this cannot be true with regard to the Swift (*Cypselus apus*). They appear to me to have the most marvellous powers of rising to great heights without any motion of the wings, and I have seen them constantly floating in the air for a considerable time without any motion of the wings.

W. W. LOWE.

WOODCHAT IN KENT.

ON May 23rd I saw a Woodchat (*Lanius pomeranus*) near Tunbridge Wells. The white bars on its wings were conspicuous as it flew, looking very similar to the bars on the wings of the Great Grey Shrike, with which bird I am familiar. But the chestnut on the head and nape I only saw when the bird was settled partially out of sight in a hawthorn bush. From thence it flew to an oak tree, and after this I was quite unable to see it; presumably it flew from one side of the tree whilst I was at the other side. I spent about half an hour near the place but did not see it again.

I hoped that as it was so late in the spring it would stay, but I frequently visited the place without seeing it, so I suppose it was on migration.

It is possible that this was the same bird as that recorded in the last issue of BRITISH BIRDS (p. 185) as having been shot at Hadlow.

H. C. ALEXANDER.

ICTERINE WARBLER IN NORFOLK.

ON September 12th, 1907, an Icterine Warbler (*Hypolais icterina*) was shot by Mr. J. V. Young, near Cley, Norfolk. The bird flew out of the scrub near the Blakeney sandhills, and Mr. Young was attracted by its very light appearance. It had possibly travelled with a Garden-Warbler which we put out about twenty yards further on. The wind at the time was N.E., but there was practically a dead calm, and there had been a heavy fog all night. The bird was exhibited by Mr. H. F. Witherby on my behalf at the meeting of the British Ornithologists' Club, held on November 20th last.

E. C. ARNOLD.

TITMICE AND OTHER BIRDS COVERING UP THEIR EGGS.

THE habit of covering the eggs while laying is in progress and before incubation has begun is well-known in the case of

the Great and Blue Tits to most field-naturalists. While recently working up my notes on the *Paridæ*, however, I was interested to find that the same habit has also been observed in the case of our British Coal and Marsh-Tits. In the "Field" for 19th May, 1900 (p. 694), Colonel T. M. Ward mentions an instance of a Marsh-Tit breeding in a nesting-box, which covered up her eggs until the full clutch of seven was laid; and in the same paper under the date of 19th December, 1903, will be found another note from "A. S." (Ravenglass, Cumberland), in which the writer states that he has observed the same habit in the case of Marsh, Great and Coal-Tits. Probably it is common to all the members of the genus *Parus*, as Dybowski noted it in the case of the Azure Tit in East Siberia; and in the "Zoologist," 1877, p. 198, there is a passage which seems to prove that the northern form of the Willow-Tit (*P. atricapillus borealis*) also covers its eggs. On the other hand, the Long-tailed Tits, as far as I have noticed, never cover their eggs.

In Mr. R. J. Ussher's "Birds of Ireland" (p. 32) there is an interesting note of a Blue Tit covering up its young with nesting material to avoid observation.

FRANCIS C. R. JOURDAIN.

I CAN confirm what Mr. Joy says as to Tits covering their eggs before incubation. *All* the Tits do so. The Nuthatch also invariably covers its eggs, and apparently also its young ones, but the materials used, viz., flakes of bark and leaves, are inclined to fall over them when they shuffle about. I have previously recorded this habit. The habit of leaving the eggs uncovered as soon as incubation commences is by no means confined to Tits, as the Common Partridge which carefully covers up all her eggs to the number possibly of eighteen or twenty, leaves them *uncovered* the last day or so before commencing to sit! Neither does she cover them when off to feed, thus exposing them when they are in the greatest need of protection. Ducks frequently leave their eggs uncovered just when they have completed their clutch, but carefully cover them when off to feed during incubation.

E. G. B. MEADE-WALDO.

WE have received a number of communications upon this subject, but our space is limited, and we hope our correspondents will deem sufficient the following extracts of the essential points in their letters:—

Mr. A. Astley, of Ambleside, confirms the habit in the

Great and Blue Tit, but adds: "My experience is that the Coal-Tit does not cover its eggs." Mr. Astley has also found "nests of the Chaffinch and Greenfinch with one or more eggs concealed under the lining, and on one occasion a nest of the Meadow-Pipit with two eggs particularly well covered up."

The Rev. Allan Ellison and Messrs. E. Earle and E. C. Rossiter give confirmatory evidence of the habit in the Great and Blue Tits, and the first-named adds: "I have many times noted the same in the case of the Coal-Tit. In one spot where a pair of these birds used to nest every year I used to watch them from day to day. . . . I always found that until the clutch was complete the eggs were buried in the materials of the nest, which had no cup, but was merely a flat bed of soft materials. Again and again I saw the birds carrying rabbits' fur to the nest at a time when I knew that there were eggs in it, showing that the eggs are covered by adding fresh material." Mr. Rossiter adds: "As regards the Marsh-Tit, on 3rd May, 1896, I observed a hen bird go on to lay. A few hours later I examined the nest with the help of a lighted taper held at a second hole. The nest was apparently empty, quite tidy, and cup-shaped. On the following 8th May it contained eight eggs, incubated about four days, and the eggs were not then covered."

THE FIRST BRITISH EXAMPLE OF THE WHITE-SPOTTED BLUETHROAT.

THE late Mr. Howard Saunders, in his notes on additions to the British List (*supra*, pp. 7-8), did not refer to the Scarborough record of this form of the Bluethroat (*cf. Zool.*, 1876, p. 4956, and *Vertebrate Fauna of Yorkshire*, p. 20), but gave the date of the first British occurrence as the 6th October, 1902, when one was picked up at Dungeness. Having recently had an opportunity of examining the Scarborough specimen, which I exhibited at the British Ornithologists' Club on the 16th October last, I am pleased to be able to state that its identity is fully established. It is in every way typical of the white-spotted form (*Cyanocula wolfi*), the white in the centre of the blue throat being most distinct, and about half-an-inch in diameter. The plumage, even after the lapse of thirty years, still retains its deep intense hue. As the females of the two forms of Bluethroat cannot be distinguished it is unfortunate that a misleading statement was made as to the sex of this bird, which accounts for its rejection by the authors of recent ornithological works.

On questioning the present owner of the specimen as to the

facts of the occurrence, he corroborated in every respect the original statements of the Rev. J. G. Tuck and Mr. W. Eagle Clarke; and, in case any sceptic may proffer a suggestion that it was an imported skin, my informant added that he remembers his father bringing home the bird, telling him he had found it below the telegraph wires, and at the same time pointing out where it had been damaged by coming in contact with them. For further particulars enquirers are referred to "The Birds of Yorkshire," pp. 38-39.

T. H. NELSON.

GROUSE-DISEASE.

DRS. SELIGMANN and SAMBON, in the "Lancet" for September 21st, describe a parasite from the blood of a Red Grouse which they have named *Leucocytozoon lovati*. This they found within a curious spherical envelope drawn out at each pole into a long thread. Though they are unable to determine definitely the nature of this investing sheath, they are of opinion that it is formed by a blood corpuscle, since a dark body, apparently representing the nucleus of the corpuscle, is found beneath the parasite. Since a similar parasite has been found in the turkey and guinea-fowl, it seems improbable that this new species has any connection with Grouse-disease, though the bird which furnished the specimen was sent to Dr. Seligmann as having died of this mysterious plague. Rather we suspect that Grouse-disease will be found to be due to some Trypanosome.

Dr. Sambon, in examining another grouse sent to Dr. Seligmann by the Grouse-disease Commission, found in the blood a filarian, which represents the first record of this parasite in the Red Grouse. A short account of his discovery will be found in the "Journal of Tropical Medicine" for September 16th.

THE MOVEMENT OF THE BEAK IN SNIPE.

THE October number of the "Ibis" contains a paper by Mr. W. H. Workman on the curious faculty possessed by the Snipe, Woodcock, and allied birds, of moving upwards the extreme tip of the upper jaw, while the rest of the beak, as a whole, is closed, and this he illustrates by a diagrammatic figure. Mr. Workman does not appear to know, and the editors of the "Ibis" appear to have forgotten, that a paper on this subject by Mr. W. P. Pyecraft was published in the "Ibis" for 1893! Mr. Workman's observations add nothing new to our knowledge of this matter, but it is interesting to note that his suggestion as to the purpose of this curious movement is exactly the same as that given in the article referred to above.

AMERICAN PECTORAL SANDPIPERS IN SUSSEX.

A PECTORAL Sandpiper (*Tringa maculata*) was shot at Rye Harbour on September 19th, 1906. It was an adult bird just commencing to moult into winter plumage; the long scapular feathers were much abraded, and several of them had already been replaced. Mr. M. J. Nicoll wrote me that he saw and recognized two at this place amongst a flock of Dunlin, on August 1st of that year, and the present specimen is probably one of them.

N. F. TICEHURST.

ON September 21st last I was on the Crumbles, near Eastbourne, in company with Mr. L. E. Dennys, when a bird rose from some shingle and uttered a low note. I called to Mr. Dennys to shoot, and he secured what proved to be a specimen of the American Pectoral Sandpiper (*Tringa maculata*).

The legs were greenish-yellow, and there was a little of the same colour at the base of the lower mandible.

The bird was exhibited on my behalf by Mr. H. F. Witherby at the meeting of the British Ornithologists' Club held on November 20th last.

E. C. ARNOLD.

THE BREEDING HABITS OF THE PECTORAL SANDPIPER.

IN an interesting article in the "Ibis" for October, communicated by Mr. H. E. Dresser, Mr. S. A. Buturlin thus describes the spring display of *Tringa maculata*:—"One would every now and then stretch both wings right over its back, and afterwards commence a grotesque sort of dance, hopping alternately on each leg; another would inflate its gular pouch and run about, crouching down to the ground, or would fly up to about a hundred feet in the air, then inflate its pouch and descend slowly and obliquely to the ground on extended wings. All these performances were accompanied by a strange hollow sound, not very loud when near, but audible at some distance, even as far as five hundred yards. These notes are very difficult to locate, and vary according to the distance. When near they are tremulous, booming sounds, something like the notes of a frog, and ending in clear sounds like those caused by the bursting of water-bubbles in a copper vessel."

Mr. Buturlin found *Tringa maculata* breeding to the east of the Kolyma delta. We believe that it has not before been authenticated as breeding on the Asiatic side of the Behring Straits. It is also of interest to note that the author found

on the western side of the Kolyma delta migrating flocks both of the Siberian species (*T. acuminata*), which has very rarely been obtained in England, and of the American species, which much more frequently visits us. In a coloured plate accompanying the article the young in down of *T. maculata* are figured.

In the same number of the "Ibis" the Rev. F. C. R. Jourdain figures and describes the eggs of this bird, and those of two other American species on the British List, viz., *Totanus solitarius* and *Tringa bairdi*. Like the Green and Wood-Sandpipers the Solitary Sandpiper lays its eggs in the nests of other birds.

BONAPARTE'S SANDPIPER IN KENT.

A SPECIMEN of Bonaparte's Sandpiper (*Tringa fuscicollis*) was obtained at the Midrips in Romney Marsh, Kent, on June 4th, 1906. The bird was an adult male in process of change to breeding plumage, the ash-grey feathers of the winter plumage being much worn and mingled on the back with the new dark brown feathers with tawny edges. It is said to have been in company with a Knot which was in a similar condition of plumage. This appears to be the first record of this species for Kent. It was examined soon after being shot by Mr. M. J. Nicoll.

N. F. TICEHURST.

RED-BREASTED SNIPE IN KENT.

ON September 2nd last I had the pleasure of examining a specimen of the Red-breasted Snipe (*Macrorhamphus griseus*). It had been shot on August 15th at Littlestone, in Kent, and was an adult male changing from summer into winter plumage. This and the other two rare wanderers from the American Continent recorded above passed through Mr. Bristow's hands, and to his courtesy I am indebted for the opportunity of examining them.

N. F. TICEHURST.

THE FOOD OF THE BLACK-HEADED GULL.

MR. PYCRAFT'S adverse comment in BRITISH BIRDS for November, on Messrs. Thorpe and Hope's report on the feeding habits of *Larus ridibundus*—that after being found not guilty, sentence was passed on the bird—was not without justification, but there is something to be said on both sides. The sentence was not one of death, but merely a suggestion that the protection of this bird's eggs should be suspended

for five years, and this has been done by the Cumberland County Council. Two or three considerations influenced the "experts" in their conclusion. In the first place, in the last few years, owing to the eggs being protected, there has been "a vast increase in the number of the birds in the local area." As a rule, throughout the country, except where special watchers are appointed, the Act of 1894 relating to the protection of eggs is a dead letter, but in Cumberland the gulleries being few and well-known, the county police kept an eye on them and made many a police-court case. The reporters, further, could not shut their eyes to the fact that, although few remains of fish were found in the stomachs of the birds dissected, two Black-headed Gulls under observation in an aviary, were responsible for the disappearance in one night of six golden carp from a fountain, and on being tested, one gulped three and the other two 6 in. sparling (atherine smelt) at one meal. Then it was a crying grievance among the Solway fishermen that a bird which, as they alleged, was destructive to salmon and sea-trout fry, and had become unduly numerous, should continue to be favoured with special protection, and as this grievance could be allayed without inflicting cruelty on the bird, or endangering the existence of the species in the remotest degree, Messrs. Thorpe and Hope seem to have arrived at a very reasonable and judicious conclusion. At the present time the Lune Fishery Board is proposing to go a good deal further, and is approaching the neighbouring county councils with a view to the Black-headed and Herring-Gulls being struck off the Schedule of the Act of 1881.

T. HARRISON.

[We are still of opinion that our remarks were fully justified. The deductions drawn from the Gulls which swallowed "sparling" in an aviary are valueless as evidence. The fishermen believed, and still believe, these birds to be injurious: the "experts" showed they were not, but all the same the award—a verdict of guilty—was brought in, apparently because the fishermen demanded it! The verdict was not in accordance with the evidence, and *no* penalty should have been inflicted.—EDS.]

NESTING OF THE LESSER TERN IN THE OUTER HEBRIDES.

I AM unable to say positively that North Uist is *not* "the most north-westerly point at which the Lesser Tern has been found breeding," because I did not actually find the eggs, but when visiting the island of Lewis last June I came upon

a small colony of Arctic Terns which were breeding, and amongst them were three Lesser Terns.

One of these I put up four times from the same spot in the sand and shell where the other birds were nesting. Unfortunately the only hiding-place was a long way off, and though I saw the bird hover and settle each time that I went away, I could not find the eggs. There were several empty nests, and it is possible she had not yet laid.

My watching was disturbed by some egg-hunting boys, and unfortunately I had to leave.

M. BEDFORD.

* * *

RARE BIRDS AT FAIR ISLE.—Mr. W. Eagle Clarke has once more been on Fair Isle (Shetlands), and has again had good fortune. He makes the preliminary announcement that amongst the rare birds which came under his notice during September and early October were the following:—Black-throated Chat (*Saxicola occidentalis*), Grey-headed Wagtail (*Motacilla viridis*), Red-breasted Flycatcher (*Muscicapa parva*), Greater Redpoll (*Linota linaria rostrata*), Black-headed Bunting (*Emberiza melanocephala*), Oortolan Bunting (*Emberiza hortulana*), Lapland Bunting (*Calcarius lapponicus*), and Hoopoe (*Upupa epops*) (cf. *Ann. S.N.H.*, 1907, p. 246).

* * *

BLACK-TAILED GODWIT IN BARRA.—On September 7th, 1907, the Duchess of Bedford shot a Black-tailed Godwit (*Limosa belgica*) at Eoligary, Barra. The bird is a very rare visitor to the Outer Hebrides (cf. *Ann. S.N.H.*, 1907, p. 250).

“THE BIRDS OF YORKSHIRE.”

To the Editors of BRITISH BIRDS.

SIRS,—In your review of Mr. Nelson's excellent book on the “Birds of Yorkshire,” you allude to the “authors.” This is a mistake. There is but one author, Mr. Nelson, and it is only fair to him that this should be made clear. Mr. Boyes and myself supplied information and acted as consultants only.

WILLIAM EAGLE CLARKE.

The Royal Scottish Museum,
Edinburgh, November 15th, 1907.

[The wording on the title-page of the work reads “By T. H. Nelson, with the co-operation of W. Eagle Clarke and F. Boyes,” and if Messrs. Clarke and Boyes were not to be regarded as authors it would have been more correct had their names been omitted from the title page, and their co-operation acknowledged in the Preface only.—EDS.]



REVIEWS

Notes on the Birds of Kent. By R. J. Balston, M.B.O.U.,
C. W. Shepherd, M.B.O.U., and E. Bartlett. 455 pp.
Eight coloured and one collotype plate, and map. R.
H. Porter.

A COUNTY fauna must inevitably be largely a work of compilation, but it should also be a great deal more. In the prospectus of the present work we were promised that "all available information hitherto published, together with a very large amount of original material" would be embodied in it.

On going carefully through the volume, however, we regret to find that the original observations of any importance are singularly few, and we have failed to find any records of rare birds, or information on the distribution of the more local species, that have not already been published elsewhere. Very little attempt seems to have been made to bring the latter important branch of the subject up-to-date, and in consequence the status of several species as given, is at the present day inaccurate. For instance, we find no information about the Dartford Warbler since 1863; only very meagre notes on the Golden Oriole since 1875; and nothing at all about the Peregrine since 1887.

For the rest the book is a mere compilation, and consists almost entirely of articles copied *verbatim* and *in extenso* from various sources. As a consequence the space taken up is often out of all proportion to the importance of the subject, while other subjects are as much neglected. For example, over eight pages are devoted to anecdotes and trivial observations on the House-Sparrow—quite out of place in a county fauna—and the important subject of the local Heronries is dismissed in as many lines.

There would not, perhaps, be need to criticise this too severely, had the work of compiling been thoroughly done; but, unfortunately, this is far from being the case. No bibliography is given, but it is evident that several important sources of information have not been consulted, and even the "Zoologist" has by no means been exhaustively searched.

The number of birds on the "Kentish List" is computed by the authors at three hundred and twenty, but it would hardly seem necessary in a county with such a rich avifauna to attain such a total by the inclusion of such species as the American

Robin, Red-winged Starling, Mocking Bird, Mottled Owl, the Egyptian and Canada Geese, and such doubtful forms as the Polish Swan and Pallas's Grey Shrike. Thirteen other species, viz.: White's Thrush, Yellow-Browed and Savi's Warblers, Crested Tit, Ortolan Bunting, Crested Lark, Great Black Woodpecker, Golden Eagle, Iceland Falcon, Great White Heron, Red Grouse, Roseate Tern, and Bonaparte's Gull are included on apparently very slender evidence indeed. On the other hand the Water-Pipit, White-winged Black Tern, and Sabine's Gull, which have undoubtedly occurred in the county, are omitted, and there is no reference at all to the Willow-Tit.

The coloured plates, representing eight species of special interest to Kent ornithologists, though fairly good, are of unequal merit, that of the Masked Shrike, perhaps, being the best. Illustrations of the typical haunts of some of the more local species would have certainly added interest to the book, and in our opinion should *always* find a place in a county fauna. The map of the county is ridiculously small, and as a guide to the position of the places mentioned in the text almost wholly useless.

Altogether this book cannot be considered an adequate history of the Kent avifauna, and it seems a pity that, having accumulated such a mass of material, the authors should not have gone further and spent a little more time and trouble in making that material complete. Thorough and up-to-date information should be the characteristic of ornithological as of all scientific works, and those that do not reach the requisite standard of efficiency are better left unpublished.

N.F.T.

A Bird Collector's Medley. By E. C. Arnold, M.A. Illustrated. West, Newman. 10s.

MR. ARNOLD is well-known as a diligent searcher after rare wanderers on our east coast, and he has shot and recorded from time to time a number of birds which have strayed from their normal course during the migration season. All this is useful, and no harm can be done to our indigenous avifauna by shooting such birds, while some benefit accrues to science by the exact recording of their wanderings. Some of the remarks in the chapter on "Protection" are sensible, but the author is not always sincere since, although he asserts that to him the Dartford Warbler is sacred, yet he relates very fully how he succeeded in shooting one of these birds, as well as two Bearded Tits, a much rarer English breeding bird. Mr. Arnold had no justification whatever

for his shameful raid on these birds, since if the skins are wanted for a scientific purpose they can easily be obtained from abroad, where the bird is common. Nor does he bring forward any proof that the danger of final extermination of rare breeding species by the amateur collector has been exaggerated. Nor can we agree with him that the Ruff, Avocet, Black-tailed Godwit, Black Tern, and Bittern are banished for ever as breeding species, and therefore may be shot as stragglers—far from it. On the shore, the mud-flats, and marshes Mr. Arnold is, as it were, on his own ground, and the chapters on shore-shooting are entertaining, but he would have been well advised to have omitted all reference to such places as the New Forest, where he has spent but a few days. There is much shooting but little ornithology in the book. Scientific names are omitted, and we have never heard of the *Lesser Black-headed Gull* (*cf.* pp. 31 and 33). The illustrations from the author's own drawings in black and white and colour are decidedly stiff and faulty in various details, but we have no wish to criticise them too severely.

Wild Life on a Norfolk Estuary. By Arthur H. Patterson : with a prefatory note by Her Grace the Duchess of Bedford. Illustrated. Methuen & Co. 10s. 6d. net.

THAT enough material could be got together to make a book—a readable book—about the bird-life of so circumscribed an area as the mud-flats of Breydon Water, Great Yarmouth, would have seemed to most people very improbable. Yet Mr. Patterson has achieved this task, and with distinction. He has had the good fortune to see, on many occasions, small parties of such interesting birds as Spoonbills and Avocets ; and by dint of great patience has succeeded in keeping these under observation for many hours during several days. So recently as 1905 for example, he fell in with a flock of no less than nine Avocets. They swam, he says, “with the buoyancy of Tufted Ducks.” Much of their food, we are rather surprised to find, they procured by that curious half-diving action so characteristic of the Mallard ; where the head and forepart of the body are submerged while the tail is kept vertical, above water, by the action of the legs. This is a book, in short, which is full of most interesting matter, not only as regards rarities, but also concerning the commoner species, and the earlier days when this rendezvous was even more favoured by birds than now. The illustrations have been drawn by the author himself, in pen-and-ink, and of their kind are excellent.

BRITISH BIRDS

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

ASSISTED BY W. P. PYCRAFT, A.L.S., M.B.O.U.

CONTENTS OF NUMBER 8. JANUARY 1, 1908.

The Breeding of the Hen-Harrier and Hobby in Surrey in 1907, by C. H. Bentham and L. B. Mouritzz	Page 237
The Wood-Pigeon Diphtheria, by C. B. Ticehurst, M.R.C.S., L.R.C.P., M.B.O.U.	243
On the More Important Additions to our Knowledge of British Birds since 1899, by H. F. Witherby and N. F. Ticehurst (Part VI.)— <i>continued from page 184</i> ..	246
The Grey-backed Warbler (<i>Aëdon familiaris</i>) in Kent, by J. B. Nichols	257
Notes :—The Flanges and Mouth-spots of Nestlings (J. M. Dewar). The Food of the Black-headed Gull (D. Losh Thorpe, M.B.O.U., and Linnaeus E. Hope). The Soaring of Small Birds (F. W. Headley). The Down-stroke of the Wing (F. W. Headley). Great Grey Shrike and Eider Duck in Kircudbrightshire (The Duchess of Bedford). Yellow-breasted or Willow-Bunting (<i>Emberiza aurcola</i> Pallas) in Norfolk (F. G. Penrose). On the Colour of the Snowy Owl (C. W. Beebe). Sooty Shearwater in Kent (N. F. Ticehurst), etc., etc.	258
Books of the Month	265
Reviews :—The Vertebrate Fauna of North Wales. The Home-Life of Some Marsh-Birds	266

THE BREEDING OF THE HEN-HARRIER AND HOBBY IN SURREY IN 1907.

BY

C. H. BENTHAM AND L. B. MOURITZ.

THE year 1907 will rank as one of exceptional interest in the annals of Surrey ornithology, on account of three species of considerable rarity, namely, the Hen-Harrier (*Circus cyaneus*), Hobby (*Falco subbuteo*), and Marsh-Warbler (*Acrocephalus palustris*), having nested within the

confines of the county, and we have great satisfaction in recording that the two first named were successful in rearing their young.

The breeding of the Hen-Harrier is undoubtedly to be regarded as the most important event; this bird unfortunately being, at the present time, almost entirely



FIG. 1.—Nest of Hen-Harrier photographed in Surrey, June, 1907, by C. H. Bentham.

restricted, as a nesting species, to a few of the wildest and most extensive moorland districts, and it is therefore somewhat remarkable that a pair should have been successful in bringing off their young, in a comparatively populated neighbourhood within fifty miles of the

metropolis, and moreover in a county in which game-preserving is extensively carried on.

There is some evidence in support of the supposition that Hen-Harriers nested in Surrey during 1906, as a pair were on more than one occasion observed in the locality where the nest was discovered the year following; two young birds also being seen on the wing near the same place, towards the end of August, 1906.

In 1907 the species was noticed for the first time on March 27th, when a "Blue Hawk" and "Ringtail" were seen in company. Sometime during April, however, the female met with the usual fate, being shot by a game-keeper, and shortly after this unfortunate occurrence the male evidently went in search of a fresh partner, and was not again observed in the neighbourhood until May 20th, when he was found to have settled down in the original haunt with another mate, and on the day following we were fortunate enough to discover the nest. This was situated amongst a thick growth of tall heather, and within about twenty yards of a little-used cart track. It was a slight structure, composed of dry grass, reeds, and a few heather-stalks; but as incubation advanced a considerable quantity of material was added, as will be seen from the accompanying photograph (Fig. 1), which was obtained when the bird had been sitting for about three weeks.

When the nest was discovered on May 21st, there were three apparently nearly fresh eggs (although we afterwards ascertained that it originally contained the full complement of four), but visiting the locality on June 8th, we were much annoyed at discovering that only two eggs remained, another having mysteriously disappeared, but whether a Carrion-Crow—of which there are a good number in the neighbourhood—or some egg-collector was responsible for this depredation, it is difficult to say. Fortunately the bird did not forsake the remaining eggs, from which two healthy nestlings (Fig. 2) were subsequently hatched, and during July and August we had the pleasure of



FIG. 2.—Young Hen-Harriers photographed in Surrey, July, 1907, by C. H. Bentham.

witnessing the rare sight of adults and young on the wing together.

The latest date on which we observed the Harriers in the district was on August 5th, when the "Blue Hawk," "Ringtail," and one of the young birds were seen on the breeding ground.

It was apparently shortly after this that both the adults were shot by a gamekeeper, although we have been unable to ascertain the precise date on which this lamentable destruction occurred. There is also some reason to fear that at least one of the young birds has also perished; but we have no definite information on this point.

It is deeply to be deplored that, after having safely reared their young without molestation, these magnificent birds should have been ruthlessly slaughtered in the interests of game-preserving.

There appears to be but one previous record of the Hen-Harrier having nested in Surrey, some young birds having been taken as long ago as 1842 (Bucknill, *Birds of Surrey*). No mention, however, is made of the adult birds, so that the value of the record is somewhat lessened and is perhaps inconclusive.

With regard to the Hobby, we first met with this interesting species during 1907, on June 22nd, when a male was observed in the vicinity of an extensive fir-wood, and from the excited behaviour of the bird, we thought it possible that there was a nest somewhere in the neighbourhood, and consequently made a search, which, however, did not result in any further discoveries.

During the first week in August we again visited the locality, and on approaching the fir-wood were greeted by the ringing Kestrel-like cry of the male Hobby, and shortly after detected the bird perched on a dead tree-stump, from which there was a good outlook over the surrounding country.

After we had been watching the male for about an hour, his mate suddenly flew out of the wood and settled on the top-most branch of a tall pine, where she remained

for a considerable time, but did not utter a note of any kind, and in this respect her behaviour differed widely from that of the male, the latter keeping up an incessant clamour as long as we remained near.

Shortly after the appearance of the female, we had several momentary glimpses of two young birds, which did not appear to have attained their full powers of flight, and were excessively shy, keeping chiefly to the shelter of the wood. Towards the close of August, however, we were fortunate in seeing all three young birds with their parents, and by this time they were almost as strong on the wing as the adults.

September 22nd was the latest date on which we observed the Hobbies, and apparently soon after this they left the neighbourhood on migration.

The Hobby has previously been reported as breeding on two occasions in Surrey, a nest and young having been taken near Wanborough in 1879, and although the male bird was shot, a pair nested in the same spot the following year (*Zoologist*, 1902, page 231). There can, however, be little doubt that the bird has occasionally been overlooked as a breeding species in the county.

During June last the Marsh-Warbler was found nesting in Surrey, and we were kindly informed of the fact by Mr. Graham W. Kerr, the fortunate discoverer of two nests, who has already contributed a detailed account of the event to *BRITISH BIRDS* (*vide supra*, p. 186), so that it is unnecessary to dwell further upon the subject in this article.

THE WOOD-PIGEON DIPHTHERIA.

BY

C. B. TICEHURST, M.R.C.S., L.R.C.P., M.B.O.U.

As Wood-Pigeon diphtheria was so prevalent last winter in various parts of England, and excited some interest amongst sportsmen and ornithologists, a brief account of this disease may be acceptable to readers of BRITISH BIRDS. This complaint has been often referred to in various journals, and several suggestions have been made to account for it, but in none of these have I seen the real cause of the disease stated. Like a great many diseases it is due to a specific micro-organism, which was isolated by Löffler in 1884 in Germany, from pigeons dead of the disease, and called by him *Bacillus diphtheriæ columbarum*.

The disease begins to reveal itself in red patches, which appear first on the surface of the fauces and then spread to the base of the tongue and pharynx, and even a little way down the windpipe and gullet. Later these patches become covered with a thick yellowish layer.

The birds are said to have fever for two or three weeks, and they gradually waste and die from the poisons manufactured by the bacilli, and not from inability to swallow, as I have found birds in the last stages of the disease with acorns in the crop; moreover the post-mortem appearance of the internal organs is that of death from poisoning.

These bacilli, which I have cultivated from pigeons dead of this disease, are short, rod-shaped bacilli, with rounded ends, and belong to the same group as the bacilli of rabbit septicæmia and fowl cholera.

The disease occurs in those years in which hordes of

pigeons are to be found together in our English woods, and also seems to correspond with those years in which there is a plentiful supply of acorns, beech-mast, etc. Apart from the laboratory evidence that the disease can be inoculated from one pigeon to another, it cannot be doubted that transmission occurs in nature, for the incidence of the disease in a flock resembles that of a contagious disease in any overcrowded community. Exactly *how* the disease is spread is unknown, but it is possible that acorns, which have been eaten by infected pigeons, are regurgitated and eaten by other pigeons.

Much is to be learnt as regards this disease: how it comes, why it comes, and when it comes: and much data is required to fill up the missing links in the etiology of the disease.

To those readers of BRITISH BIRDS who have opportunities of studying this disease I would suggest the following lines of investigation:—

1. Distribution of the disease in the British Islands.
2. The times of year at which the disease is noted.
3. The percentage of individuals in a flock affected.
4. Relation of the disease to the food supply.
5. Observations on the course and length of the disease.
6. Evidence of transmission of the disease.
7. Whether the disease occurs in young or old, or both.

At the same time, when investigating this disease, I would suggest two other matters which might be looked into. The first is the apparent sporadic migrations of Wood-Pigeons during the winter (this probably is dependent on food supply, but more evidence is wanted); the second is a disease of the wing-feathers which Wood-Pigeons are especially liable to. The disease seems to attack the growing feather, which then dries up and ceases to grow, and in many instances the bird is incapable of flight. This disease occurs every year, but little is known about it, and observations on the same lines as I have

suggested in the other disease would no doubt help to elucidate the mystery.

[The points raised by Mr. C. B. Ticehurst seem to us to form most fitting subjects of enquiry for the readers of BRITISH BIRDS. It is only by the co-operation of observers all over the country that these and similar interesting problems can be solved. We sincerely hope, therefore, that every reader of the Magazine will take the subject up and give the results of his observations, however limited these may have been. With this object, the essential points upon which evidence is required have been embodied in the form of questions in a schedule, which will be found attached inside the cover of this number. The schedule can be easily detached, and should be filled in and posted to the Editors by March 1st. It would also greatly assist the enquiry if correspondents who can procure Wood-Pigeons suffering from either disease would post them, together with details as to the place and date of capture, and the name and address of the sender, to Mr. C. B. Ticehurst, at Guy's Hospital, London, S.E.—
EDS.]



ON THE MORE IMPORTANT ADDITIONS TO OUR
KNOWLEDGE OF BRITISH BIRDS SINCE 1899.

BY

H. F. WITHERBY AND N. F. TICEHURST.

PART VI.

(Continued from page 184.)

NORTHERN BULLFINCH *Pyrrhula pyrrhula* (L.).

S. page 195.

“A considerable immigration of Bullfinches” was recorded by Mr. J. S. Tulloch as having taken place in Shetland at the end of November, 1905. A specimen having been sent to Mr. W. Eagle Clarke, he pronounced it to be a representative of the large and brilliant race which breeds in Scandinavia and Russia—the typical *Loxia pyrrhula* of Linnaeus. Others probably of the same form were seen by Dr. T. E. Saxby at Unst in March and April, 1905; while in November of the same year one or more visited Fair Isle. Further records include a male killed in North Shetland, October 18th, 1906, and a few seen in Fair Isle in November, 1906 (*cf. Ann. S.N.H.*, 1905, p. 182; 1906, pp. 50, 115, and 148; 1907, pp. 50 and 70). A female which Dr. Saxby obtained at Halligarth on November 8th, 1902 (*Zool.*, 1902, p. 468), may have also belonged to this form. The only previous authentic records of the occurrence of this bird in the British Isles were of two obtained in Yorkshire at Kilnsea, Holderness, and at Hunmanby, in November, 1894 (*P.Z.S.*, 1895, p. 681, and *Nat.*, 1896, p. 4).

SCARLET GROSBEEK *Pyrrhula erythrina* (Pall.).

S. page 197.

RADNORSHIRE.—A male in full plumage is preserved in the collection of stuffed birds at Maesllwch Castle, Glasbury-on-Wye. It shows no indication of having been in confinement, and is said to have been shot by a gamekeeper named Sharp, near Painscastle, Radnorshire, about 1875 (J. H. Salter, *Zool.*, 1904, p. 228).

FAIR ISLE (SHETLANDS).—A bird of the year was shot on October 3rd, 1906 (W. E. Clarke, *Ann. S.N.H.*, 1907, p. 70).

The Scarlet Grosbeak has been recorded three times previously in this country.

PINE-GROSBEAK *Pyrrhula enucleator* (L.). S. page 199.

KENT.—A small flock appeared near Hawkhurst on October 25th, 1905, and two young birds were shot by Mr. Oliver and sent to Mr. Bristowe for preservation (C. B. Ticehurst, *Bull. B.O.C.*, XVI., p. 47).

SUSSEX.—A few days after the above, a flock, probably the same, was seen in Ashburnham Park, and two or more birds (one of them a rosy-coloured male) were shot by a keeper, and are now in Mr. Fleetwood Ashburnham's collection (N.F.T.).

CROSSBILL *Loxia curvirostra* L. S. page 201.

SURREY.—Messrs. Long and Eastwood say that it no doubt nests sometimes in the Bagshot and Witley districts (J. A. Bucknill, *t.c.*, 1901, p. 251).

BERKSHIRE.—Mr. Bradshaw had a very young one, "probably one of a local brood," brought to him in 1898 from Aldermaston, where they had been very abundant that year (G. W. Bradshaw, *Zool.*, 1899, p. 136).

SUFFOLK.—A male was shot near Bury St. Edmunds on 31st March, 1904, which from *post-mortem* examination was probably one of a pair of breeding birds (J. G. Tuck, *t.c.*, 1904, p. 191).

NORTHANTS.—Two nestlings were picked up at Harleston Firs on 28th March, 1904. A description of them is given (F. C. R. Jourdain, *t.c.*, 1905, p. 347).

SHROPSHIRE.—A brood of young birds was seen on Grinshill in 1896 (H. E. Forrest *in litt.*).

NORTH WALES.—Two or three pairs nested at Penmaenmawr in 1890 or 1891 (G. H. Pentland, *Zool.*, 1899, p. 182). "Seen near Bala practically throughout the year" in 1897 (H. E. Forrest, *Vert. Fauna N. Wales*, p. 159).

YORKSHIRE.—For list of breeding records in this county, cf. "B. Yorks.," p. 198.

IRELAND.—"Has disappeared from some of the districts in which it bred in 1888-1894" (R. J. Ussher *in litt.*).

TWO-BARRED CROSSBILL *Loxia bifasciata* (C. L. Brehm).
S. page 203.

SUSSEX.—A male in red plumage was obtained at Westfield on 23rd February, 1899 (N. F. Ticehurst, *Bull. B.O.C.*, VIII., p. 49.).

KENT.—A female was obtained at Woodchurch on 26th December, 1902 (*id.*, *t.c.*, XIII., p. 51).

NOTTS.—A specimen was shot at Southwell some years

ago and remained unidentified (J. Whitaker, *Zool.*, 1902, p. 353).

BLACK-HEADED BUNTING *Emberiza melanocephala* Scop. S. page 205.

SUSSEX.—A mature male was shot at Little Common on 21st April, 1905 (J. B. Nichols, *Zool.*, 1905, p. 267).

FAIR ISLE.—The species is recorded as occurring in September, 1907 (W. E. Clarke, *Ann. S.N.H.*, 1907, p. 246).

CIRL BUNTING *Emberiza cirrus* L. S. page 211.

YORKSHIRE.—A pair was found nesting near Harrogate in 1903 by Mr. R. Fortune (*B. Yorks.*, p. 205).

NORTH WALES.—“Not uncommon locally in Denbigh and Flint” and round the mouth of the River Conway (H. E. Forrest, *Vert. Fauna N. Wales*, p. 163).

IRELAND.—An adult was watched at close quarters and its note heard on August 2nd, 1902, near Dunfanaghy, co. Donegal (H. E. Howard, *Zool.*, 1902, p. 353). The bird had not previously been recorded in Ireland.

ORTOLAN *Emberiza hortulana* L. S. page 213.

NORFOLK.—A female was shot on 13th September, 1904, near Wells (E. C. Arnold, *Zool.*, 1904, p. 389), and a male entangled itself in some netting near Yarmouth, and was captured and caged on 5th May, 1906 (J. H. Gurney, *t.c.*, 1907, p. 127).

YORKSHIRE.—One labelled “Bedale, Yorks. 9th July, 1882,” is in the collection of Mr. S. L. Mosley (*B. Yorks.*, p. 206).

SCOTLAND.—*Shetlands*.—Two, not mentioned in the “Manual,” were obtained during a remarkable visitation of migratory birds on 30th April, 1898 (T. Henderson, jun., *Ann. S.N.H.*, 1898, p. 178). *Fair Isle*.—Quite a number arrived during the last days of May, 1906, and three (two males and a female) were sent to Mr. W. E. Clarke. A young bird was obtained on 18th September, 1906; Mr. Clarke regards it as “an occasional visitor to Fair Isle during the seasons of passage” (W. E. Clarke, *t.c.*, 1906, pp. 139 and 237; 1907, p. 71).

[NORTH WALES.—A bird, identified as of this species, was watched by Mr. D. H. Meares on the Berwyn Mountains on May 20th, 1907 (H. E. Forrest, *Vert. Fauna N. Wales*, p. 167).]

RUSTIC BUNTING *Emberiza rustica* Pall. S. page 217.

SUSSEX.—A young male was shot by a boy at Westfield on 22nd September, 1902 (N. F. Ticehurst, *Bull. B.O.C.*, XIII., p. 15).

[LINCOLNSHIRE.—Mr. J. Whitaker identified a female at Chapel St. Leonards, on 22nd September, 1906, amongst a large lot of migrants on the sea-bank (J. Whitaker, *Zool.*, 1906, p. 392).]

[NORTHUMBERLAND.—A hen caught near Seaton Sluice prior to 1903 was exhibited at the Crystal Palace Cage-Bird Show in January, 1905. It is stated to have been identified by the late Canon Tristram (*cf. Zool.*, 1905, p. 279).]

SCOTLAND.—A pair was obtained at Torphins, Aberdeenshire, at the end of March, 1905 (E. T. Clarke, *Ann. S.N.H.*, 1907, p. 114). An adult male in full summer plumage was obtained at Cape Wrath on 11th May, 1906 (W. E. Clarke, *t.c.*, 1906, p. 138).

Only three records of the occurrence of this species are given in the "Manual" none of which were in spring, and none in Scotland.

LITTLE BUNTING *Emberiza pusilla* Pall. S. page 219.

DURHAM.—A female was procured at Teesmouth on 11th October, 1902, by the late Mr. C. Braithwaite (W. R. Ogilvie-Grant, *Bull. B.O.C.*, XIII., p. 14).

WARWICK.—A male in winter plumage was caught with bird-lime at Pailton, near Rugby, in the beginning of October, 1902, and lived in a cage for nearly fifteen months (O. V. Aplin, *Ibis*, 1904, p. 307).

SCOTLAND.—A young bird was captured by a cat at the Pentland Skerries Lighthouse on 15th October, 1903 (W. E. Clarke, *Ann. S.N.H.*, 1904, p. 14). One was seen at close quarters and satisfactorily identified at Fair Isle on 2nd October, 1905, and an adult female was obtained at the same place on 3rd October, 1906 (*id.*, *t.c.*, 1906, pp. 18 and 236).

The Little Bunting had only once previously been identified in this country, viz., at Brighton, on 2nd November, 1846.

LAPLAND BUNTING *Calcarius lapponicus* (L.).
S. page 223.

SUSSEX.—An immature male was shot near Pevensey on 28th September, 1904 (M. J. Nicoll, *Bull. B.O.C.*, XV., p. 12).

NORFOLK.—One reported from Yarmouth on 4th November, 1898, two in October, 1899, and two on 1st November, 1903 (J. H. Gurney, *Zool.*, 1899, p. 126; 1900, p. 98; 1904, p. 214). A female was caught at Great Yarmouth on 18th September, and a young male on 25th September, 1904 (O. V. Aplin, *t.c.*, 1904, p. 428). Nine were caught and taken to Yarmouth during November, and two were seen at Cley on 17th December,

1904. Several were seen at Yarmouth and Blakeney in November, 1905, and some at Cley on 2nd November, 1906 (*id.*, *t.c.*, 1905, p. 98; 1906, p. 136; 1907, p. 136).

Mr. Patterson states (1900) that they arrive in great or less numbers every winter, and are looked for by the bird-catchers (A. H. Patterson, *t.c.*, 1900, p. 406), and Mr. Gurney remarks that in 1904 they were more in evidence than they had been since 1892, though, indeed, they are annual visitors (J. H. Gurney, *t.c.*, 1905, p. 89).

WARWICK.—A male was caught near Birmingham on 21st October, 1904 (T. Ground, *t.c.*, 1904, p. 428).

YORKSHIRE.—One was caught near Whitby in the spring of 1870 (*B. Yorks.*, p. 211).

SCOTLAND.—*Flannan Isles*.—A party of 30 to 40 young and old was seen on 6th September, 1904, and some were observed daily up to 21st September. They appeared again in some numbers in the autumn of 1905 (W. Eagle Clarke, *Ann. S.N.H.*, 1904, p. 207; 1906, p. 19). *Suleskerry*.—Several were seen on 22nd September, 1904 (*id.*, *t.c.*, 1904, p. 207). *Fair Isle*—(1905). One heard, 7th September, several seen, and one obtained 11th September, and “from this date onward old and young birds were observed or heard daily, and in some numbers, down to our departure.” (1906). First arrivals 8th September, not so numerous as in 1905, but seen daily after this date. “This bird does not appear to winter in the island; but the return movement north was witnessed in May, when a few arrived” (*id.*, *t.c.*, 1906, p. 18; 1907, p. 71).

IRELAND.—A male in winter plumage was caught with some linnets near Kilbarrack Churchyard, Co. Dublin, on 27th January, 1906 (W. J. Williams, *Irish Nat.*, 1906, p. 112).

The Lapland Bunting must still be regarded as a somewhat erratic migrant to England. Previous to Mr. Clarke's valuable observations detailed above the bird had seldom been recorded in Scotland, but it would appear that it is in reality a regular bird of passage in the northern and far western isles.

SNOW-BUNTING *Plectrophenax nivalis* (L.). S. page 219.

SCOTLAND.—Nests were found in July, 1903, on the spurs of the Grampians which stretch southward between Rannoch and Glen Lyon, and besides, their breeding there has been well-known to intelligent persons during the last few years. This is considerably further south than any of the previous records. They have also been met with at the height of their nesting season in 1905 on a mountain still further south, but the exact locality is not indicated. “I think it may safely

be said that the present distribution of these birds in the nesting season embraces a wide area in the northern half of Scotland, both along the backbone of the country, and the high mountains of the great divide between east and west, and also the main divide between north and south, or the ranges and their spurs of the Grampians" (J. A. Harvie-Brown, *Fauna Tay Basin, etc.*, pp. 132-134).

Numbers were seen in Mid-Atlantic on migration, apparently travelling due eastwards, on 11th to 14th October, 1902, in Lat. 45° - 50° N., Long. 15° W. They were seen singly and in twos and threes. They were travelling with a buoyant, undulating flight, showed no signs of fatigue, and "circled round the big liner (running 18 or 19 miles an hour) as if she were standing still" (A. L. Butler, *Ibis*, 1904, p. 304).

STARLING *Sturnus vulgaris* L. S. page 227.

MIGRATIONS.

The Starling was one of the eight species whose migratory movements were worked out in detail by Mr. Eagle Clarke for the British Association Committee on Migration, and his "Summary" was published in the Report for 1903.

He shows that besides the regular migrations performed by this bird it is also subject to a number of movements which are partially or wholly irregular in nature, and dependent on a variety of causes, some of which are purely local in origin.

The regular movements he divides into (a) The migrations of the British Starling (i.) within our own area; and (ii.) their passage to and from winter quarters beyond our shores; and (b) the migrations of birds from the continent to or through Britain in the autumn, with a similar return passage in the spring.

Briefly summarised in chronological order, these movements are thus given:—

1. In June the young of the first brood gather together and lead a roving life, visiting the coasts, etc.

2. Later in the summer old and young flock together, and in the autumn many seek winter quarters in the west and south of Great Britain and Ireland.

3. A portion of our Starlings, especially those from the more northern and elevated districts, leave us in early autumn to winter in south-west Europe, etc.

4. From late September to early November vast numbers of Starlings arrive on the south-east coast from central Europe. Many of these winter in England and Ireland, while others pass on to south-west Europe.

5. In October and November considerable numbers arrive on the north and north-east coasts from north Europe. Many of these also winter in Great Britain and Ireland, while others again pass on to south-west Europe.

6. During a spell of severe cold many of our winter residents (chiefly the continental birds) seek the south and west parts of Great Britain and Ireland, and may even leave altogether for warmer regions in the south.

7. In February the birds inhabiting the more northern and elevated districts in our isles begin to return to their summer quarters.

8. The summer visitors to our islands return from south-west Europe to their summer quarters in February and March.

9. About the same time the continental birds which left us during the winter also return.

10. In March and April the birds of passage arrive on the south coast on their way to their summer quarters in central and north-west Europe.

11. In February and March the central European birds which have wintered with us return to their summer homes by the east coast.

12. In mid-March to April the northern birds, which have wintered with us, return to their summer homes.

INCREASE AND EXTENSION OF RANGE.

CHANNEL ISLANDS.—*Jersey*.—Eighteen or twenty years ago Starlings were comparatively rare, but since then they have increased to abundancy (H. Mackay, *Zool.*, 1904, p. 342). *Sark*.—Quite an uncommon species, comparatively speaking (E. F. M. Elms, *t.c.*, 1903, p. 305).

SCILLY.—It is apparently still only an autumn and winter visitor to these islands. “As a rule only a few stragglers are to be seen after the middle of April” (J. Clark and F. R. Rodd, *t.c.*, 1906, p. 251).

HANTS.—“I have been informed that it is much more abundant in the New Forest than some years ago” (C. B. Corbin, *t.c.*, 1904, p. 458). It has certainly largely increased as a breeding species within the last ten years in the New Forest, but directly the young are fledged the Forest itself is abandoned. (H. F. W.)

CHESHIRE.—Has undoubtedly increased of late years (T. A. Coward and C. Oldham, *B. of Cheshire*, p. 94 (1900)).

N. WALES.—“Although the Starling is now abundant in all parts of North Wales, as a breeding species it was almost unknown in the west twenty to twenty-five years ago. At

the present time it is very common and increasing." (H. E. Forrest, *Vert. Fauna N. Wales*, p. 169 (1907)).

SURREY.—An abundant and increasing species (J. A. Bucknill, *B. of Surrey*, p. 67 (1900)).

YORKS.—Has increased enormously within the past half century, particularly in the valleys of the Wharfe, Nidd, and Washburn, and in Swaledale and Arkengarthdale, where at the present day it is quite abundant, even to an elevation of 1000 feet (T. H. Nelson, *B. of Yorks.*, p. 216 (1907)).

SCOTLAND.—*Outer Hebrides*.—"The vast increase of this bird is equally noticeable in the Outer Hebrides as in many other parts of Scotland (J. A. Harvie-Brown, *Ann. S.N.H.*, 1902, p. 147). The bird has become even more numerous than last year (P. H. Bahr, *t.c.*, 1907, p. 210).

IRELAND.—"Now nests in every county . . . The number of those which breed is increasing" (R. J. Ussher and R. Warren, *B. of Ireland*, p. 79 (1900)). "Has greatly extended its breeding range, *e.g.*, in *Kerry* and *Mayo*, and breeds much more numerously" (R. J. Ussher, *in litt.* (1907)). *Co. Mayo* and *Co. Sligo*.—"Very scarce in summer up to fifteen or twenty years ago. . . . Since then the birds have spread all about the country" (R. Warren, *Irish N.*, 1902, p. 246). *Belfast*.—Increase enormous of late (W. H. Workman, *Zool.*, 1904, p. 429).

Although there is a general impression that the Starling is still increasing and spreading very few actual facts regarding its numbers in the breeding season seem to have been recorded during the last few years.

ROSE-COLOURED STARLING *Pastor roseus* (L.). S. page 229.

SCILLY.—One was killed June, 1899 (J. Clark and F. R. Rodd, *Zool.*, 1906, p. 252).

KENT.—An adult male was obtained near Appledore on 14th May, 1901 (L. A. C. Edwards, *t.c.*, 1901, p. 223).

HERTFORDSHIRE.—A specimen in the St. Albans Museum is stated to have been shot some years ago at Bovingdon, and was found in a case in an inn (W. Bickerton, *in litt.*).

YORKSHIRE.—One was seen near Hull, November, 1901 (*Field*, 1901, 23rd Nov.).

SHETLAND.—One was seen at Halligarth, 6th November, 1903 (T. E. Saxby, *Ann. S.N.H.*, 1904, p. 156). Five or six appeared at Foula on 28th October, 1906 (W. Robertson, *t.c.*, 1907, p. 51).

IRELAND.—One was shot near Londonderry on 9th June, and another at Killybegs, co. Donegal, on 20th July, and

another near Foxford, co. Mayo, on 5th November, 1899 (*Irish Nat.*, 1899, pp. 186 and 230; 1900, p. 22).

NUTCRACKER *Nucifraga caryocatactes* (L.). S. page 233.

SUSSEX.—One was shot on 21st December, 1900, at Chilgrove, near Chichester (H. M. Langdale, *Zool.*, 1901, p. 107). This was a specimen of the typical *N. caryocatactes*.

KENT.—A male was shot on 14th January, 1905, at Benenden (N. F. Ticehurst, *Bull. B.O.C.*, XV., p. 31). This was also of the European form.

NORFOLK.—For a week in May, 1899, a Nutcracker frequented a plantation of tall dark fir trees near Thetford (J. H. Gurney, *Zool.*, 1900, p. 106).

CHESHIRE.—One was shot at Ilkley on 5th January, 1901, and was identified as belonging to the slender-billed Siberian form (W. R. Butterfield, *Ibis*, 1901, p. 737).

HEREFORDSHIRE.—One was obtained in September, 1901, near Hereford (H. E. Forrest, *Zool.*, 1902, p. 25).

The Nutcracker is an irregular visitor to this country, and both the thick-billed typical *N. caryocatactes* of Linnæus inhabiting the European Alps, and the slender-billed *N. c. macrorhyncus* of Brehm, breeding in Siberia, visit our shores.

In the autumn of 1900 the invasion of the Siberian race into north-eastern Europe was spread over a large area, and reached to Denmark and Holland, but the invasion was not so large as that in 1844 (*cf. Ibis*, 1902, p. 172).

HOODED CROW *Corvus cornix* L. S. page 245.

SUFFOLK.—A pair nested and reared a brood near Lowestoft in 1903 (E. A. Butler, *Zool.*, 1903, p. 350).

In WALES, where this species is rare at any time, a bird paired with the Carrion-Crow, and reared young near Barmouth, Merioneth (H. E. Forrest, *Vert. Fauna N. Wales*, p. 186), and a similar instance is recorded near Llanwrtyd, in Breconshire (E. Cambridge Phillips, *Field*, 7, ix., 1907).

ROOK *Corvus frugilegus* L. S. page 247.

The migrations of this species were worked out in detail by Mr. Eagle Clarke, and published in the British Association's Report for 1903. Briefly summarized they are as follows:—

1. Partial and irregular movements of our resident birds beginning at the close of the nesting season and continuing throughout the autumn, some probably leaving for the continent.

2. Between mid-September and mid-November the main autumnal movement takes place, and vast numbers of foreign rooks arrive on our south-east coasts from central Europe and winter in our eastern counties.

3. Between mid-October and mid-November immigrants arrive on our northern shores, and spend the winter with us.

4. In severe winters some emigrate from the northern counties of Britain to the western isles.

5. From late February to early April numbers arrive on the south-east coast from the continent, moving in a westerly and north-westerly direction, and are probably our own birds returning from winter quarters abroad.

6. Early in February and until mid-April the most important spring movement takes place in the return of the central European birds for their summer homes from our south-east coast.

7. In March and April the Scandinavian birds return to their summer quarters, passing through the Orkneys and Shetlands. The Irish movements are chiefly irregular and unimportant, and Ireland is not resorted to by the continental visitors for winter quarters.

WOOD-LARK *Alauda arborea* L. S. page 251.

SCILLY.—A rare occasional visitor—six specimens have been obtained, the last on St. Mary's, 28th December, 1904 (J. Clark and F. R. Rodd, *Zool.*, 1906, p. 297).

FAIR ISLE (SHETLANDS).—A few appeared during the early days of November and remained until the middle of December, 1906 (W. E. Clarke, *Ann. S.N.H.*, 1907, p. 71). This is a very remarkable record, since the Wood-Lark had not previously been recorded, with authenticity, as occurring anywhere in Scotland, and as far as its distribution in Europe is known it appears to breed but very little, if at all, north of Fair Isle in any quarter, so that its occurrence there must be regarded as abnormal.

SHORT-TOED LARK *Alauda brachydactyla* Leisl. S. page 255.

HANTS.—One, said to have been caught near Portsmouth, was exhibited at the Crystal Palace Bird Show in 1890 (Kelsall and Munn, *B. of Hants*, p. 97).

OUTER HEBRIDES.—*Flannan Isle*.—A female was captured on 20th September, 1904 (W. E. Clarke, *Ann. S.N.H.*, 1904, p. 206). The Short-toed Lark is only a straggler to northern, or even central, Europe, and has only been recorded

nine times in England, once in Ireland, and never before in Scotland.

WHITE-WINGED LARK *Alauda sibirica* Gm. S. page 257.

KENT.—A male was shot on 27th January, and a female on 28th January, 1902 and another individual was seen at Woodchurch (N. F. Ticehurst, *Bull. B.O.C.*, XII., p. 50). The third individual alluded to above was shot at the same place on 22nd March, 1902, and was a male changing into summer plumage (*t.c.*, XIII., p. 15). This eastern species has only once previously been recorded in this country, viz., near Brighton, Sussex, on 22nd November, 1869.

SHORE-LARK *Otocorys alpestris* (L.). S. page 259.

Howard Saunders says: "Autumnal arrivals on the coast of Yorkshire are almost annual." Mr. Nelson (*B. of Yorks.*, p. 259) states that it is now of annual occurrence at the mouth of the Tees; and its occurrence on the Lincoln and Norfolk coasts would appear also to be now almost annual (*cf. Zool.*, 1898, p. 115; 1900, pp. 101, 408; 1902, p. 112; 1903, pp. 122, 361; 1907, p. 136).

CHESHIRE.—A bird watched at close quarters on 19th December, 1905, at Hilbre Island, was identified from a sketch made at the time (T. A. Coward, *Zool.*, 1906, p. 72).

FAIR ISLE (SHETLANDS).—A small number arrived at the end of October, and stayed till mid-December, 1906.

The Shore-Lark seldom visits the west of England, and had not before been recorded in Shetland.

(To be continued.)

THE GREY-BACKED WARBLER (*Aëdon familiaris*)
IN KENT.

A NEW BRITISH BIRD.

ON July 15th, 1907, a male "Rufous Warbler" was shot at Hythe, Kent, and sent to Mr. Bristow, of St. Leonards, where it was seen in the flesh by Dr. N. F. Ticehurst. On receiving it from Mr. Bristow I thought it to be *Aëdon galactodes*, but on its being submitted to Dr. R. B. Sharpe and Mr. W. R. Ogilvie-Grant, they identified it as the Grey-backed Warbler, *Aëdon familiaris*, a bird which has not previously been obtained in this country.

It differs from *A. galactodes* by the greyish-brown rather than rufous-brown coloration of the upper parts, and by the central pair of tail-feathers being brown instead of chestnut.



Male Grey-backed Warbler (*Aëdon familiaris*), shot at Hythe, Kent, on July 15th, 1907.

In range the Grey-backed Warbler replaces the Rufous Warbler as a breeding species in Asia Minor, Turkey and Greece, and further east. It has, however, wandered to Heligoland, Italy, and the south of France on a few occasions.

Aëdon galactodes, it may be noted, has only occurred three times in England and once in Ireland, all in the autumn.

J. B. NICHOLS.



NOTES

THE FLANGES AND MOUTH-SPOTS OF NESTLINGS.

I HAVE read the article on "Nestlings" with interest, and if I may be allowed to express the wish, it is that circumstances had permitted Mr. Pycraft to deal with the subject more fully.

It is probable that the lips or flanges have another use beside that of serving to outline the mouth by their generally paler colour. When the nestling opens its mouth widely, the flanges straighten out like the sides of a leather purse, and, becoming stretched, fill up much of the lateral gaps between the separated mandibles, and as these apparently bend over into a nearly horizontal position, the mouth is converted into a funnel-shaped cavity, with an everted and almost level rim. To drop food into a chick's mouth is not an easy matter, as the scarcely-developed muscles are unable to support the head steadily for long, and it usually jerks to and fro in a provoking way. Thus the flanges may prevent the escape of food sideways from the mouth, and according to my limited experience, they attain the greatest development in the nestlings of those species which nest commonly in dark situations, and which may be supposed to have difficulty in feeding their young.

With regard to the spots in the mouths of certain chicks, there can be little doubt that the spots are a distinct aid to the economy of those nestlings which possess them. During the past summer I tested a number of young Skylarks, less than six days old, with a view to finding out which part of the mouth was most sensitive to stimulation. The inside of the mouth is yellow. A black spot is present on the tip of the tongue, and another on the inside of the tip of the lower mandible. I used small worms and slugs, similar to those with which the parents fed the young, and placed them on different parts of the gaping mouths.

The experiments were haphazard, if you like, as I hesitated from a touch of sentiment, perhaps, to deprive the nestlings of their mother's warmth for too long, knowing well their liability to lung trouble, and further experiment may modify the results set down below. The flanges were found to excite no response. The chicks continued to gape, as if nothing had been supplied to them, and when they, wearied by their efforts, sank down into the nest and closed their mouths, the

food remained between the flanges uneaten. The anterior portion of the palate was also irresponsive when the mouth was open. On the other hand, when the food was placed on the tongue and especially on its posterior part, deglutition followed instantly.

It is well-known that children, when they put pennies or other articles in their mouths, are extremely prone to swallow them. They "slip over without thinking." And the attempt to keep a sweetmeat on the back of the tongue until it dissolves away excites an almost irresistible desire to swallow. In man, as a rule, swallowing is done consciously or sub-consciously. The two examples given are cases of excitement of the reflex act of deglutition, in the one unconsciously, in the other consciously, it is true, but against the will.

It is a far cry from the children of men to the nestlings of birds, but there can be little risk in saying that the act of swallowing in chicks, say less than six days old, is an unconscious one, and that it owes its initiation to a stimulus acting on a place which has been set apart for the purpose by use and wont. That place seems to be the tongue, and especially the posterior part of it.

Hence the spots on the tongue, when present, may direct the parents to drop the food where the act of swallowing will be excited most rapidly. That spots should occur on the palate does not seem to invalidate this view, because in the narrow throat of the nestling food dropped on the rear portion of the palate can hardly fail to come into contact with the tongue and at once excite the act of swallowing.

J. M. DEWAR.

THE FOOD OF THE BLACK-HEADED GULL.

IN your November issue there is a short notice of our report to the Cumberland County Council on the "Food of the Black-headed Gull." As the writer has made one or two mistakes therein we would be glad if you will correct the same in your next issue.

1. We do not in any part of the report use such an indefinite term as "shellfish," but give the various classes of animals taken by the bird as food under their proper heads in Table D of the report as either fishes, mollusca, or crustacea.

2. Mr. Pycraft also comments on our recommendation to the County Council (not our "decision," as he is pleased to call it). Our reason for making this recommendation is clearly stated, viz., abnormal increase; and surely Mr. Pycraft knows that if one species increases abnormally it is at the expense of other, and perhaps better, species, the food supply

being naturally limited ; and to protect a bird which has already increased to such an extent would do no good, but only tend to disturb the balance of nature.

3. Mr. Pycraft further says that the bird was "honourably acquitted." Can this be said when there is only a difference of 7 per cent. between the food harmful and the food beneficial in effect taken, and that without four birds, sent to us from a reliable source, containing fry of *Salmonidæ*, and mentioned in the report ?

We are glad to have Mr. Pycraft's review of our report, but we must suggest that he has not read it carefully.

D. LOSH THORPE, M.B.O.U.

LINNÆUS E. HOPE.

[The authors of this report are mistaken in their surmise that our review was written hastily, and before digesting all the facts this report claims to have established. But we will reply to the points raised in the above letter seriatim.

1. We did not attribute the use of the word "shellfish" to the authors, but we were certainly wrong in concluding that crustacea and mollusca were included under "the common term 'fish.'"

2. The word "decision" seems to us perfectly justified. In fairness to the authors we assumed that they had come to some decision before they made their "recommendation."

3. There can be no two opinions about the unwisdom of their "recommendation." The authors' attempted justification therefor—abnormal increase—is quite unsupported by facts, since they have failed, absolutely, to show that the "abnormal" increase has yet exceeded the food supply. Their further assumption that on a continued increase of this species there is a "probability"—or even *possibility*, which is by no means the same thing—of its becoming more addicted to the taking of grain, is quite unsound. There are a dozen "possibilities" in such an event.

4. The authors' objection to the phrase "honourably acquitted" is not justified, as they suppose, by the figures they have quoted, for these are not altogether reliable.

They should have given us the *percentage* of animal and vegetable food, injurious, or beneficial to man's interests, as the case may be, found in *each* stomach. On the system they have adopted the idiosyncrasies in the choice of food of particular individuals have been put to the credit, or discredit, of all the members of the colony. And, apart from this, it would appear that the authors have not had sufficient experience to enable them to determine in every case which species of insects are to be regarded as pests, or which may be

considered neutral or beneficial. Thus, in this report, all the "Ground-beetles" (*Carabidæ*) are regarded as beneficial to man's interests, so that Gulls, in so far as they feed on these beetles, are to be considered as harmful to man. As a matter of fact, several species of *Carabidæ* are to be reckoned among the pests of the farmer and gardener since they make serious raids on strawberries, swedes, mangel-wurzels, and kohlrabi, for example. Of this the authors can obtain confirmation by consulting the "Reports" published by the Board of Agriculture, or the "Reports on Economic Zoology" published by the British Museum. In so far, then, as the Gulls devour these species they are *beneficial* and not *harmful* to man!

We do not wish to disparage the work of Messrs. Thorpe and Hope. Quite the contrary. They have undertaken, in the right spirit, a work which badly needs doing; and our only object in criticizing is that thereby the truth may be thrashed out, and that even better work may be done.

But the authors do not appear to realize that their "recommendation" is likely to have far-reaching consequences, for other public bodies will follow this "recommendation" as authoritative. Thus real harm may result from this report when nothing but good was intended.

We sincerely hope they will see their way to revise their work, and to bear in mind that a wider area than that ruled by the Cumberland County Council will be affected by their "recommendations."—EDS.]

THE SOARING OF SMALL BIRDS.

It is much to be regretted that the flight of birds, and more particularly their soaring, are so little studied by ornithologists. Mr. Lowe's letter in the last number of *BRITISH BIRDS* (p. 225), therefore, is welcome. But as to the point which he raises, my observations do not agree with his. I have seen Swifts after giving a few vigorous strokes glide onward with wings held rigidly expanded, then after another stroke or two glide onward again. But neither during their calmer flight in broad daylight, nor in their wild twilight evolutions before they go to roost, have I seen them obtaining support and momentum from the wind: and this is the essence of soaring. Last September I several times saw Wheatears hovering with wings expanded and motionless, Kestrel-fashion, where rocks gave the wind an upward slant, but in each case it lasted only for two or three seconds. And I have seen Bee-eaters trying to turn spirals, but their success was not great, for they had frequently to put in a stroke with their wings.

F. W. HEADLEY.

THE DOWN-STROKE OF THE WING.

THE fact that a bird moves its wing forward at the same time that it moves it downward is well-known. But the extent of the forward movement is, I think, hardly realised. On



FIG. 1.

first thoughts it may seem odd that a bird should be able to propel himself by such a movement as this. When the wing has to propel as well as to lift, the bird gives it an upward incline from the front of the back margin, and, being held in this position, it cannot but propel as well as support him. In these two photographs this point is

not brought out, since the pigeons are only raising themselves from the window-ledge on which they had been standing.

Figure 1 shows the down-stroke still in its full force. The primaries are bent upward, and the first primary is conspicuously more bent than its neighbours. This can only be due to its greater pliancy, and there is every reason to believe, though the photograph does not make this clear, that it takes place simultaneously and to an equal extent in both wings. It cannot, therefore, be of any assistance in steering. But it is clear that the straightening out of the feathers when the down-stroke slackens must be equivalent to a continuation of the stroke, and help to give it an easy and comfortable finish. The separation of the primaries probably prevents a



FIG. 2.

too sudden escape of the air

from below, such as might happen if the wing had an unindented edge. In Figure 2 the down-stroke is almost finished, and the feathers have lost their upward curve.

F. W. HEADLEY.

GREAT GREY SHRIKE AND EIDER DUCK IN KIRCUDBRIGHTSHIRE.

ON 17th November, 1907, I saw a Great Grey Shrike in the valley of the Palnure, N.B. Though I had a gun in my hand and the bird was close, I did not shoot it as many occurrences have been recorded in the county. I hoped that it might be fortunate enough to run the gauntlet of the British Islands, but I see one was caught in Yorkshire about 23rd November, which *might* have been the same.

On 18th November I saw a female Eider Duck in Kircudbright Bay. These have also been frequently noted in the Solway, but the bird is sufficiently rare to be worthy of record.

M. BEDFORD.

YELLOW-BREASTED OR WILLOW-BUNTING

(*Emberiza aureola* Pallas) IN NORFOLK.

AN immature female of the above species was shot by Patrick Cringle, a son of one of Lord Leicester's watchers, on the Cabbage Creek Marsh, near Wells, Norfolk, on 5th September, 1907. I saw the bird in the flesh the same day with Mr. Alec. J. Napier, of Holkham. The latter forwarded it for preservation to Mr. T. E. Gunn, the taxidermist, of Norwich, who identified it—and his identification was confirmed, I believe, at the meeting of the Norfolk and Norwich Naturalists' Society, on 28th October, 1907, by Mr. J. H. Gurney and Mr. Southwell. Mr. Napier kindly allowed me to show the bird at the November meeting of the British Ornithologists' Club, and previously to the meeting I took it to the Natural History Museum to show it to Dr. Bowdler Sharpe. He very kindly allowed me to compare it with the skins in the collection, and there is, I think, no doubt of the identification. In the present specimen the beak is darker than in any of the Museum specimens, and the bird is a very dingy specimen.

In the first number of BRITISH BIRDS, Howard Saunders, in referring to the first occurrence of this species in these islands, viz., an immature female shot at Cley, Norfolk, by Mr. E. C. Arnold, of Eastbourne College, on 21st September, 1905, writes: "As the bird had been recorded thrice in Heligoland, as well as many times in northern Italy and south-eastern France, its apparition is not remarkable."

F. G. PENROSE.

ON THE COLOUR OF THE SNOWY OWL.

MR. C. W. BEEBE, in the Eleventh Annual Report of the New York Zoological Society, contributes a most interesting article on the Owls of the Nearctic Region. In the course of his remarks he refers to a point with regard to the plumage of the Snowy Owl (*Nyctea scandiaca* (L.)), which appears to have escaped the notice of British ornithologists.

Remarking that "Old male birds are sometimes almost pure white in colour," he goes on to cite a statement made by Mr. Nelson of a bird shot in Alaska in which the plumage was suffused with "a rich and extremely beautiful shade of clear lemon-yellow, exactly as the rose-blush clothes the entire plumage of some Gulls in Spring. The morning after the bird was killed the colour was gone, the plumage being dead white."

So far as we can make out no such fleeting colour appears to have been noticed in any British or European examples of this species.

It is also a matter for debate as to whether the whiteness above referred to is really a sign of age or an individual variation.

SOOTY SHEARWATER IN KENT.

ON October 14th, 1907, a Sooty Shearwater (*Puffinus griseus* J. F. Gmelin) was shot along the shore of Dungeness Point, in Kent. It proved to be a male by dissection, and was examined by myself on October 21st, soon after it had been stuffed. Several birds of this species have occurred in Sussex, but so far as I am aware this is the first one recorded from Kent.

N. F. TICEHURST.

* * *

RICHARD'S PIPITS IN NORFOLK.—A specimen of Richard's Pipit (*Anthus richardi*) was netted on the North Denes at Yarmouth on 22nd October, 1907 (B. Dye, *Zool.*, 1907, p. 428). Another—a male—was shot on the "Norfolk coast" on 12th October, and a female near the same spot a few days later (C. Borrer, *Field*, 16, XI., 1907).

* * *

ABNORMAL BLACKBIRD'S EGGS LAID FOR SEVERAL YEARS IN THE SAME LOCALITY.—Mr. W. Binnie, of Aberdeen, records that in 1903 he found a Blackbird's nest with three pure blue eggs; on 19th April, 1905, near the same spot, another nest with two pure blue eggs and one of the ordinary type; these being taken, another nest was made close by, and on 30th April contained a similar clutch. Again the nest was robbed and another nest made, and a similar clutch of eggs laid by

10th May. On 9th April, 1906, there was a nest with two unspotted eggs and a similar one on the ground; and in 1907 a deserted nest near the same place contained four blue and unspotted, and one normal egg (*Ann. S.N.H.*, 1907, p. 246).

* * *

SWIFTS RETURNING TO DIFFERENT COLONIES AT DIFFERENT TIMES.—There are two old-established colonies of Swifts, three miles apart, in a neighbourhood in Devonshire. In 1907 the migrants returned to one colony “exactly one week before a single bird was seen at the other” (E. A. S. Elliot, *Trans. Devon. A. A. Science, etc.*, 1907, p. 79). This interesting observation is corroborated by some of the facts collected by the B.O.C. Migration Committee (*cf. Bull. B.O.C.*, XVII., p. 12), and suggests that migratory birds which breed in the same neighbourhood do not necessarily winter in the same place.

* * *

MELANISTIC VARIETY OF THE HONEY-BUZZARD IN DEVON.—In September, 1904, a melanistic variety of the Honey-Buzzard (*Pernis apivorus*) was obtained on Dartmoor (E. A. S. Elliot, *Trans. Devon. A. A. Science, etc.*, 1907, p. 78).

* * *

LITTLE BITTERN IN INVERNESS-SHIRE.—A Little Bittern (*Ardetta minuta*)—a rare visitor to Scotland—was picked up near Inverness on June 9th, 1907 (*cf. W. Milne, Ann. S.N.H.*, 1907, p. 248).

* * *

LAPWING BREEDING IN NOVEMBER.—An anonymous correspondent writes to the “Field,” 7th December, to record the fact that on 30th November he was shown, “in Devonshire, a Green Plover with chicks four or five days old, apparently uninjured.”

BOOKS OF THE MONTH.

- Birds of Britain*, by J. L. Bonhote, M.A., F.L.S., F.Z.S., M.B.O.U. 100 Coloured Plates. (A. & C. Black.) 20s. net.
- The Vertebrate Fauna of North Wales*, by H. E. Forrest. 28 Plates. (Witherby.) 17s. 6d. net.
- The Home-Life of Some Marsh-Birds*. Photographed and described by Emma L. Turner, F.L.S., and P. H. Bahr, B.A., M.B.O.U. 32 Plates. (Witherby.) Art linen, 2s. 6d. net, cloth boards, 3s. net.
- Adventures in Bird-Land*, by Oliver G. Pike. Illustrated. (R. T. S.) 6s. net.
- A Monograph of the Petrels (Order Tubinares)*, by F. Du Cane Godman. D.C.L., F.R.S. Part I. Plates 1—19. (Witherby.) £2 5s. per part.
- Gilbert White of Selborne*, by W. H. Mullens, M.A., LL.M. 7 Plates. (Witherby.) 2s. 6d. net.
- Birds of the Loch and Mountain*, by S. P. Gordon. Illustrated. (Cassell.) 7s. 6d. net.



REVIEWS

The Vertebrate Fauna of North Wales. By H. E. Forrest, LXXIV. 538 pp. Twenty-eight Plates and Map. Witherby & Co. 17s. 6d. net. (*Birds*, pp. 67—418.)

THIS very useful work marks a great advance in our knowledge of the ornithology of North Wales. In these days when we are overwhelmed with popular compilations of the tritest nature on British birds, it is a relief to turn to an honest attempt to work out the fauna of one of our neglected districts. Until the last seven years or so, the amount of original work done west of the Marches was lamentably small, in spite of the fact that it is ornithologically one of the most interesting parts of the British Isles; but latterly Mr. Forrest has had the assistance of several energetic workers, amongst whom we may specially mention Messrs. Aplin, Cummings, Coward, and Oldham, and with their help the bird-life of Anglesey and Carnarvon, hitherto almost unknown, has been thoroughly investigated. Montgomery, too, has remained *terra incognita* until the publication of the present work, and the convenience of having all these records brought together in a form available for reference can hardly be over estimated.

The book is planned somewhat on the lines of Ussher's well-known work on the "Birds of Ireland"; the general distribution being described briefly in a few words at the head of each article, and treated at greater length below; while details of occurrences are given under the head of the different counties. These latter would, however, have been more intelligible if geographical order had been more strictly adhered to, and several notes from Aberystwyth are included under the heading of "Merioneth."

In nomenclature the author is scarcely consistent, for he retains the Linnæan specific names when treating of the Mammals, but elects to follow Saunders' list when writing on the birds. Our insular races of Wagtail are therefore regarded as separate species. In view of recent literature on the subject, it is somewhat disappointing to find that no clue is given as to whether the "Marsh-Tits" of the eastern counties belong to the dull-headed Willow-Tit or the glossy-headed British race of the true Marsh-Tit.

The great value of the book, however, lies in the details which are given as to the distribution of many of the Passeres. So long has elapsed since the publication of the earlier volumes of the Fourth Edition of Yarrell that it is not surprising to

find it out of date, but a comparison of the articles on the Lesser Whitethroat, Nuthatch, Yellow Wagtail, Hawfinch, Cirl, and Corn-Bunting, with those in the Second Edition of Saunders' "Manual," will show that a considerable advance has been made since 1899. Interesting notes on the breeding of the White Wagtail and the Siskin are also given; but it is remarkable that there is still no definite record of the nesting of the Twite, although it is now known to have bred in north Devon. As a rule the author shows commendable caution in admitting stragglers to his list, but the evidence on which the Ortolan and Shore-Lark are included seems to us to be no stronger than that on which the Snowy Owl and the Little Owl are relegated to brackets.

As might be expected, the articles on the Chough, Raven, Buzzard, and Peregrine are of the most interesting nature. But while not disputing the fact that the Raven is occasionally guilty of the misdeeds attributed to it on page 179, the large number of lambs which come to an untimely end on the Welsh hillsides provide ample supplies of food in the early spring, and we do not believe that the Raven will attack living animals while plenty of "braxy" lamb and mutton is available. In the otherwise excellent account of the Buzzard we must take exception to the statement on page 222 that it "rears two broods in a year." This is obviously incorrect and at variance with what is known of the habits of this bird. The late nests which are occasionally met with are those of birds which have lost their first clutch.

A very remarkable instance of the breeding of the Wigeon in an undoubtedly wild state, which appears to be well authenticated, is recorded on page 283; and some interesting notes on the breeding of the Dunlin on the moors of Denbigh and Merioneth will be found on page 347. The creaking (rather than "clanking") noise made by the Mute Swan on the wing (p. 270) is produced mechanically by the movements of the pinions.

Misprints and errata are very few, but we notice that Willughby's name is mis-spelt (pp. xxvi., l., li., etc.). *Bombus lapponicus* (p. 128) is probably a slip of the pen for *B. lapidarius*. The Bibliography might be more complete: we do not notice any reference to Mr. O. V. Aplin's paper in the "Zoologist," 1905, p. 170, or to Professor Salter's articles in the "Zoologist" for 1896, p. 24; 1898, p. 198; and 1900, p. 76, and we look in vain for the name of H. Ecroyd Smith.

The work is fully illustrated with photographs of typical scenery, and contains a useful map. On the whole, we can recommend this as a valuable addition to our long list of local

faunas, and trust that before long some equally energetic and competent observer will undertake the same labour of love for South Wales.

F.C.R.J.

The Home-Life of Some Marsh-Birds. By Emma L. Turner and P. H. Bahr. Illustrated. Witherby & Co. 2s. 6d. net.

WITHIN the last few years a very large number of books have appeared illustrated with bird-photographs, and the charm of their novelty has begun to wear off, so that the reviewer has necessarily become more severely critical. It is with all the more pleasure, therefore, that we are able to testify to the excellence of the photographs in the present work. To one who has had some practical experience of the difficulties and disappointments of that most fascinating of pursuits—bird-photography—the success of Miss Turner and Mr. Bahr are objects of envy, and their very success goes to prove that they are also most competent field-naturalists.

The authors have, for the most part, entirely ignored the stereotyped descriptions of the birds and their nests, with which we are so often unnecessarily bored, but have narrated in a simple and entertaining manner the habits and home-life of the birds they were fortunate enough to observe at such close quarters. In this way they have brought out many interesting traits in their characters and modes of life that had previously been little recorded; and what is more, by their excellent photographs they have given their less fortunate brother ornithologists graphic proof of the facts they narrate. In this connection Plate XVI. may be instanced where the Red-throated Diver is shown returning to its nest in a semi-upright position. The assumption of this attitude by the Divers has been denied by many naturalists and also by anatomists, but here we have ocular proof that it is not only possible but also usual.

It is very gratifying also to hear of the increase of that most delightful bird, the Bearded Tit.

One criticism as to detail we would make, and that is from a pictorial point of view care should be taken to get the horizon lines, where these come into the photographs, level. It is sometimes impossible to do so with these difficult subjects on the plate itself, but the fault is easily remedied afterwards by judicious trimming.

N.F.T.

BRITISH BIRDS

EDITED BY H. F. WITHERBY, F.Z.S., M.B.O.U.
ASSISTED BY W. P. PYCRAFT, A.L.S., M.B.O.U.

CONTENTS OF NUMBER 9. FEBRUARY 1, 1908.

On Two Supposed Hybrids between Red Grouse and Ptarmigan, by W. R. Ogilvie-Grant	Page 269
Notes on the Habits and Distribution of the Girl Bunting in North Wales, by S. G. Cummings	275
On the More Important Additions to our Knowledge of British Birds since 1899, by H. F. Witherby and N. F. Ticehurst (Part VII.)— <i>continued from page 256</i>	280
An Incident in the Southward Migration of the Swallow, by Commander H. Lynes, R.N., M.B.O.U.	285
Notes:—Wood-Pigeon Diphtheria (C. B. Ticehurst). The Down-Stroke of the Wing (F. C. R. Jourdain). "Luminous Owls" (Eds.). Chiffchaffs in Shetland (John S. Tulloch). Great Tits Usurping Nest of Blue Tits (Grenville N. Temple). Richard's Pipit in co. Dublin. Continental Crossbill in Scotland (William Evans). Little Bunting in Kent (William Eagle Clarke). The Incubation Period in the Cuckoo (Collingwood Ingram). Pintail in Berkshire (Heatley Noble). Wood-Pigeon Swimming (A. Holte Macpherson). The Food of the Black-headed Gull (W. Steuart-Menzies). Notes on the Plumage of a Great Northern Diver and a White-billed Northern Diver (W. R. Ogilvie Grant), etc.	288
Letters:—Marking Birds (Claud B. Ticehurst). "The Vertebrate Fauna of North Wales" (H. E. Forrest). The Ornithology of Sussex (H. A. Bryden and John Walpole-Bond)	298
Review:—"Birds of Britain"	300

ON TWO SUPPOSED HYBRIDS BETWEEN RED GROUSE AND PTARMIGAN.

BY

W. R. OGILVIE-GRANT.

AT a meeting of the British Ornithologists' Club held on the 18th December, 1907,* I had the pleasure of exhibiting to the members present two mounted examples of Grouse which I believe to be hybrids between the Red Grouse (*Lagopus scoticus*) and the Ptarmigan (*L. mutus*). These specimens show in so marked a degree the characteristics

* Cf. Bull. B.O.C., XXI., p. 36 (1907).

of both species, that there seems no reason to doubt their origin. Such hybrids are evidently extremely rare among these ordinarily monogamous species, for during the last twenty-five years, while I have been connected with the Ornithological Department of the British Museum, no other examples which appeared to be genuine have been submitted for examination. It is true that, from time to time, Grouse have been brought to the Museum which were believed to be hybrids of this kind, but in every instance they seemed to be merely partial albino varieties of the Red Grouse. Mr. J. G. Millais is now of opinion that the bird figured and described by him (*cf. Game Birds and Shooting Sketches*, p. 70) as a supposed example of inter-breeding between these species, must also be regarded as a variety of the Red Grouse, and in this decision I entirely agree with him. This specimen was killed as it was flying with a covey of Grouse, and is preserved in the University Museum of Zoology, Cambridge. With the exception of the two Grouse now under consideration I am not aware that any other examples of this rare hybrid with any claims to authenticity have been recorded, though it has been stated, in a general way, in various works, that such occasionally occur. It has, therefore, been thought advisable to give figures and a short description of each of these extremely interesting birds.

Figure 1. This fine adult bird, evidently a male, was killed at Kinloch Rannoch, Perthshire, on the 9th September, 1907, by Mr. H. B. Debenham, of Thrifts Hall, Theydon Bois, Essex, and was recorded in the "Field" of 5th October, 1907, p. 631. Mr. Debenham, who was kind enough to lend me the bird for exhibition, has informed me that it was shot on high stony ground at an elevation of about 3000 feet above sea-level, where Ptarmigan were numerous, but Red Grouse seldom seen. Though the bird did not rise with Ptarmigan there were plenty of these birds close to it. The weight was $1\frac{1}{2}$ lb., equal to that of an average old cock Red Grouse.



FIG. 1.—Two Views of a Supposed Hybrid between Red Grouse and Ptarmigan, shot at Kinloch Rannoch, Perthshire, on September 9th, 1907, by H. B. Debenham, Esq.

It may be described as follows: Bill stout as in the Red Grouse. General appearance and style of coloration like that of a large Ptarmigan in autumn plumage, but the head, neck, chest, back, upper tail-coverts, and some of the flank-feathers are much like those of a Red Grouse changing from the autumn to the winter plumage. It must, however, be specially noted that some of the new winter feathers moulting in on the chest, back and upper tail-coverts are *white*, indicating a tendency to assume the winter plumage of the Ptarmigan. The breast and underparts are pure white, and the under tail-coverts black, widely tipped with white. The terminal half of the primary quills is mostly greyish-black, partially edged with white, and the remaining basal portion is white; the secondary quills are white on the outer web and almost entirely greyish-black on the inner web; the wing-coverts are mostly white, but many are partially black towards the base, and some of the lesser ones are black freckled with rufous, as in the Red Grouse. The wing measures eight inches.

It has been suggested (*cf. Field*, October 19th, 1907, p. 720) by Mr. W. Stewart-Menzies that this bird might be one of the Willow-Grouse or Ryper (*Lagopus lagopus*) which he imported from Norway and turned down in Banffshire last spring, but a glance at its dusky primary-quills is sufficient to show that one of the parent birds *must* have been a Red Grouse.

Figure 2, the second example, which is undoubtedly a bird of the year, and almost certainly a female, has also the stout bill of a Red Grouse, and resembles in general appearance the male described above.

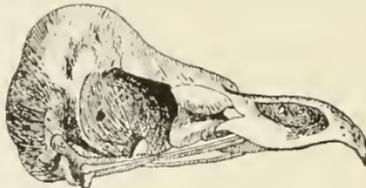
It differs, however, in having many of the greater wing-coverts partially, and the median wing-coverts mostly, mottled with black and rufous and tipped with white: while many of the grouse-like feathers of the chest, sides of the back, sides of the body and flanks, as well as the upper and under tail-coverts, are conspicuously tipped with white. The wing measures 7·8 inches.



FIG. 2.—Two Views of a Supposed Hybrid between Red Grouse and Ptarmigan, shot on Malundy, Monar Forest, Ross-shire, November, 1874, by W. J. O. Holmes, Esq.

It was killed on Malundy, 3293 ft., Monar Forest, Ross-shire, in November, 1874, by Mr. W. J. O. Holmes, of Strumpshaw Hall, Norwich, and was in company with two Ptarmigan, which have been mounted along with it in the same case. One of these, a male, is in autumn plumage, but with some white winter feathers on the throat, breast and upper tail-coverts; the other, a female, is in full winter dress, with only one or two autumn feathers on the scapulars. Mr. Holmes has informed me that out of eleven brace of Ptarmigan killed on the same day, all were in autumn-winter plumage with the exception of the almost perfectly white female mentioned above, which must have attained its winter plumage at an unusually early date.

I am greatly indebted to Mr. Holmes for his kindness in forwarding the case containing these birds, and thus affording me the opportunity of placing on record the occurrence of this remarkable specimen, which might otherwise have been lost sight of.



NOTES ON THE HABITS AND DISTRIBUTION OF
THE GIRL BUNTING IN NORTH WALES.

BY

S. G. CUMMINGS.

ALTHOUGH the Girl Bunting (*Emberiza cirrus*) is more or less familiar to most bird lovers, the following remarks may perhaps be of some interest, and induce ornithologists to make further search for this bird and to obtain supplementary information as to its *status* in North Wales.

The Girl Bunting is always very local, even in those counties where it is most numerous; in one valley several pairs may be observed, whilst in the next valley they are entirely absent. The reason for this has not yet been explained, but it is probably a question of food supply.

Of a much more retiring disposition than its near ally the Yellow Hammer, the Girl Bunting is undoubtedly often overlooked, unless the observer is well acquainted with the song and call notes.

My first introduction to this bird, as a boy, was in South Devon, where it was fairly common, since when I have from time to time renewed its acquaintance in North Wales, and always with fresh interest. I have also met with it in mid-Wales, near the coast, south of Aberystwyth, on the few occasions that I have visited that part.

In North Wales it was first identified by Mr. C. G. Beale in 1881, in the Ceiriog Valley, Denbighshire, as recorded by Mr. O. V. Aplin in his paper on the distribution of this species in Great Britain (*Zoologist*, 1892, p. 179). It still frequents this valley between Chirk and Glyn-Ceiriog where, however, I have found it more sparsely distributed of late years.

In Denbighshire I have found it also near Abergele, at Llanfair Talhairan, Llandulas, Nantglyn and Deunant-isaf near Llansannan. In Flintshire it occurs in some numbers all along the valley lying between Mold and Bodfari, also near Llanferres, and in the country east of Moel Famma, at Tremeirchion, and at the foot of Hope Mountain.

In Carnarvonshire Mr. O. V. Aplin heard two singing at Llanbedrog in Lley, in 1899. This is, I believe, the most westerly record for North Wales. Since then I have found it near the Little Orme, at Llangwstenin, Penrhyn, Pabo, near Colwyn Bay, and also up the Conway Valley.

I have hitherto failed to find this species in Anglesey, though I have on many occasions been on the look-out for it.

In Merionethshire and Montgomeryshire it appears to be, so far, very scarce, a very curious fact if this be so; but personally I know little of these counties.

In some parts the Cirl Bunting might be described as common; for instance, at Llandulas in Denbighshire, I have heard as many as nine singing in a comparatively small area. It is highly probable that the bird occurs in many other localities, other than herein named, throughout North Wales; how far it is resident in the Principality is at present a matter for conjecture. As my personal observations have, so far, been chiefly confined to the breeding season, I have had few opportunities of forming any opinion as to its winter distribution. There seems no doubt, however, that the bird is partly migratory, especially in severe weather. A few winters ago I saw a small flock within the Cheshire boundary, a county where it is as yet unknown as a resident (*Zoologist*, 1906, p. 71). The increase of this species is doubtless due to a succession of mild winters, for of all the Buntings it is the least capable of withstanding extreme cold.

The Cirl Bunting in its choice of locality shows a decided preference for limestone districts, and seems to avoid heavy, damp, or clay soil. Rough hill sides,

sheltered valleys fairly wooded, and pasture lands intersected by old hedgerows, are its favourite haunts in summer. It does not affect high ground, probably seven hundred feet above sea level is about the limit.

In wet or windy weather the bird is rarely noticed, even in places where it is known to occur. On hot sunny days in July you may hear the song to best advantage, when other birds are mostly silent. The monotonous song has been described by some writers as resembling that of the Yellow Hammer, but to me it is much more like the loud trilling of the Lesser Whitethroat, as stated by Montagu, or even like that of the Greenfinch. It is, perhaps, most frequently iterated from the upper branches of high trees, but it will often sing on low walls, on hedges and bushes, on buildings, and even on the ground. The usual call-note, Seebohm affirms, is like that of the Yellow Hammer, but the Robin's note of distress—only somewhat thinner in tone—is, I think, much more nearly the sound. This call-note of the Cirle Bunting is as unmistakable as the song when once learnt, and often betrays the presence of the bird when it would otherwise be overlooked. When singing the head is thrown well back, almost vertically, and the mandibles widely extended; the song is sometimes varied in key by the same bird.

Though in a sense a shy bird the Cirle Bunting does not necessarily shun the habitations of man, if the locality be suitable. The plumage, like that of the Yellow Hammer, is subject to considerable variation, some males being more brightly coloured than others, according to age; this obtains in the female also, but in a less degree. It is often sociable in the breeding season, as well as at other times, for it is not unusual to hear two or more birds singing at once at no great distance from one another. Its food probably does not differ much from that of most *Emberizidæ*; it is fond of grass seeds; I have watched one busily picking off seeds from standing grass in summer. On warm days the bird has a habit of keeping the mandibles open when on the ground in search for food.

In most ornithological works the nest is described as being placed in similar positions to those chosen by its congener the Yellow Hammer; this statement is rather misleading, the latter, in nine cases out of ten, builds its nest actually touching the ground, whether it be placed in herbage on a flat surface or in a bank or hedge; the Cirl Bunting, on the contrary, invariably builds some distance off the ground, the height varying from a few inches to several feet. When the nest is in a hedge bordering a road or lane—a favourite site—it is generally built on the field side, and from this side the nest is approached by the birds; the Yellow Hammer, in like case, will almost always build on the side next the road or lane.

The nesting sites are very similar to those often selected by the Hedge-Sparrow; I have found nests in a fork of blackthorn and ivy in a hedge, in hazel and thorn at the top of a hedge, in blackthorn and brambles in a hedge, in a small gorse bush in a hedge, and in a low bramble clump on rough ground.

In the formation of its nest this bird generally uses a greater variety of material than does the Yellow Hammer; dried grass, bents, fibrous roots, moss, dead leaves, and twigs all form part in the construction. The lining is usually horse-hair, of any colour, and fine roots; a nest I examined last summer was lined with pieces of short matted cow-hair, and one or two feathers in addition to horse-hair. Nests are rarely built with a “platform,” such as a Yellow Hammer often constructs at the entrance to the nest, and they are, as a rule, smaller, neater, and better put together. In North Wales, three eggs are, I think, as frequent as four or five, at any rate in second clutches, for the Cirl Bunting is usually double brooded.

This species is, apparently, quite as erratic as the Yellow Hammer in its nesting operations; I have seen young, not long flown, early in June, fledged young in the nest in the middle of July, much incubated eggs the first week in July, and fresh eggs on the 18th July. The eggs are easily distinguished from those of the Yellow Hammer

by the greenish or bluish-white ground tint—never found in eggs of the latter—and the very dark chocolate-brown hair-streaks and blotches; they are, besides, often more rotund in shape. The Cirl Bunting is not a very close sitter, even when incubation is far advanced; it is a difficult matter at times to catch a glimpse of the sitting bird before she slips off. I have not known the male to take part in incubation, as is the case with the Reed-Bunting and Yellow Hammer, but he will occasionally feed the female as she sits on the nest. The young in nestling plumage closely resemble those of the Yellow Hammer, but are more rufous on the back, more striped on the head, breast and back, and show less yellow on the underparts. The parent birds—especially the male—evince great anxiety when the nest is approached; the note of alarm is then like that of the Hedge-Sparrow, and the bird has, besides, a continuous running note, impossible to describe on paper. This Bunting is stated to be antagonistic to the Yellow Hammer, but this is not always so, for I have found nests of both species in close proximity.

For particulars of a few further records I must refer my readers to Mr. H. E. Forrest's recently published work on "The Vertebrate Fauna of North Wales."

Any additional information as to the occurrence of this bird in other districts of North Wales would be very interesting.

ON THE MORE IMPORTANT ADDITIONS TO OUR
KNOWLEDGE OF BRITISH BIRDS SINCE 1899.

BY

H. F. WITHERBY AND N. F. TICEHURST.

PART VII.

(Continued from page 256.)

SWIFT *Cypselus apus* (L.). S. page 261.

SCILLY.—An occasional spring migrant ; but has never been known to nest (J. Clark and F. R. Rodd, *Zool.*, 1906, p. 297).

Number of eggs.—Rev. F. C. R. Jourdain gives good evidence (*t.c.*, 1901, p. 286) that three eggs form a normal clutch, and Rev. Allan Ellison states (*t.c.*, p. 384) that an examination of some dozens of nests lead him to the conclusion that three eggs is the usual number, perhaps more usual than two.

Incubation period.—Reckoned at eighteen days at least (J. Steele-Elliott, *t.c.*, p. 473).

ALPINE SWIFT *Cypselus melba* (L.). S. page 263.

KENT.—A bird was shot at Bromstone, St. Peters, Thanet, on October 21st, 1902 (H. S. D. Byron, *Field*, 1902, p. 761).

YORKSHIRE.—Seven are recorded in all for Yorkshire, several apparently for the first time (*B. Yorks.*, Vol. I, p. 265).

WRYNECK *Iynx torquilla* L. S. page 271.

SHETLAND.—*Unst.*—A male captured alive, September 2nd, 1903 (*Ann. S.N.H.*, 1904, p. 210). *Fair Isle.*—One observed September 3rd, 1906 (*t.c.*, 1907, p. 78).

SCILLY.—A rare casual visitor ; only four are recorded ; the last in April, 1904 (J. Clark and F. R. Rodd, *Zool.*, 1906, p. 297).

ISLE OF MAN.—One at Abbey Lands, Ouchan, in 1876 (*B. Isle of Man*, p. 114).

GREAT SPOTTED WOODPECKER *Dendrocopus major* (L.). S. page 275.

SCOTLAND.—The appearance of this bird as a breeding species during the last few years in districts where it had not previously been recorded, especially in the south-east, is interesting when taken in conjunction with its apparently uneven distribution in Scotland.

Kircudbright and Dumfries.—Heard from February-April (? 1906) (R. Service, *Ann. S.N.H.*, 1907, p. 112). *Roxburgh-*

Erratum.—Under Nutcracker (*supra* p. 254), Ilkley was put under the heading of Cheshire instead of Yorkshire.

shire.—A young bird caught August 22nd, 1903 (H. D. Simpson, *t.c.*, 1903, p. 245). *Selkirkshire*.—Breeding in June, 1901 (C. Campbell, *t.c.*, 1901, p. 235). *Berwickshire*.—Bred at Duns Castle, 1900 (*t.c.*, 1901, p. 136). *East Lothian*.—Apparently breeding, 1901 (A. Buchan-Hepburn, *t.c.*, 1901, p. 181); breeding in 1902 and 1903 (H. N. Bonar, *t.c.*, 1903, pp. 49 and 245). *Midlothian*.—Young bird captured June 24th near Penicuik (W. Evans and R. Godfrey, *t.c.*, 1901, p. 235), and said to breed annually in Wells and Minto woods (*l.c.*, *c.f.* also 1902, p. 130). *Linlithgow*.—Seen at Dalmeny, June 19th, 1901 (*t.c.*, 1902, p. 130). *Stirlingshire*.—“Two pairs observed in one locality” (J. A. Harvie-Brown, *t.c.*, 1907, p. 182). *Perthshire*.—Bird seen in spring, 1907, near Dupplin (*id.*, *l.c.*). Nesting at Crieff and Drumtochty, May, 1907 (M. Bedford, *t.c.*, 1907, p. 247), and near Callander, June, 1907 (J. B. Baillie-Hamilton, *l.c.*). *Kincardine*.—One at Auchinblae, June 16th, 1904 (*t.c.*, 1905, p. 209). *Aberdeen*.—A pair nesting, 1903 (*t.c.*, 1904, p. 210). *Argyllshire*.—One shot at Taynult, January 17th, 1902 (C. H. Bisshopp, *t.c.*, 1902, p. 119); apparent breeding in Loch Awe district, 1906 and 1907 (C. H. Alston, *t.c.*, 1907, p. 182). *Outer Hebrides*.—A bird of this species was shot in the “autumn” of 1903 on Lewis (D. Mackenzie, *t.c.*, 1904, p. 188).

A considerable immigration chiefly of young birds occurred along the whole of the eastern side of Scotland in October and November, 1898, and spread apparently in small numbers to Ross-shire and Kircudbright (*Ann. S.N.H.*, 1899, pp. 47, 48, 60, 110).

WALES.—Fairly common in wooded parts of Carnarvon, Denbigh, Flint, Merioneth, and Montgomery, but not known in Anglesey (H. E. Forrest, *Vert. Fauna N. Wales*, p. 196).

LESSER SPOTTED WOODPECKER *Dendrocopus minor* (L.). S. page 277.

WALES.—Not uncommon in eastern half of North Wales, and some evidence that it is gradually spreading westwards (H. E. Forrest, *Vert. Fauna N. Wales*, p. 197).

ROLLER *Coracias garrulus* L. S. page 281.

HAMPSHIRE.—One seen near Ringwood in the summer of 1904 (G. B. Corbin, *Zool.*, 1904, p. 458).

SUSSEX.—An adult male shot at Ninfield, June 2nd, 1901 (T. Parkin, *t.c.*, 1901, p. 316).

SUFFOLK.—One shot at Rushford, September 9th, 1902 (E. Bidwell, *Bull. B.O.C.*, XIII., p. 39).

NORFOLK.—One picked up near Yelverton, May 28th.

1898, "the twentieth for the county" (J. H. Gurney, *Zool.*, 1899, p. 120); one brought to Norwich, September 2nd, 1901 (*id.*, *t.c.*, 1902, p. 92); one seen near Thetford, September 9th, 1902 (*id.*, *t.c.*, 1903, p. 133); a female shot at Gayton, near Lynn, October 22nd, 1903 (*id.*, *t.c.*, 1904, p. 214).

LINCOLNSHIRE.—One seen near Louth, August 29th and September 26th, 1901 (G. H. C. Haigh, *t.c.*, 1902, p. 127).

YORKSHIRE.—Several unrecorded examples are mentioned as having occurred before 1899, and one on September 21st, 1901, from Acklam-in-Cleveland (*B. Yorks.*, Vol. I, p. 281).

SCOTLAND.—One shot at Ballinluig (Tay) on October 13th, 1903 (*Ann. S.N.H.*, 1904, p. 210); one seen May 28th, 1906, at Balnacoil, in Sutherland (F. Gunnis, *t.c.*, 1906, p. 185); one shot at Tynninghame, Prestonkirk, September, 1897 (*Field*, 1901, p. 601); a female shot near Aberdour, Aberdeen, September 9th, 1905 (G. Sim, *Zool.*, 1905, p. 466).

BEE-EATER *Merops apiaster* L. S. page 283.

CORNWALL.—An immature bird was obtained at Marazion, on October 3rd, 1906 (J. Clark, *Zool.*, 1907, p. 283).

SCILLY.—Two or three appeared at Holy Vale, St. Mary's, in October, 1901, and an immature male was shot (J. Clark and F. R. Rodd, *t.c.*, 1906, p. 297). An immature male was shot by Captain A. Dorrien Smith, at Tresco, in September, 1906 (W. R. Ogilvie-Grant, *t.c.*, 1906, p. 470).

SUSSEX.—An adult male was shot at Dallington, May 31st, 1905. (N.F.T.)

YORKSHIRE.—Three were seen at Bentham and one shot in September, 1905. They were feeding on honey-bees (H. W. Robinson, *Zool.*, 1905, p. 389).

SHETLAND.—One was found dead at Symbister, in June, 1899 (*Ann. S.N.H.*, 1900, p. 48).

CHANNEL ISLANDS.—*Jersey*.—Two specimens have been obtained, the last during the summer of 1892 (H. Mackay, *Zool.*, 1904, p. 342).

HOOPOE *Upupa epops* L. S. page 285.

The Hoopoe is of annual occurrence in the spring in the south of the British Isles, so that only those records which seem of most importance are given below.

CORNWALL.—A pair nested between two stones in an old hedge-bank near St. Columb in the spring of 1901. Four young were reared from a clutch of five eggs. "When the young birds emerged from the egg the beaks were not at all conspicuous, though their gape was enormous. The crest-quills were decidedly in evidence . . . on the fourth day" (J. Clark, *Zool.*, 1907, p. 284).

SCILLY.—A regular spring bird of passage, singly and in small parties. In April, 1903, five were seen together on Castle Down, Tresco. Has not been observed in autumn (J. Clark and F. R. Rodd, *t.c.*, 1906, p. 298).

HANTS.—Dr. Gunther stated that he had distinct information that a pair reared their young in 1897 and 1898 in the New Forest. Rev. G. M. Hewett stated that there were nests in the county in 1900 and 1902, and that in the latter year he saw the young ones in the nest (*B. Hants.*, pp. 117 and 118).

LINCOLNSHIRE.—A pair was seen on December 17th, 1906, in Cadney (D. Woodruffe-Peacock, *Nat.*, 1907, p. 61).

CHESHIRE.—An immature bird was shot near Sale on September 21st, 1904 (C. Oldham, *Zool.*, 1904, p. 429); a male was taken near Chester on August 29th, 1906 (A. Newstead, *t.c.*, 1906, p. 393).

NORTH WALES.—Of rare and uncertain occurrence. Three occurred about April 22nd, 1901, at Rhosneigr, Dolgelley and Mold respectively (*Vert. Fauna N. Wales*, p. 203).

CUCKOO *Cuculus canorus* L. S. page 287.*

Breeding habits.—A circumstantial account of an old Cuckoo ejecting newly-hatched Wagtails immediately before the hatching of a young Cuckoo in the nest (H. H. Godwin-Austen, *Zool.*, 1899, p. 135). An egg in a Song Thrush's nest weighing 62.5 grains (R. H. Read, *t.c.*, 1900, p. 520). A Cuckoo watched immediately before placing its egg in a nest was believed to be carrying it in the throat (A. H. Meiklejohn, *t.c.*, 1900, p. 262). In an interesting article by the Rev. E. A. Woodruffe-Peacock the following facts may be noted:—A Cuckoo observed to lay her egg on the top of a bank and carry it in the bill to a Wagtail's nest. Incubation lasted fourteen days, and the young Cuckoo hatched first. On the fourth day it began to thrust its foster-brothers from the nest, and by the eighth it was the only occupant. It fledged in three weeks. The various notes of the Cuckoo are described. Evidence is given of the old bird turning out of the nest the eggs of the fosterer (*Nat.*, 1900, pp. 99-108). A record of one taking an egg from a Titlark's nest and replacing it with one of its own (*B. Yorks.*, Vol. I., p. 289). In a "Diary of Observations on a Young Cuckoo" Mr. J. H. Gurney brings out the following facts:—Egg in a Hedge-Sparrow's nest

* We think it would prove useful to publish a list, brought up to date, of those birds in the nests of which the Cuckoo's egg has been found. We shall be glad of any information additional to that to be found in Mr. E. Bidwell's list (*Bull. B.O.C.*, Vol. V., p. xxxii.), or Mr. W. Wells Bladen's list (*North Staffs. Nat. Field Club Trans.*, Vol. XXX., p. 30).

apparently twelve days in hatching, one Hedge-Sparrow hatching two days before, and two others about the same time as the Cuckoo. The mouth was pale yellow, without spots. When it was thirty-two hours old the young Hedge-Sparrows were found dead outside the nest. When two and a half days old it ejected a young Wren put into the nest, but it ceased to eject when about three days ten hours old. At seventy-seven hours the bastard wing had largely developed. At twenty days it fledged (*Zool.*, 1905, pp. 164-169). In a diary by Mr. F. W. Headley, the following points may be noted:—May 31st, young Cuckoo and three Hedge-Sparrows in nest, the latter much larger than their foster-brother, suggesting that the Cuckoo had been hatched later. June 3rd, Cuckoo still blind, but Hedge-Sparrows with eyes open. June 5th, Cuckoo alone in nest. In colour it was at first bright pink, with no down. Gradually the skin became almost black (*Knowledge*, 1897, p. 256). Record of three eggs in the same nest (J. G. Tuck, *Zool.*, 1906, p. 276). Three eggs found in nests of the Hawfinch in the same neighbourhood (J. Palmer, *Zool.*, 1902, p. 279). A record of an old Cuckoo feeding a fledged young one (*B. Yorks.*, Vol. I., p. 290). A Cuckoo living in captivity for over two years (*Trans. Edin. Field N. Soc.*, Vol. III., Part 7).

For an enquiry into the dimensions of the Cuckoo's egg and the relation of the variations to the size of the eggs of the foster parent with notes on coloration, etc., cf. O. Latter, "Biometrika" I. Part II., pp. 164-176. Also for other information see "Our Common Cuckoo and other Cuckoos and Parasitical Birds," by R. H. Japp (1899).

AMERICAN YELLOW-BILLED CUCKOO *Coccyzus americanus* L. S. page 290.

The following occurrences of this species, additional to those mentioned by Saunders, who considered the bird as an "assisted" migrant, have been recorded:—*Ventnor* (*Isle of Wight*).—One picked up dead, October, 1896 (*B. Hants*, p. 122). *Menai Straits* (*Wales*).—One picked up dead on November 10th, 1899 (G. Dickinson, *Ibis*, 1900, p. 219). *Shepton Mallet* (*Somerset*).—One shot October 6th, 1901 (R. H. Read, *Bull. B.O.C.*, XII., p. 26). *Ringwood* (*Hants*).—One shot October 30th, 1901. It showed no sign of captivity, and had been feeding upon the grubs of some species of saw-fly (G. B. Corbin, *Zool.*, 1901, p. 474).

LITTLE OWL.—We shall be glad of any information relative to the spread of the Little Owl from the centres of its introduction.

(To be continued.)

AN INCIDENT IN THE SOUTHWARD MIGRATION OF THE SWALLOW.

BY

COMMANDER H. LYNES, R.N., M.B.O.U.

ON the 1st of November, 1907, I was fortunate enough to witness an incident in the southward migration of some of our European Chimney-Swallows (*Hirundo rustica*), which appears to me to be worth recording, if only to add something to the meagre information we possess about many of our British Birds during their winter peregrinations.

It happened near Mombasa (British East Africa) among the undulating hills that overlook the sea at a distance of about seven miles.

I was making acquaintance, to my great delight, with the Touracos, Hornbills, Sunbirds and other Ethiopian birds quite new to me, when about noon there flitted by two or three birds that looked very much like our English Swallow; and about 1.30 p.m. I became aware of an intermittent passage to the south-south-westward of small parties of the same species—five or six at a time.

They were flying, as in the Mediterranean I have so often seen them on migration, quite low, never more than twenty feet from the ground, and often just skimming over the tops of the long grass and bushes, but always pressing onwards in a steady business-like way, at the rate of about twenty-five miles an hour. Still, beyond just noting the fact with the time and bearing in my pocket-book, I did not pay any particular attention to these Swallows, engrossed as I was with the African birds (*Hirundines* among them), until at 2.30 p.m. I came upon a party of some fifty birds which had stopped travelling and were circling low over a patch of grass catching flies.

There were fresh arrivals every moment, while others skimmed away to the southward as if to look for another "fly-patch," and I rather broke the party up by several shots with my little collecting gun in order to secure a specimen for complete identification.

Up to 2.30 p.m. it had been a perfectly fine day, with just breeze enough to move the fleecy white clouds across the sun, but now a change came on the scene—dark clouds quickly gathered over the sea, the wind rose and hurried them to the north-westward, obscuring the sun, and there was every indication of a rapidly approaching rain-storm, such as we had experienced during the last few days, and indeed rain could already be seen falling over the sea. As a matter of fact, beyond a few drops of rain and hurried gusts of wind over the hillsides, nothing happened in our hills, and in little more than an hour's time the wind had dropped, the clouds had dissolved as rapidly as they had made their appearance, and the sun shone once more to herald a perfect evening.

The effect of this slight alteration of meteorological conditions upon the migration of the Swallows was wonderful. They obviously would not face the (probable) storm, and stopped. A banking up of the migratory stream resulted, fresh birds arriving continually from the north-north-east to swell the multitude, until the air was simply alive with Swallows wheeling around from the ground level to about 1000 feet high, evidently catching flies and making the most of their time. There must have been thousands within my field of vision.

It was a fine sight and a very marked phenomenon. The dispersal of the multitude was equally well marked; but I was sorry not to have observed it more closely, as I was engaged in chasing some Irrisors (the first I had seen). When I started on that chase, which only lasted about a quarter of an hour, the Swallows were as thick as ever, and when it was over at 4 p.m., I looked again for the Swallows. Where were they? They had melted away, leaving hardly a single bird in view, and in another

five minutes not one European Swallow could be seen. They had evidently continued their passage directly the threatening storm cleared.

The course of the Swallows was the trend of the coast-line to the southward, and I think the fact that they were just following down the coast-line (not preparing to cross water), and the time of day, puts out of court the possible suggestion that this gathering was the *preparation*—for the migratory flight by a large number of Swallows in company.

It has always been my experience that there is nothing so dangerous to small birds on passage as to be caught in the rain. In the Mediterranean it is in thunder-shower weather in the spring and autumn that large numbers of exhausted birds appear on board ship, many with plumage so clogged with rain that they can only just reach the ship, indicating only too plainly the fate of their less fortunate companions which have not fallen in with a resting place.

My specimen proves to be an adult male in full plumage, with full chestnut forehead, cheeks and throat, dark pectoral band, and no sign of moult. It was very fat, and its stomach was full of flies, which it had no doubt caught just before I shot it.





NOTES

WOOD-PIGEON DIPHTHERIA.

It is very evident from the schedules and communications already sent in to the Editors of *BRITISH BIRDS* that the Wood-pigeon diphtheria has this season in many places been very prevalent and fatal, and although good help from the readers of *BRITISH BIRDS* has been forthcoming many more records are desirable to make the enquiry as complete as possible. The disease seems to be in some instances curiously local in distribution, and therefore it must be remembered that only by means of the observations of many can the distribution of the disease be worked out, and that *negative evidence* may be as useful as positive.

It is hoped that every reader of this magazine will send in schedules by the date mentioned therein, whether they have found pigeons suffering from disease or not. Those who have not schedules will be gladly supplied with them by the Editors on application.

Very few records have been sent in relating to the wing-feather disease: this may be possibly due to the time of the year.

The whole subject will be dealt with fully in a later number, and the result of the enquiry made known.

C. B. TICEHURST.

THE DOWN-STROKE OF THE WING.

IN Mr. Headley's note on p. 262 it is stated that the down-stroke of the wing of the bird shown in Fig. 1 (in which the first primary of one wing is shown with a distinct upward curve) is "still in full force." In Fig. 2 it is stated that "the down-stroke is almost finished, and the feathers have lost their upward curve." A glance at the two figures will show that the stroke in Fig. 1 is at a much lower point than in Figure 2. Possibly Fig. 2 represents an earlier stage of the down-stroke, or else the upward movement after the down-stroke is finished.

F. C. R. JOURDAIN.

[I had myself considered the question whether Fig. 2 did not represent the beginning of the up-stroke, but the fact that the flight feathers are still bent upward, though only very slightly, made me give up the idea. I have now

re-inspected the photograph and must own that I decided wrongly. It represents the earliest phase of the up-stroke, not the concluding one of the down-stroke. But I am unable to explain the slight upward curve of the feathers.—F. W. HEADLEY.]

“LUMINOUS OWLS.”

IN the past month we have been confronted at every turn by wonderful stories of a pair of luminous Owls, which apparently possess the power of emitting a light sufficiently brilliant to be mistaken for the light of a bicycle lamp!

Sir Digby Pigott first gave publicity to this apparition, and in later communications to the Press made comments thereon which betrayed an unfamiliarity with the nature of the facts he quoted. The most startling of these was his hypothesis that this light was not only normal, but that it is used by the Owls as a kind of policeman's dark-lantern, or as a means of fascinating their victims!

Briefly, there are only three possible explanations for the phenomenon he has so vividly described.

Firstly, and most probably, this luminosity may be due to phosphorescent bacteria derived from decaying wood. These bacteria could easily become rubbed into the feathers by their contact with the sides of some hollow tree in which the birds have probably been roosting. But as feathers would scarcely afford a nourishing medium for such bacteria, they would speedily lose their vitality. Secondly, it may be due to a species of feather-fungus new to science, for it is already known that feather-fungi exist; one species, for example, has been described from the feathers of a Goose. Thirdly, and this is less probable, the light may be due to a diseased condition of the oil gland, whereby the secretion of oil has become excessive, and its properties so changed as to become luminous on exposure to the air. In a word, the phenomenon is abnormal, and the light is almost certainly due to extraneous matter.

Although the Barn-Owl—the species, according to Sir Digby Pigott, responsible for this strange light—is so useful a bird, this “luminous” example should, in the interests of science, have been secured and submitted to some competent authority for examination.—Eds.

CHIFFCHAFFS IN SHETLAND.

WITH reference to the record of additions since 1899 with regard to the Chiffchaff (*Phylloscopus rufus*) in Shetland (*vide antea*, p. 82) I find on referring to my notes that on

May 24th, 1904, I saw a Chiffchaff at Lerwick, and again on May 27th one (a male) was killed by a cat. On October 19th, 1907, one came down through a chimney in the Manor House of Symlister, in the Island of Whalsay.

JOHN S. TULLOCH.

GREAT TITS USURPING NEST OF BLUE TITS.

FOR many years I have noticed the interesting habit of covering the eggs among the Tits, but, as you have already published so much information on the subject from correspondents I refrain from adding my own observations, since they would add little of importance to what has already been written.

One incident respecting Tits may, however, be of interest. During May, 1905, a pair of Blue Tits built a nest in a box in my garden and eggs were laid. On looking into the box on 12th June, after an absence from home, I found that the nest contained three young Great Tits and the same number of young Blue Tits, all of which were just able to fly. The Great Tit sat on and hatched the eggs, for I saw her several times in the nest, and I suppose that she, being the stronger bird, and having a fancy for the particular box, drove off the Blue Tit, which had built the nest and laid three eggs.

GRENVILLE N. TEMPLE.

RICHARD'S PIPIT IN CO. DUBLIN.

A NEW BIRD TO IRELAND.

A SPECIMEN of Richard's Pipit (*Anthus richardi*), a species which is not included by Messrs. Ussher and Warren in the "Birds of Ireland," was caught in a net on November 21st, 1907, at Lucan, co. Dublin. It was identified by Mr. W. J. Williams, who records it in the "Zoologist" (1908, p. 32), and was seen in the flesh by Mr. R. M. Barrington.

CONTINENTAL CROSSBILL IN SCOTLAND.

FROM Dr. Hartert's remarks on the Crossbills in his article "On Birds represented in the British Isles by Peculiar Forms" (*cf. supra*, p. 210), it might be inferred that he had not seen a British example of the typical North-European form. It may, therefore, be of interest to your readers to know that I possess a specimen (ad. ♀), shot near Dunbar on 23rd July, 1888, regarding which Dr. Hartert wrote me in May, 1905, as follows:—"The Crossbill is not *scotica*, but it agrees perfectly with Scandinavian and German examples of *Loxia curvirostra curvirostra*, and I take it, therefore, undoubtedly

to be a visitor from the Continent." It was one of a small flock.

That the flocks of Crossbills which from time to time make their appearance on the east coast of Scotland and in the Orkney and Shetland Isles are Scandinavian, or at any rate North European, in origin, has always seemed to me highly probable. The case appears to have much in common with that of the Greater Spotted Woodpecker.

WILLIAM EVANS.

LITTLE BUNTING IN KENT.

MR. OLIVER H. WILD, a student in the Edinburgh University, brought me for identification a fine adult male Little Bunting (*Emberiza pusilla*) which had been captured, along with some Linnets, at Dover on the 16th of November, 1907. The bird was alive when I saw it, and the bird-catcher was unaware of the rarity of his capture. I may say that quite a number of Little Buntings arrived at Fair Isle in the late autumn, but appear to have escaped notice elsewhere. They are partial to the company of Twites, and are difficult to detect.

WILLIAM EAGLE CLARKE.

THE INCUBATION PERIOD IN THE CUCKOO.

ORNITHOLOGISTS must often have observed that the young Cuckoo usually hatches out either together with, or before, the offspring of the species selected as foster-parents. It may be assumed, therefore, that the egg of the Cuckoo takes a shorter time to incubate than those of the species with which it is found, since it is rarely, if ever, placed in the nest of the dupe until after one or more eggs have been laid therein; frequently not until the clutch has been completed and brooding has begun.

I obtained evidence of this in the summer of 1900, when, towards the middle of May, I found a nest of a Hedge-sparrow (*Accentor modularis*) containing two eggs. The exact date of this discovery I unfortunately did not, at the time, record; but eleven or twelve days later—27th May—I again inspected the nest, and found in it a third egg, that of a cuckoo, which, on examination, proved to be chipped, and on the afternoon of the same day the young bird hatched out. For the sake of greater convenience in studying its development I removed it to the nest of another Hedge-sparrow under my bedroom window. Nevertheless, the Hedge-sparrow of the first nest continued to brood the remaining two eggs—her own; but, on the 29th she abandoned her task. Breaking these two eggs I found that

one was addled, but the other contained a well-developed chick, which, however, could not have hatched for several hours, the yolk-sac not yet having been withdrawn into the body.

It seems, then—so far as this case is concerned—that the egg of *Cuculus canorus* takes about two days less to incubate than that of *A. modularis*, which require, according to Mr. A. H. Evans (*Ibis*, 1891), twelve or thirteen days. That is to say, the egg of the Cuckoo hatches after from ten to eleven days' incubation—an abnormally short period. The advantage of this to a parasitic species is at once obvious, for should hatching take place a day or two after the appearance of the young of the host, it would be so seriously handicapped as to have but a small chance of surviving.

We may assume that other parasitic Cuckoos have developed a similarly brief incubation period. Mr. W. H. Hudson (*Hampshire Days*, p. 16) declares that this certainly is the case with the parasitic genus *Mololous* of South America.

As to the strange instinct that prompts the young Cuckoo to eject the contents of the nest in which it finds itself, I may remark, that so far as my experience goes, this is developed within fifty hours after birth, and ceases at about the sixth day.

COLLINGWOOD INGRAM.

[For some other observations on the incubation period in the Cuckoo, see page 283. We take the opportunity of throwing out the suggestion to egg-collectors that they should make careful observations on incubation periods and the development of the young rather than amassing series of egg-shells.—EDS.]

PINTAIL IN BERKSHIRE.

A FEMALE PINTAIL (*Dafila acuta*) was shot at Hennerton, Berkshire, on 23rd December, 1907, and sent to me in the flesh. This is the first authentic record I have for the county.

HEATLEY NOBLE.

WOOD-PIGEON SWIMMING.

ONE morning last May I saw a Wood-Pigeon walk into the Serpentine in Hyde Park and, after getting out of its depth, paddle itself along, gently flapping its wings, for a distance of about five yards. On my approach it rose from the surface without difficulty and flew to a tree on the island, which was about fifteen yards further off. Instances are on record of various land-birds resting on water when tired. In Gätke's

"Birds of Heligoland," for instance, cases are mentioned of the Thrush, Snow-Bunting, and Brambling being found at sea in this position, and attention is drawn to the subject in connection with its possible bearing upon migration. It is also well-known that at certain places, notably the Nile, Rock-Doves have been observed to settle on the water "like Gulls," in order to drink; and I have a note of a case recorded in "The Field" (26th June, 1875), of a Wood-Pigeon alighting on water with outspread wings for the same purpose. The bird which I saw, however, did not drink; but apparently merely took a swim for the enjoyment of it.

A. HOLTE MACPHERSON.

THE FOOD OF THE BLACK-HEADED GULL.

I WAS pleased to see your answers to the letter of Messrs. Thorpe and Hope, on the above subject. Their enquiry into the subject has been of far too short duration to prove, or disprove, that the Black-headed Gull is harmful to farmers, or fishermen. A report of this kind must prejudice many County Councils against any bird which the report may deal with, and in the case of two counties in Scotland it has had the effect of making the County Councils strike all Gulls off the list; in neither place have the Black-headed Gulls increased to any great extent. It surprised me very much to see a wholesale condemnation of the Black-headed Gull as a *Salmonidæ* feeder in Mr. Calderwood's book on the salmon. My own experience, in examining a large number of these Gulls, is that they have been almost totally insectivorous, and this has been mostly on a salmon river, with any quantity of fry at their disposal if they could have caught them. I fully believe that any fry found in the Black-headed Gulls examined by Messrs. Thorpe and Hope had been injured or dead ones floating on the water. As these Gulls are generally in flocks, and salmon fry in enormous numbers, it is strange that more Gulls were not found with fry in them. It ought to be an easy thing to prove on any salmon river where the Black-headed Gulls congregate.

W. STEUART-MENZIES.

[We have received a further long letter from Messrs. Thorpe and Hope, which for the most part consists of criticisms of our opinions, and these we cannot discuss.

That this report was premature, and that the authors are lacking in judicial capacity, is abundantly proved, however, by one passage in the letter now in question. Herein they assert that "This investigation was undertaken for the specific purpose

of determining the truth or otherwise of certain complaints made to the Council, more especially the eating of grain by the Gull during sowing time. The matters complained of were found to exist . . ." And they continue: " We have seen 500 or 600 Black-headed Gulls in one field, feeding on the corn as it fell from the hands of the sower . . ." Yet no mention of this fact is made in their report! On the contrary, they remark (page 4): " With regard to the complaint laid before you by farmers in the Bowness-on-Solway district, we have taken special pains to investigate the matter, and find that the damage complained of is not great, that it extends over a period of two or three weeks during the sowing season, and only while the grain is actually being sown by those farmers who sow broadcast. Those who use the 'drill' for sowing do not complain, and it appears that if the grain is covered immediately little or no damage is done, as the bird does not uncover the grain " !

While we shall always be glad to publish any fresh evidence in this Magazine bearing on this and similar matters, we must regard this particular discussion as closed, for the authors would seem to question our right to criticism.—Eds.]

NOTES ON THE PLUMAGE OF A GREAT NORTHERN DIVER AND A WHITE-BILLED NORTHERN DIVER.

As recorded in the " Bulletin " of the British Ornithologists' Club (Vol. XXI., p. 38) the British Museum has recently acquired two British-killed examples of Divers in remarkably interesting stages of plumage. One of these is an immature specimen of the Great Northern Diver (*Colymbus glacialis*) in the summer-winter plumage of the second year; the other is a fine adult example of the rare White-billed Northern Diver (*C. adamsi*), changing from the winter to the summer-plumage.

The Great Northern Diver was forwarded to me by Mr. R. M. Barrington on behalf of Mr. Williams, taxidermist, Dublin, and had been killed in the middle of November, 1907. It was specially interesting as showing the intermediate plumage of the second year, a little-known phase rarely procured, and not represented among the series of Divers in the British Museum [*cf.* Selby, *Illustrations of British Ornithology*, II., p. 406 (1833)]. The bird had apparently been bred in 1906, and its plumage showed a mixture of the old summer-feathers of 1907 and of the new winter-dress. The crown and hind-neck were in sooty-black summer-plumage, the throat and fore-neck white, like the rest

of the underparts. The black and white band across the throat of the adult in summer was indicated by an interrupted row of longitudinal black streaks, and the black and white half-collar on each side of the neck by an irregular mottled black and white area. The freshly moulted winter-plumage of the inter-scapular region and back was blackish-grey, each feather being indistinctly blotched with grey on either side of the extremity. Some of the feathers of the old summer-plumage were still retained in the back, and were somewhat similar to the new winter-plumage, but the white spots at the extremity were whiter and more distinct, though not sharply defined like those of the adult. The lesser and median wing-coverts still in the summer-plumage of 1907, were similarly spotted, and more or less like those of the adult, but the longer innermost coverts overlying the humerus were very different, being *bordered* along the terminal half of either web with white. The feathers covering the area above the femur had a hoary appearance, being mottled white and black, and not clove-brown like those of the adult at all seasons, or the young bird in *winter*. The freshly-moulted tail-feathers were black, distinctly tipped with white.

The White-billed Northern Diver was presented to the British Museum by Mr. Abel Chapman, who killed it in January, 1907, off the coast of Northumberland. The bird was in winter-plumage, but most of the lesser and median wing-coverts, and the feathers on the area over the femur, as well as some of those on the inter-scapular region, were freshly-moulted, black with twin spots of white at the extremity. It weighed $12\frac{3}{4}$ lbs.

Few examples of this North Siberian species have from time to time been procured off our coasts in winter, and half-a-dozen records will be found in Saunders' "Manual," most of which have probably been correctly identified. The shape and size of their bill renders adults of this species fairly easy to distinguish from *C. glacialis*, even in winter-plumage; but in immature birds the character of the bill is much less marked, and mistakes may easily be made.

W. R. OGILVIE-GRANT.

* * *

RARE BIRDS ON THE ISLE OF MAY (FIRTH OF FORTH).—Miss L. J. Rintoul and Miss E. V. Baxter, two very keen and competent ornithologists, following Mr. Eagle Clarke's example, have spent a month (September 9th—October 8th, 1907) in bird-watching on an island. The Isle of May was the chosen station, and the results were really remarkable, as the following

records will show. BARRED WARBLER (*Sylvia nisoria*)—A female was obtained on September 25th. YELLOW-BROWED WARBLER (*Phylloscopus superciliosus*)—One was seen on September 29th, and one (probably the same) shot on September 30th. RED-BACKED SHRIKE (*Lanius collurio*)—A young female procured on September 27th was abnormally coloured, the head and mantle being plain dark greyish-brown, the rest of the upper parts were a little paler, and had dark vermiculations, the tail was crossed at an inch from its tip by a bar of reddish-brown. SCARLET GROSBEAK (*Pyrrhula erythrina*)—One, in the "green type of plumage" was procured on September 25th. It was observed to be eating a moth. LAPLAND BUNTING (*Calcarius lapponicus*)—One was seen from September 15th to 17th; another was observed on September 21st; another on October 2nd; and two more were killed at the lighthouse on November 5th. ARCTIC SKUA (*Stercorarius crepidatus*)—A Skua, after chasing a Kittiwake and forcing it to drop a fish, alighted on the water near its booty. The fish sank, and the Skua, "slightly opening its wings, dived right under the water very neatly, stayed under for a moment, and then reappeared minus the fish." Seventy-eight species of birds in all are treated of, and the notes on their movements are valuable (*Ann. S.N.H.*, 1908, pp. 11-22).

RARE BIRDS AT FAIR ISLE.—This island is becoming a second Heligoland under Mr. Eagle Clarke's able "management." Since he left the island this year (*cf. supra*, p. 233) the following rare birds have occurred:—Short-toed Lark (*Calandrella brachydactyla*): a small flock of Little Buntings (*Emberiza pusilla*): several Yellow-browed Warblers (*Phylloscopus superciliosus*), Bluethroats, Wood-Larks, and a Black Redstart (*Ann. S.N.H.*, 1908, p. 49).

MARSH-WARBLER (*Acrocephalus palustris*) BREEDING IN HAMPSHIRE.—Mr. HARTY Beeston records (*Zool.*, 1907, pp. 446-449) that on 7th June, 1907, two eggs were brought to him by a boy who had taken them on that day from a nest in a small reed-bed in south-east Hampshire. On 15th June four more eggs of a similar type from the same reed-bed were brought to Mr. Beeston, and on this occasion he was able to see the nest, although he did not hear or see the birds. The nest was "built in the centre of the reed-bed, by the side of a small stream flowing through the bed, and was suspended about four feet above the ground to four or five reeds, exactly like a Reed-Sparrow's nest." We presume "Reed-Sparrow" (which is a local name for the Reed-Bunting)

is a misprint for "Reed-Warbler." The eggs were pronounced by Dr. R. Bowdler Sharpe to be those of the Marsh-Warbler. The bird generally nests in osiers and not in reeds; no details were given as to how the nest was attached, but the materials of which it was constructed seem to agree with the observations of Mr. Warde Fowler (*cf. Zool.*, 1906, pp. 401-409), to which Mr. Beeston has evidently not referred.

MARSH-TIT IN ABERDEENSHIRE.—One or two *Parus palustris* were seen near Alford on August 21st, 1907 (J. H. Gurney, *Ann. S.N.H.*, 1908, p. 49). As specimens of "Marsh-Tits" from Forth and Moray have been assigned to the Willow-Tit (*Parus atricapillus kleinschmidti*) by Dr. Hartert (*cf. Fauna Tay Basin*, etc., p. 91, footnote), perhaps these birds may have been of that species.

RED-BREASTED FLYCATCHER AT THE BELL ROCK.—A specimen of *Muscicapa parva* was obtained at the lighthouse on the Bell Rock on October 25th, 1907. The bird escaped the light-keeper, but left its tail-feathers in his hand, and from these Mr. Eagle Clarke identified it satisfactorily (W. E. Clarke, *Ann. S.N.H.*, 1908, p. 49).

MALE REED-BUNTING INCUBATING. A male *Emberiza schæniclus* was flushed from a nest containing five eggs, and feigned being crippled (Herbert Maxwell, *Ann. S.N.H.*, 1908, p. 49).

ROSE-COLOURED STARLING IN ARGYLLSHIRE.—A male *Pastor roseus* was found dead by Mr. Baird, of Bonawe, during the early autumn (*Oban Times*, August 31st, 1907).

GLOSSY IBIS AT SPEYMOUTH.—A specimen of *Ibis falcinellus* was shot on the Lein Burn. No date is mentioned (G. Muirhead, *Ann. S.N.H.*, 1908, p. 50).

SPOONBILLS IN THE WEST OF SCOTLAND.—An immature male *Platalea leucorodia* shot on the island of Canna, and another specimen secured in West Mull, were sent to Mr. Bissshop for preservation in November, 1907 (*Ann. S.N.H.*, 1908, p. 50).

BLACK-TAILED GODWITS IN SCOTLAND.—A specimen of *Limosa belgica* is recorded by the Duchess of Bedford at Barra on September 8th, 1907 (*Ann. S.N.H.*, 1908, p. 8); another (in full breeding plumage) by Mr. P. H. Bahr in the Outer Hebrides on June 17th, 1907 (*t.c.*, p. 25); another by the Misses Baxter and Rintoul at St. Andrews on December 5th, 1907 (*t.c.*, p. 53); another on Beaully Firth at the end of November, 1907 (*Field*, November 23rd).



LETTERS



MARKING BIRDS.

To the Editors of BRITISH BIRDS.

SIRS.—Some of the readers of *BRITISH BIRDS* may have seen in the "Field" of 11th January a note relating to the capture of a marked Teal in co. Kerry, Ireland. The bird had an aluminium plate round its leg with the name and address and a register number of the gentleman who marked it. As I have been for some time in communication with this gentleman (Herr Chr. Mortensen, of Viborg, Denmark) I thought a note of his work might be of interest.

Herr Mortensen for some years past has been catching various species of birds, and after marking them with an aluminium plate he has given them their liberty again, hoping in this way to trace the movements of these birds. Amongst the species thus marked were Starlings, Kites, White Storks, Goshawks, Common Buzzards, and Teal, and the results to date of these experiments were published in an interesting paper in the "*Dansk Ornithologisk Forenings Tidsskrift*," Part IV., 1907.

This Teal, I believe, was one of 100-200 marked during last autumn, and had been taken in the duck decoys there: it therefore had travelled about 850 miles W.S.W.

A Starling liberated on September 15th, 1904, was taken near Edinburgh, about 450 miles W.S.W., early in March, 1906. Should anyone come across any of Herr Mortensen's ringed birds at any time, it is hoped that they will send the ring, foot, and data of capture either to him direct or to me.

CLAUD B. TICEHURST.

Guy's Hospital, S.E.

[Mr. J. A. Harvie-Brown has also announced (*Ann. Scot. Nat. Hist.*, 1907, p. 114) that Mr. R. Tomlinson, of Musselburgh, had marked with a metal ring on the left foot a number of Starlings. Each ring was marked with a number, and the birds—115 in all—were liberated during December, 1906, and January and February, 1907.—EDS.]

"THE VERTEBRATE FAUNA OF NORTH WALES."

To the Editors of BRITISH BIRDS.

SIRS.—YOUR review of this book brought to light a most unfortunate misprint on p. 222. The offending paragraph

in the original MSS. reads as follows:—"The Buzzard *never* rears two broods in a year, *but*, like most birds will lay again if robbed of its first clutch of eggs." In making the typewritten copy the typist omitted the word "never," whilst in the proof the word "but" was altered to "and." The sentence, as printed, exactly reverses the meaning it was intended to convey. It is strange that the error escaped detection, since every sheet of the book was revised by several naturalists. Readers who possess a copy of the book are earnestly requested to correct this passage at once in order to prevent misconception in the future.

H. E. FORREST.

THE ORNITHOLOGY OF SUSSEX.

To the Editors of BRITISH BIRDS.

SIRS,—We are engaged upon a work dealing with the ornithology of Sussex; and we are very anxious to secure the co-operation of any of your readers who may be interested in that county. We shall, therefore, deem it a great act of courtesy if all observers, conversant with the Sussex avifauna, will kindly furnish us with any notes and memoranda with which they may feel inclined to favour us.

Particularly would we ask for information concerning not only the occurrence of rare and casual migrants, but also on the *distribution*—and this is a great point—of all the scarce and local *breeding* species. We have, of course, studied nearly all the Sussex birds, but as it is manifestly impossible for two men to work the whole of a county, we should vastly appreciate notes dealing with the nesting of any of the more local species. And we should also be glad of any lists of the summer migrants from different parts of the county, which have been kept over a series of years.

We may assure our informants that, whenever it is thought necessary, the exact breeding sites of the rarer birds will be suppressed.

It is a source of great satisfaction to us to be able to say that Mr. M. J. Nicoll, who has for some years been collecting information with a view to publishing a similar work, has very kindly promised to give us all the help in his power.

H. A. BRYDEN.

19, Gore Park Avenue, Eastbourne.

JOHN WALPOLE-BOND.

The Vicarage, Horsham.

Birds of Britain. By J. Lewis Bonhote, M.A., F.L.S., F.Z.S., M.B.O.U. With 100 illustrations in colour, selected by H. E. Dresser from his "Birds of Europe." xii. + 405 pp. A. & C. Black. £1 net.

IN judging this book it is only fair to consider first for what object it was written. There is nothing novel either in its form or matter, and the author has evidently spent little time over it, since much of the ordinary information is incomplete and out-of-date. A few examples will suffice:—The Orphean Warbler has been recorded four times instead of twice; the Barred Warbler two "dozen" rather than a "dozen" times; the sexes in the Dartford Warbler cannot be correctly described as being alike; the Siskin is a well-known breeding species in many parts of Ireland, and is not practically confined to Scotland. There are many such mistakes and omissions through the book. Mr. Bonhote's "English" is not always quite clear. Here is a sentence:—"These so-called 'cocks' nests' are used, however, as roosting-places, and if the eggs be destroyed, *they* may be lined and used as *their* home for a second clutch." And this is another:—"Their food consists of worms, slugs, snails and *other* insects, as well as grain and seeds, so that *it* is practically omnivorous." (The italics are not the author's.)

We cannot accuse Mr. Bonhote of having undertaken this work for the sake of telling us what he knows of our birds, for we have no doubt at all that he knows much more than he here pretends. We must therefore fall back upon the coloured plates as the *raison d'être* of the book. As far as they go they are, in the main, satisfactory. Many of them are excellent reproductions of Mr. Keuleman's originals; some, as one might expect, are unsatisfactory, such as the Mistle Thrush, Robin, and Moorhen; while others are bad, such as Leach's Petrel, which, by the way, is incorrectly lettered as the left-hand figure in the plate. They seem to have been "selected" with a view to their falling evenly through the book.—at least we can discover no other basis for the selection. If we ask why the Blue-headed Wagtail has been chosen instead of the typical British Yellow Wagtail, the Mealy instead of the Lesser Redpoll, and are told that it is more useful to illustrate the less well-known species, then why was not the Siskin figured rather than the Greenfinch, or the Wood-Lark rather than the Sky-Lark? There seems no good purpose in producing yet another book on British birds which has as its sole novelty coloured representations of only one hundred and eight species.

BRITISH BIRDS

EDITED BY H. F. WITHERBY, F.Z.S., M.B.O.U.
ASSISTED BY W. P. PYCRAFT, A.L.S., M.B.O.U.

CONTENTS OF NUMBER 10. MARCH 2, 1908.

The Crouching Habit of the Stone-Curlew, by William Farren	Page 301
On Some Bird Remains from the Broch of Ayre, Orkney, by N. F. Ticehurst, F.R.C.S.	309
The Lesser Redpoll as a Breeding Species in Berkshire, by Major F. W. Proctor, M.B.O.U.	312
On the More Important Additions to our Knowledge of British Birds since 1899, by H. F. Witherby and N. F. Ticehurst (Part VIII.)— <i>continued from page 284</i> ..	314
Notes :—Wood-Pigeon Enquiry (C. B. Ticehurst). The Preservation of Rare British Breeding Birds (Eds.). Bird Migration (Eds.). Black Redstart near Dublin (Eds.). Lesser Whitethroat in Cumberland (Charles Oldham). Cirl Bunting in Merionethshire (L. W. Crouch). The Incubation Period in the Cuckoo (Heatley Noble). Three Cuckoo's Eggs in a Robin's Nest (J. F. Green). Common Bittern in Yorkshire (E. S. Steward). Common Snipe Nesting in August (H. E. Forrest). A Marked Snipe (C. B. Ticehurst). Greenshank in Staffordshire (W. Wells Bladen). Large Clutch of Eggs of the Great Crested Grebe (L. W. Crouch)	323
Books Published during February	328

THE CROUCHING HABIT OF THE STONE-CURLEW.

BY

WILLIAM FARREN.

ALL who have watched the Stone-Curlew (*Edicnemus scolopax*) at home will agree that, with regard to protective devices, it is the most highly specialized of the Plover family in this country. It observes the precautions traditional to the family to secure its eggs and young from discovery, but with a cunning unapproached by any of its

congeners. When disturbed whilst sitting, it slips from its eggs and runs some distance before taking flight, as do the other Plovers, but it leaves the eggs sooner and runs further than the others. With its head held close in to its shoulders and with quick stealthy gait, the Stone-Curlew runs on and does not take to flight, and thus reveal its presence, until it is at such a distance from the eggs that their whereabouts are not thus disclosed. That is if it takes to flight at all, for more often than not it will, at a safe distance, stop and stand perfectly still, or prostrate itself on the ground. And whether running, standing, crouching, or flying low over the ground, the coloration of its plumage, together with the difficulty of retaining a clear visual impression over the sandy, flint-flecked soil, renders it almost invisible to any but the most practised eyes.

The colour and irregularity of the markings of the eggs of all Plovers form a distinctly protective pattern, but none assimilate with their surroundings quite so closely as do those of the Stone-Curlew.

When the young are hatched it is no longer a case of the Stone-Curlew simply excelling the other species of the family in protective measures, its habits have become so highly specialised that the difference at this stage is not so much of degree as of kind.

The Lapwing flies to and fro over the spot where its young are hiding, with querulous cries, admonishing its chicks to lie low, and endeavouring to beguile the intruder away. But the Stone-Curlew believes not in noisy demonstration nor in such devices as simulating an injury, and struggling over the ground in frenzied attempts to divert attention from its young to itself, as do the species of, for instance, *Ægialitis*.

At all ages the young Stone-Curlew provides a most remarkable example of protective coloration, the curious short sandy coloured down, the texture of which is like close curled wool, with slightly broken longitudinal dark stripes, blends exactly with the sandy soil. The young of

other Plovers are not deficient in protective devices; they all practise the crouching habit to a certain extent, and all assimilate well with their surroundings. But the distinguishing character, which places the Stone-Curlew in a class by itself, is its perfect mastery of the crouching habit. While the young of Plovers and other ground nesting birds run to, and take advantage of the slightest cover by crouching, the young Stone-Curlew can hide



FIG. 1.—The crouching attitude of newly-hatched young.

more effectually, by an extreme phase of the same attitude, on the barest ground. While in all other Plovers the parents endeavour to save their young, partly by uttering warning cries, and partly by endeavouring to distract and draw off the suspected enemy, the Stone-Curlew trusts entirely to the crouching of its young and remains silent and out of the way. Human intelligence is not taken account of in natural devices, but still one would have thought, considering natural enemies only, that the young of the Ringed Plover, and other birds with small and protectively coloured broods, would be more likely to



FIG. 2.—The crouching attitude of the Stone-Curlew when about ten days old.

escape observation if the parents maintained a discreet silence. The Stone-Curlew is even quieter when it has young—of any age—than before hatching takes place.

Aided by previous knowledge of the spot frequented by a Stone-Curlew family, one may, with great care, approach near enough to make out the two adults and two young, all standing and quite near to each other. Directly the intruder is detected, the young birds drop to the ground and remain motionless, while the parents steal swiftly away, and give no indication of anxiety or of their presence in the neighbourhood, not even if one walks up to and handles the young. Other species, under similar circumstances, would become frantic in their attempts to drive or beguile away the intruder. That feigned lameness and loud cries are devices which have been developed and perfected by natural selection there can be no doubt, and I think we must consider the silence of the Stone-Curlew a later development more suited to the peculiar conditions of its environment, in which cover is altogether lacking.

Although the young Stone-Curlew crouches as soon as it leaves the egg-shell, its first performance is very different to the extreme phase of the attitude as shown in all the photographs, with the exception of Fig. 1. In this photograph, which is of two newly-hatched young, it will be seen that the body is somewhat humped and the neck contracted, which brings the head close to the shoulders, the attitude being, in fact, very much like the hiding crouch of the young of many ground-nesting birds. But the development of the later phase of the attitude is very rapid; at the expiration of a week not only is the body more depressed, but the neck is fully extended and pressed close to the ground, and long before the end of the second week of its existence the young bird assumes the extremely flattened attitude shown in Fig. 2. The birds in this photograph were probably not more than ten days old, and those in Figs. 3 and 4, which show indication of growing feathers, were hardly less than three weeks old. The crouching habit is by no means limited to the period of comparative helplessness.

ness. When fully fledged, the young show but slightly diminished confidence in the device; and although I have never witnessed it myself, I have been told by game-keepers that when riding on horseback it is not unusual to come upon an adult Stone-Curlew prostrate on the ground, where it will remain perfectly still while the horse passes within a few feet.

To return to the downy period—the little birds seem to trust implicitly to their resemblance to the surroundings



FIG. 3.—The value of the crouching habit on sandy soil.

and to the crouching attitude, and it is no easy matter to prove to them that they are discovered. I have lifted one from the ground and laid it across two outstretched fingers, yet the rigidity of the attitude has not been relaxed in the slightest, nor has the bird given a sign of life. By dint of much handling and turning the little bird over on its back it may at last realize that it is discovered; that the deception has failed; then it takes refuge in the most commonplace of expedients—and runs away!

The length of leg now revealed is quite surprising, so is

the pace at which this hitherto inert creature can run. As a rule it will not run very far, not more than about twenty to fifty yards, then it drops flat again in the crouching attitude, and with the attitude its perfect faith in its protective value returns, and one will have the same difficulty as before in convincing it that its natural defence has broken down.

I think it is very plain that the extreme development of the crouching habit of the Stone-Curlew has arisen from



FIG. 4.—Conspicuous with unusually dark surroundings.

long and continued adherence to the same sort of environment, and this in its turn is calculated to prevent the species from ever becoming other than extremely local in this country. In Norfolk and Suffolk where I know the Stone-Curlew, and the only English locality where it can be described as at all plentiful, the conditions are—extensive tracts of arid, uncultivated country mostly devoid of the slightest vegetation save lichens and mosses; the

soil—sand, with many flints strewn on the surface. With this, and the browns and greys of mosses and lichens, the plumage—whether down or feather—assimilates to a remarkable degree. While it keeps to the special environment the crouching habit is of undoubted value, but on ground of a different nature, with which the colour of the down would not harmonise so well, one can imagine the crouching habit becoming a constant menace to the existence of the species, as it would, under such changed conditions, become a conspicuous and easy prey.

Two of the photographs, Figs. 3 and 4, well illustrate this point. The two birds depicted were nest-mates, and the first one, Fig. 3, was photographed just as it was found, the photograph giving an unexaggerated impression of the bird and its environment, which is typical of the district. The second young bird was found crouching not far away and (quite experimentally) was made to realize that it was discovered. It ran thirty or forty yards before it crouched again, and, owing to a slight rise in the ground, I failed to note the exact spot where it ceased running, and for some time I searched in vain. At last from a distance of four or five yards, I detected it near some nettles, crouching on a dark patch of soil and dead nettle leaves and stems, where it was ridiculously conspicuous. Realizing that it would make an interesting comparison with the other I fetched the camera and photographed it as quickly as I could, not that there was any real fear of the little bird moving, for it appeared to be as thoroughly convinced that it was invisible, as when it was on the usual flint-strewn sandy soil.

ON SOME BIRD REMAINS FROM THE BROCH OF AYRE, ORKNEY.

BY

N. F. TICEHURST, F.R.C.S.

THE grass-grown mound, known as the Broch of Ayre, is situated in the village of St. Mary's, between the high road from Kirkwall and the Loch of St. Mary's, being only a few yards' distance from either, and a hundred yards inland from the head of the Bay of Ayre.

In the winter of 1901-2, the late Mr. A. M. Sutherland Graeme, undertook the excavation of the mound. This was most carefully done, and in the course of a month or two the remains of a typical Broch, or Pict's-dwelling, were disclosed, such as exist at many localities in the Orkneys, Shetlands, Caithness and Sutherland. The most well-known and best preserved of these is at Mousa, in Shetland, which still reaches a height of forty feet. In the present instance, the remains of the walls, built of rough stones and thirteen feet thick, only attain a height of four to five feet, but in all other dimensions it seems to agree almost exactly with the Broch of Breckness, near Stromness, of which a full account is to be found, by Mr. W. G. J. Watt, in the "Proceedings" of the Orkney Natural History Society.

Many objects of antiquarian interest were found in the course of the excavations of the Broch of Ayre, including fragments of pottery which are believed to be unique; but this is not the place to deal with such matters, and I hope a full account of the excavations will be published elsewhere.

Scattered throughout the earth covering the clay floor of the main chamber many animal bones were found, but

the chief deposit of these was at a short distance outside the main wall to the left of the entrance. This was evidently the midden-heap, and would represent exactly the place where refuse would accumulate if thrown out of the doorway. The main constituents of the midden were vast numbers of shells of the common limpet, but many mammalian bones were found, and a few that could be definitely assigned to certain species of birds. There were among them many small fragments which were, unfortunately, too small to identify. The best of the fragments Mr. Graeme kindly forwarded to me, and I was able to identify remains of the Horse, Ox (*Bos longifrons*), Red Deer, Sheep, Goat and Pig amongst the mammalia.

The bird remains consisted of the following:—

Gannet (*Sula bassana*). A complete cranium with upper and lower mandibles, a left coracoid and part of a radius.

Cormorant (*Phalacrocorax carbo*). A right tibia and a right radius.

Shag (*Phalacrocorax graculus*). An ulna.

Great Northern Diver (*Colymbus glacialis*). A left femur and tibia.

Whooper (*Cygnus musicus*). A tibia.

Gull (*Larus* sp.?). The size of a Herring-Gull; the upper and lower mandibles.

Shearwater (*Puffinus* sp.?). Part of an ulna.

Gare Fowl (*Alca impennis*). The lower half of a tibia.

With the exception of the last mentioned, all the birds are in their season more or less numerous at the present day, and there is evidence that at any rate up till quite recent times the Manx Shearwater was an article of diet, and even a delicacy (*cf. A Fauna of the Orkney Islands*, pp. 242, 243).

The chief interest of these remains lies naturally in the single bone of the Great Auk, remains of which have never, so far as I am aware, been found before on the Orkney mainland, though it is not unlikely to occur in any of these ancient dwellings. Buckley and Harvie-Brown

(*tom. cit.*) give it as their opinion that the Great Auk was always a rare bird in Orkney, and that it only inhabited one island, viz., Papa Westray, and it would be futile to argue from a single bone that it was otherwise, or even a native of the mainland at all. A single bird might easily have wandered to Holm Sound or Scapa Flow, and been killed in the neighbourhood by the dwellers of the Broch, or it might have been brought for food from a distance by boat.

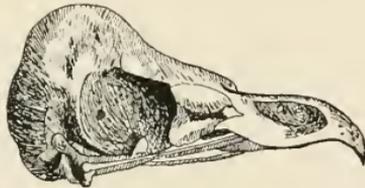
As to the date of these remains, very little seems to be known, but the Brochs appear to have been used as fortified dwellings at the time of the Norse invasion in the ninth century (*cf.* Mr. Watt's paper cited above).

For help in identifying some of the more difficult bird bones I desire to express my indebtedness to Mr. W. P. Pycraft, of the British Museum.

For similar and more important remains of the Great Auk in the British Islands, reference may be made to the following:—

St. Keits in Caithness, Oronsay in the Southern Hebrides, and Whitburn Lizards in co. Durham; Symington Grieve, "The Great Auk," p. 43 and *seq.*

In co. Waterford, R. J. Ussher, "Irish Naturalist," 1897, p. 208, and 1899, p. 1.



THE LESSER REDPOLL AS A BREEDING SPECIES
IN BERKSHIRE.

BY

MAJOR F. W. PROCTOR, M.B.O.U.

IN the "Bulletin of the British Ornithologists' Club" for June, 1905, and in the "Avicultural Magazine" for August, 1905, I recorded the fact that the Lesser Redpoll (*Linota rufescens*) was quite abundant that season as a breeding species in East Berkshire, and that I had found a number of nests with eggs and young in May, June, and July.

In the nesting seasons of 1906 and 1907 I also found many more nests, and have now ample evidence to prove that the birds have become resident in varying numbers in this part of Berkshire.

Previous to 1905 I had only once found the nest in the county—in Maidenhead thicket, where a nest built four feet from the ground in a furze bush contained five fresh eggs on May 14th, 1897. The year before, in the first week in May, I also found a nest with three incubated eggs at Byfleet, in Surrey, not far from the Berkshire border.

The Lesser Redpoll's breeding haunts in this county are chiefly in the numerous rod beds near the Thames and its tributaries, or near water. The Thames from near Windsor to, say, Reading runs a course of, roughly, forty miles, forming by its bank the boundary of East Berkshire; and, if one draws a straight line from Reading to Windsor on the map, the area enclosed between this line and the river will indicate the district within which, to my personal knowledge, the bird breeds.

Outside this area Mr. Heatley Noble has kindly supplied

me with notes that a nest of three incubated eggs was found at Finchampstead on June 10th, 1887 (*cf. Victoria History of Berkshire*), and that a nest was taken at Wellington College on May 20th, 1898. I regret that at present I have no notes on its distribution in the portions of the county bordering on Hampshire and Wiltshire, but this year I hope to find it breeding there also.

The birds by no means confine themselves to the river banks, but breed away from them in thorns, furze bushes, and, I have reason to believe, sometimes in clumps of firs and in fruit trees in nursery gardens; but it is only in the rod beds that I have found them breeding in small colonies, several nests being built in quite a small area. A common situation for the nest is in a fork of a willow rod, near the top, ten or fifteen feet from the ground, where the nest sways with every gust of wind like that of a Reed-Warbler.

Mr. Noble informs me of the interesting fact that, on the 13th of June last, he found in one of these rod beds a Redpoll's nest containing a Cuckoo's egg. The spot where the nest was found is very carefully protected and kept absolutely quiet in the nesting season, and is a haven for all birds. As the Cuckoo commonly deposits its egg in a Reed-Warbler's nest, it is quite possible that this particular bird mistook the Redpoll's nest for one.

I can confidently assert that the Lesser Redpoll has increased in this county in late years to a very great extent as a breeding species, for in former times it was undoubtedly uncommon or little known, and I can find no records of its having bred previous to those I have mentioned by writers on local birds.

ON THE MORE IMPORTANT ADDITIONS TO OUR
KNOWLEDGE OF BRITISH BIRDS SINCE 1899.

BY

H. F. WITHERBY AND N. F. TICEHURST.

PART VIII.

(Continued from page 284.)

LONG-EARED OWL *Asio otus* (L.). S. page 293.

OUTER HEBRIDES.—Said to have been seen near Stornoway, and one shot in Barra, October, 1899; and another seen in October, 1900 (J. A. Harvie-Brown, *Ann. S.N.H.*, 1902, p. 200).

Habits.—A pair nested on the ground in Wilton Park, near Blackburn, Lancs., in 1904. A photograph of the young in the nest is given (R. J. Howard, *Zool.*, 1904, p. 259). A nest was also found on the ground in 1902 on Sheringham Common, Norfolk, and photographs were exhibited (T. Digby Pigott, *Bull. B.O.C.*, XIII., pp. 20 and 57).

SHORT-EARED OWL *Asio accipitrinus* (Pall.).
S. page 295.

Has nested of recent years in *Essex* (E. A. Fitch, *Zool.*, 1896, p. 233), *Cambs.* (N.F.T.), *Anglesey* (T. D. Coward and C. Oldham, *t.c.*, 1904, p. 26); *Hants* (*B. of Hants*, p. 130); *Devon* (B. F. Cummings, *Zool.*, 1907, p. 23); and *Kent* (*Field*, 28, v., 04); besides those counties indicated by Howard Saunders.

TENGMALM'S OWL *Nyctala tengmalmi* (Gm.). S. page 299.

SUFFOLK.—One was picked up in an exhausted state on October 30th, 1901, on the beach at Southwold, and another about the same date in the garden of the Grand Hotel at the same place (F. W. Frohawk, *Field*, 1902, p. 177).

NORFOLK.—One picked up at Thornham, on the same date as the Suffolk ones (J. H. Gurney, *Zool.*, 1902, p. 93).

NORTHAMPTONSHIRE.—One was shot at Apthorpe on January 8th, 1902 (*id.*, *t.c.*, 1902, p. 68).

YORKSHIRE.—Twelve occurrences in all are mentioned, of which the latest was captured in a pole-trap near Bickley, on November 7th, 1901 (*B. Yorks.*, Vol. I., p. 303; *cf.* also *Nat.*, 1902, p. 164).

SHETLAND.—A female was shot on November 5th, 1901 (*A. Inkster, Ann. S.N.H.*, 1902, p. 119). This formed the third example of this species recorded for Scotland, and the first for Shetland.

LITTLE OWL *Athene noctua* (Scop.). S. page 301.

The spreading of this bird from the districts in which it has been introduced will be traced in a special article in a future issue of BRITISH BIRDS, and we shall be greatly obliged if our readers will forward any information they may have upon the subject. The following records may refer to escapes or to genuine migrants:—

ANGLESEA.—One was shot in the winter of 1899-1900 (*H. E. Forrest, Vert. Fauna N. Wales*, p. 214).

SCOTLAND.—One shot February 1st, 1902, at Blairs, Kincardine. It was in excellent condition, and had part of a Starling in the stomach (*G. Sim, Ann. S.N.H.*, 1902, p. 119).

IRELAND.—One was caught in a trap at Athy, co. Kildare, in June, 1903. It had been seen since February of that year (*A. R. Nichols, Irish Nat.*, 1906, p. 112).

SNOWY OWL *Nyctea scandiaca* (L.). S. page 303.

NORFOLK.—One was caught in a rat-trap near Swaffham in April, 1905 (*J. H. Gurney, Zool.*, 1906, p. 126).

SCILLY.—A specimen in the collection at Tresco Abbey was shot on St. Martin's in September, 1905 (*J. Clark and F. R. Rodd, t.c.*, p. 298).

IRELAND.—A female was shot at Falcaragh, *co. Donegal*, on December 15th, 1900 (*R. Patterson, Irish Nat.*, 1901, p. 50); a male in "second year's" plumage was shot at Belmullet, *co. Mayo*, on July 21st, 1906. Several specimens have been shot in *co. Mayo* during the last ten years (*W. J. Williams, Zool.*, p. 351).

SCOTLAND.—In the *Shetlands*, where the bird is of almost annual occurrence, the following records of single birds have been noted:—1902, January 24th; 1903, March 5th, April, 23rd, November 13th, November 17th; 1904, October 29th; 1905, April 4th; 1906, January 30th. In *Orkney* single birds were reported on February 1st and November 9th, 1899. In the *Outer Hebrides* on December 5th, 1900, at Barra, and on October 12th, 1903, and May 6th, 1906, at the Flannans.

HAWK-OWL *Surnia funerea* (L.). S. page 305.

NORTHAMPTONSHIRE.—One was shot on October 19th, 1903, at Orlingbury (J. H. Gurney, *Zool.*, 1904, p. 214).

SCOPS-OWL *Scops giu* (Scopoli). S. page 307.

CORNWALL.—A male was shot near Ludgvan, May 2nd, 1907 (J. Clark, *Zool.*, 1907, p. 284).

HANTS.—A female was picked up exhausted on the shore of Stokes Bay, June 10th, 1884. Two are in the Hart collection, both from the New Forest, one in July, 1866, and one October 29th, 1884. Another is in Lord Malmesbury's collection (*B. of Hants*, p. 134). (Hampshire is omitted by Saunders.)

KENT.—One captured alive at Broadstairs in March, 1898 (Collingwood Ingram, *Bull. B.O.C.*, XII., p. 39).

NORFOLK.—One clearly identified at close quarters by Mr. P. J. Hoare at Sidestrand, April 6th, 1902 (J. H. Gurney, *Zool.*, 1903, p. 127).

SHETLAND.—*Foula*.—One captured April, 1900 (W. E. Clarke, *Ann. S.N.H.*, 1900, p. 184); and another was obtained about the same time (*id.*, *t.c.*, 1901, p. 116). One, which "from the light-keeper's careful description could only have been an example of Scops-Owl," was caught on the Lighthouse Rock at Unst about August 20th, 1905 (T. E. Saxby, *Zool.*, 1906 p. 35).

IRELAND.—A male was caught at the lantern of the Fastnet Lighthouse, May 6th, 1907 (W. J. Williams, *t.c.*, 1907, p. 354).

EAGLE-OWL *Bubo ignavus* Forster. S. page 309.

HANTS.—A male was killed at Paultons, near Romsey, where it had been seen for a month in the winter of 1891 (*B. of Hants*, p. 135). This may have been an escaped bird.

MARSH-HARRIER *Circus æruginosus* (L.). S. page 315.

NORFOLK.—A nest ready for eggs was found in May, 1899, but unfortunately the two birds were shot. It is not known to have nested in Norfolk since 1894 (J. H. Gurney, *Zool.*, 1900, p. 105). One was seen in May, 1900 (Heatley Noble, *t.c.*, p. 423), and others in May and June, 1903 (J. H. Gurney, *t.c.*, 1904, p. 208).

SOMERSET.—In times past the three Harriers bred on Exmoor and on the Somerset levels, but it is doubtful if any have done so during the last twenty years (F. L. Blathwayt, *Zool.*, 1904, p. 88).

CORNWALL.—Now a rare casual, bred on Redmoor Marsh till 1855 (J. Clark, *t.c.*, 1907, p. 284).

SCILLY.—A casual visitor. Five are recorded; the last, a young bird, was seen 12th October, 1903 (J. Clark and F. R. Rodd, *t.c.*, 1906, p. 299).

SCOTLAND.—An old male was shot early in May, 1898, at a place in Kirkmichael, Dumfriesshire (R. Service, *Ann. S. N. H.*, 1898, p. 182). The bird is very rare in Scotland.

HEN-HARRIER *Circus cyaneus* (L.). S. page 317.

SCILLY.—Has only been obtained once in the last twenty-five years (J. Clark and F. R. Rodd, *Zool.*, 1906, p. 299).

CORNWALL.—Nested on Goonhilly Downs till about 1841 (F. V. Hill). After that date it became a casual of fairly frequent occurrence. In 1903 it again nested in the county, and has done so every year since (J. Clark, *t.c.*, 1907, p. 284; *cf.* also *t.c.*, 1906, p. 34).

HANTS.—The last nest in the New Forest seems to have been found on June 12th, 1893 (*cf.* *B. of Hants*, p. 142).

NORTH WALES.—A pair nested near Nevin (Carnarvon), in 1902 (H. E. Forrest, *Vert. Fauna N. Wales*, p. 218).

Otherwise the bird seems to be only a visitor in autumn and winter to the eastern and southern counties of England, while it still breeds, although in diminishing numbers, in parts of Scotland and Ireland.

MONTAGU'S HARRIER *Circus cineraceus* (Montagu).

S. page 319.

NESTING RECORDS.—*Northumberland*.—A female shot at Coquetdale by a gamekeeper on July 11th, 1905, had the appearance on being skinned of having incubated for some days (A. Chapman, *Bird-Life of the Borders*, 2nd ed., pp. 229-231). *Yorkshire*.—A nest with two eggs was found on a moor in the extreme south of the county in 1906, but the female was caught at the nest. Several earlier instances of its having bred are noted (T. Nelson, *Birds of Yorkshire*, Vol. I., p. 323). *Notts*.—A male shot near Ratchet Hill in June 14th, 1905, probably had a female sitting (J. Whitaker, *Birds of Notts.*, p. 159). *North Wales*.—A pair nested in June, 1900, near Bala, but both birds were shot (H. E. Forrest, *Vert. Fauna N. Wales*, p. 219). *Camb.*—Two pairs bred in the Fens in 1893, and one nest was taken. A pair also probably bred at the same place in 1895 (N. F. T.). *Norfolk*.—Try to rear their young every year, but the nest is taken or the old

birds shot (Heatley Noble, *t.c.*, 1900, p. 423). *Sussex*.—Eggs were laid in east Sussex in 1893, but birds and nest were destroyed. In 1903 a similar fate attended a pair of birds at the same place (N. F. T., *Zool.*, 1903, p. 421). *Hampshire*.—A nest with young ones was found in the south-east of the county on July 13th, 1898, and this "nesting-haunt is still visited by the birds." The bird nested in the New Forest district in 1901 (Kelsall and Munn, *B. of Hants*, p. 147). *Cornwall*.—Has been a scarce summer migrant for over forty years; there was still one nest at least in the west last spring (J. Clark, *t.c.*, 1907, p. 284).

IRELAND.—A male and female (birds of the year) were trapped near Gorey, *co. Wexford*, on August 14th, 1899 (E. Williams, *Irish Nat.*, 1899, p. 232). An immature male was shot near Kylebeg, Blessington, *co. Wicklow*, on September 7th, 1899 (*id.*, *t.c.*, 1900, p. 21). A male was trapped near Sallygap, *co. Wicklow*, in June, 1907 (W. J. Williams, *Zool.*, 1907, p. 354). The bird appears to have been recorded now ten times in all in Ireland, and all these occurrences have been in or near *co. Wicklow*, which points to their nesting somewhere in the district.

ROUGH-LEGGED BUZZARD *Buteo lagopus* (J. F. Gm.).
S. page 323.

Besides occasional visitors which occur every year here and there in these islands, this species periodically visits our shores in considerable numbers, and such an immigration occurred in the middle of October, 1903, along the coasts of south-east Scotland, and north-east England, as far south as Norfolk. The first recorded arrival in Scotland was on October 9th, in Forfarshire, while one was taken as far north as Orkney on October 19th. By the end of the month a number had settled down on the Pentland Hills, near Edinburgh, and as many as eight were seen together. They were still frequenting the Pentlands in the middle of December, 1903 (W. Evans, *Ann. S.N.H.*, 1904, p. 56). One was trapped in the same autumn in North Uist, where the bird is seldom seen (A. M'Elfrish, *t.c.*, p. 55). In England the first recorded bird appears to have been on October 10th, at Flamborough, and subsequently they were seen in considerable numbers in various parts of Yorkshire (twenty, for instance, being reported on the Seamer Moors, between October 13th and November 7th), and they appear to have stayed on at all events on Swainby Moor until the following April (T. H. Nelson, *Birds of Yorks.*, Vol. I., p. 323). On

October 15th two were seen coming in from the sea by Mr. Caton-Haigh, on the north Lincolnshire coast, and others were reported subsequently (*Zool.*, 1904, p. 297). Between October 12th and 17th several were seen in Norfolk (J. H. Gurney, *t.c.*, p. 213); two were killed in Rufford Forest, Notts., in the second week of October (J. Whitaker, *t.c.*, 1903, p. 459).

IRELAND.—Additional to the thirteen recorded in the "Birds of Ireland," a male was shot on October 4th, 1899, near *Londonderry* (D. C. Campbell, *Irish N.*, 1900, p. 50); a female in the early part of 1903 in *co. Tyrone* (E. Williams, *t.c.*, 1903, p. 111); another was shot in *co. Down* in November, 1903 (N. H. Foster, *t.c.*, 1904, p. 120); two were seen and one of them poisoned in December, 1906, in *co. Wicklow* (W. J. Williams, *t.c.*, 1907, p. 162); and a male was trapped in *co. Cork* on November 18th, 1906 (R. J. Ussher, *t.c.*).

GOSHAWK *Astur palumbarius* (L.). S. page 331.

There seems little doubt that a female Goshawk built a nest and laid four eggs therein in a small wood at Westerdale, Grosmont, Yorkshire, in May, 1893. The bird was shot at the nest by a keeper named W. M. Frank, and the eggs were taken. The bird and eggs were presented to the Norwich Castle Museum in 1898. Although it was suspected that there was a male bird in the vicinity there is no evidence to support the supposition. The female had lost a toe, but was otherwise in good condition. The eggs were fresh at the time the bird was shot. If the bird was an escaped trained bird it is somewhat doubtful whether it would have thus built a nest and laid eggs without a mate. Moreover, it was described as being very wild (*cf.* T. Southwell, *Zool.*, 1899, p. 28, and T. H. Nelson, *Birds of Yorks.*, Vol. I., p. 341).

BLACK KITE *Milvus migrans* (Bodd.). S. page 337.

The second example of the species recorded in the British Isles was a male shot near the city of Aberdeen on April 16th, 1901. Its stomach contained a few small feathers only (G. Sim, *Ann. S.N.H.*, 1901, p. 133).

HONEY-BUZZARD *Pernis apivorus* (L.). S. page 339.

[Two supposed nests of this bird were found in May, 1897 and 1899 by Mr. Charles E. Nipper, in Somersetshire (W.

Percival Westell, *Ibis*, 1901, p. 515), but as one nest was placed in a cliff and the second on the ground, and both contained four eggs, there can be little doubt that the identification of the species was incorrect (*cf.* F. C. R. Jourdain, *t.c.*, p. 737).]

GREENLAND FALCON *Falco candicans* J. F. Gm.
S. page 341.

This Falcon occurs every year in small numbers in Scotland, but elsewhere in the British Islands its occurrence is rare.

ENGLAND.—Examples have been obtained in *Suffolk* and *Norfolk*, which are additional to the counties mentioned by Saunders (*cf.* Harting's *Handbook*, pp. 320–321), while an adult male in the Exeter Museum was shot on *Lundy Island*, March 13th, 1903 (J. Cummings, *Zool.*, 1905, p. 110), and a male was shot at Tresco, *Scilly Isles*, on March 27th, 1903 (J. Clark and F. R. Rodd, *t.c.*, 1906, p. 300).

IRELAND.—An immature example was trapped on Horn Head, *co. Donegal*, at the end of December, 1903 (H. Eliot Howard, *Zool.*, 1904, p. 115). In March, 1905, there was a regular "visitation" of these birds to the west coast of Ireland, one being seen on Clare Island, *co. Mayo*, and one on Owey Island, *co. Donegal*, while three were obtained, and three more seen in *co. Donegal*, and three were obtained on the Great Skellig, *co. Kerry*, another was shot at Mizen Head, *co. Cork*, and a nearly adult female was trapped at Crossmolina, *co. Mayo* (E. Williams, *Irish N.*, 1905, p. 201). One was shot at Glenties, *co. Donegal*, on October 25th, 1905 (D. C. Campbell, *t.c.*, p. 263); another was shot near Carrickfergus in *co. Antrim*, on February 12th, 1906 (R. Patterson, *t.c.*, 1906, p. 77).

ICELAND FALCON *Falco islandus* J. F. Gm. S. page 343.

This Falcon is evidently a very much rarer visitor than the previous species to any part of the British Isles.

ENGLAND.—An adult male was shot near St. Martin's Daymark, *Scilly Isles*, on January 15th, 1895, "when three or four others were seen at the same time" (J. Clark and F. R. Rodd, *Zool.*, 1906, p. 300). One previously recorded as a Gyr-Falcon was shot on the Wemmergill Moors, *Yorkshire*, in the spring of 1846, and is now in Mr. Nelson's

collection (T. H. Nelson, *Birds of Yorks.*, Vol. I., p. 356). A young female, said to be of this species was shot in December, 1900, near *Lincoln* (J. C. Walker, *Nat.*, 1901, p. 42).

SCOTLAND.—An immature bird, obtained near Carbost, *Skye*, was sent for preservation to Messrs. Mackay, of Inverness, on February 15th, 1900 (T. E. Buckley, *Ann. S.N.H.*, 1900, p. 184); another was obtained on Eye Peninsula, *Lewis*, on February 28th, 1906 (J. A. Harvie-Brown, *t.c.*, 1906, p. 185).

IRELAND.—An immature female was obtained, and another bird was seen, at Oughterard, *co. Galway* (no date mentioned) (E. Williams, *Irish N.*, 1905, p. 202).

GYR-FALCON *Falco gyrfalco* L. S. page 345.

ESSEX.—A female was trapped at Hatfield Broad Oak in December, 1901 (Harting's *Hndbk.*, 2nd ed., p. 319). In the opinion of some authorities this bird is a dark variety of a female Peregrine (*F. peregrinus*) (*cf. Bull. B.O.C.*, XI., p. 65).

NORFOLK.—An immature bird, which had been assigned to this species, was killed on Thetford Warren in the spring of 1883 (W. G. Clarke, *Zool.*, 1903, p. 103).

HOBBY *Falco subbuteo* L. S. page 349.

In addition to the counties mentioned in the "Manual," it breeds regularly in *Shropshire* (H. E. Forrest *in litt.*), and it has also nested of recent years in *Kent* (N.F.T.) and *Rutland* (R. Haines, *Birds of Rutland*, p. 104).

MERLIN *Falco aesalon* Tunstall. S. page 351.

[Four eggs, said to be of this bird (but no evidence is given), were found on May 25th, 1907, in a depression in the ground on Exmoor (J. Turner, *Field*, 13, VII., 1907).]

RED-FOOTED FALCON *Falco vespertinus*. S. page 353.

An immature female was shot near Shrewsbury on May 18th, 1901 (H. E. Forrest, *Zool.*, 1091, p. 224). An adult male was shot at Acle, Norfolk, at the end of April, 1901 (J. H. Gurney, *t.c.*, 1902, p. 88). One has been obtained in Cheshire in May, 1873, a record not noticed in the "Manual" (Coward and Oldham, *Birds of Cheshire*, p. 139). An immature male was shot in October, 1901, at Bradwell-on-the-Sea, Essex (J. H. Gurney, *Zool.*, 1901, p. 426).

LESSER KESTREL *Falco cenchris* Naum. S. page 357.

YORKSHIRE.—An adult male in good plumage was reported in the "Field" as having been shot on April 12th, 1892, by Mr. Robert Lee, of Thirsk (T. H. Nelson, *Birds of Yorks.*, Vol. I., p. 373).

ISLE OF WIGHT.—A male was shot at Carisbrooke on November 25th, 1895, and a female was picked up dead near Shorwell, on April 11th, 1903 (Kelsall and Munn, *Birds of Hants*, p. 186).

SUSSEX.—An adult male was shot at Hollington, near St. Leonards-on-Sea, May 8th, 1896 (N.F.T.).

(*To be continued.*)



NOTES

WOOD-PIGEON ENQUIRY.

As it is desirable to get as accurate an idea as possible of the distribution of the Wood-Pigeon diphtheria, it is hoped that every reader of BRITISH BIRDS will send in a schedule stating whether pigeons have been plentiful *or not* in his district, and whether there has been any disease *or not*, as well as some indication as to the abundance of food supply or the reverse. It is also hoped that those who have already sent in schedules will forward any further particulars they may have noted as to the occurrence or disappearance of the Wood-Pigeons in their district.

C. B. TICEHURST.

[In answer to a question in the House of Commons a few days ago with regard to the Wood-Pigeon disease, the Board of Agriculture referred to the BRITISH BIRDS enquiry on the subject and stated that the "results of the enquiry would be carefully watched."—Eds.]

THE PRESERVATION OF RARE BRITISH BREEDING BIRDS.

THE WATCHERS' FUND of the Royal Society for the Protection of Birds is in need of contributions. It is deplorable that much of the damage caused to our rarer breeding birds is done by, or on behalf of, those who are professedly lovers of our favourite science. Surely it is obviously an unscientific act to interfere in any way with a species that is so rare in a particular region that human interference would be likely to affect its geographical distribution. Unfortunately there is abundance of evidence to prove that many "ornithologists" are so bitten with the craze for British-taken specimens that they cannot or will not understand this. Ornithologists must, therefore, provide and pay for "watchers" to defeat these destructive ignoramuses. The R.S.P.B.'s Watchers' Fund seems to be well administered, and we appeal to our readers to send contributions to the secretary at 3, Hanover Square, London, W.

It would be doing a double service to ornithology if the Society would in addition to having certain areas watched give us statistics as to the exact effect of this kind of

protection. It would be valuable to know, for instance, how quickly a species, which has become very rare in a particular locality, can recover if unmolested, and if it is likely to increase its breeding range under such conditions. If the watchers were provided with simple schedules this information could easily be gathered.—EDS.

BIRD MIGRATION.

THE British Ornithologists' Club Migration Committee commence observations on the spring migration for the fourth year on 9th March. The Committee are very desirous of enlisting further observers. All enquiries should be addressed to Mr. J. L. Bonhote, at 3, Hanover Square, London, W., who will gladly supply with schedules those who have opportunities of accurately recording the arrival and subsequent movements of our common summer migrants.—EDS.

BLACK REDSTART NEAR DUBLIN.

IN the "Irish Times" for 13th November, 1907, Mr. F. P. A. MacLean wrote that a female Common Redstart was captured in a room at Kiltiernan, on 3rd November, 1907. On enquiry, through Mr. G. R. Humphreys, to whom we are much indebted, this proved to be an example of the Black Redstart (*Ruticilla titys*), which has frequently occurred in winter on the east coast of Ireland, south of Dublin, and along the south coast to Kerry, but rarely inland or on the west coast north of Kerry, or anywhere north of Dublin. We hear of the occurrence of another example recently near Kingstown.—EDS.

LESSER WHITETHROAT IN CUMBERLAND.

MACPHERSON'S account of the Lesser Whitethroat (*Sylvia curruca*) in "A Vertebrate Fauna of Lakeland" (p. 96) suggests that it is rare and local in Cumberland, and it may be worth while to record its occurrence in the neighbourhood of Ravenglass. On June 28th, 1906, I heard one in good song near Muncaster Station, on the Eskdale Railway, and a second in a plantation between that place and Ravenglass. On July 13th one was singing in Ravenglass Station yard during a shower.

CHARLES OLDHAM.

CIRL BUNTING IN MERIONETHSHIRE.

IN the last number of BRITISH BIRDS Mr. S. G. Cummings asks for any additional information as to the occurrence of the Cirle Bunting in other parts of North Wales than those dealt with by him. It may be of interest to you to know that I saw a male Cirle Bunting at Llwngwriil, in Merionethshire, on June 6th of last year (1907). Its song first attracted my notice, and I saw the bird sitting on a low stone wall. By stalking it I was able to get a close view of the bird. No doubt there was a nest somewhere in the rank growth, nettles, etc., under the wall, but I failed to find it. When the bird detected me it flew only a few yards, and then alighted again on the wall and sang.

L. W. CROUCH.

THE INCUBATION PERIOD IN THE CUCKOO.

IN June, 1895, I placed a fresh Cuckoo's egg in an incubator. It was exactly 12 days 2 hours before the chick was clear of the shell. The egg was taken from a Reed-Warbler's nest; it was the only egg in the nest, and was *quite cold*.

HEATLEY NOBLE.

[In Mr. Collingwood Ingram's communication upon this subject in the last number on page 292, Mr. A. H. Evans, instead of Mr. William Evans, was quoted as the author of the paper on Incubation Periods in the "Ibis" for 1891. It may here be mentioned that Mr. W. Evans contributed a supplementary article on the subject to the same journal for 1892 (pp. 55-58).—Eds.]

THREE CUCKOO'S EGGS IN A ROBIN'S NEST.

THE following particulars supplied to me by Mr. Thomas Gillah with regard to a Robin's nest in which three Cuckoo's eggs were laid, may be of interest. The nest, which was particularly well concealed, was found at Well Hall, near Chelsfield, Kent, in June, 1905. On 1st June, when first found, the nest contained two eggs of a Robin and one of a Cuckoo. One of the Robin's eggs and the Cuckoo's were taken. On June 6th there were two more Cuckoo's eggs in the nest, while one more Robin's egg had been laid. All the eggs were fresh, but they were cold, and appeared to have been deserted. They are now in my collection, and the three Cuckoo's eggs are so unlike each other that there can be no doubt that they were laid by three different birds.

As showing that the Cuckoo is not always a wiseacre, I

have an egg that was placed in a Hedge-Sparrow's nest three weeks after the owner had deserted her one egg. The whole proceeding was watched by my brother, who sent me both eggs.

J. F. GREEN.

COMMON BITTERN IN YORKSHIRE.

ON 20th January last a boy when returning to work at mid-day noticed a strange bird standing in a dry ditch outside the Vicarage garden of Bishop Monkton, a village near Harrogate. The boy cautiously approached the bird, which made no attempt to fly, and allowed itself, after a short defence, to be captured. It was uninjured, but died next day. It was a young Bittern (*Botaurus stellaris*), and was suffering from starvation.

On the day of its capture, as also on the preceding one, the wind was strong and from the east. Within four miles are ponds suitable for its concealment and sustenance.

E. S. STEWARD.

COMMON SNIPE NESTING IN AUGUST.

MR. CHARLES J. WILSON informs me that on the 21st of August last he flushed a pair of Snipe on Eunant Moor, near Llanwddyn, Montgomeryshire, and discovered that they had a nest containing two newly-hatched young and one egg. So far as my experience goes, the Snipe is not double-brooded, and I have never before heard of a nest so late in the season.

H. E. FORREST.

[In the 4th Ed. of "Yarrell's British Birds," Vol. III., p. 345, it is recorded that young in down have been observed in August, and that two broods are apparently sometimes reared in a season. The authors of the "Birds of Ireland" record a clutch of nearly fresh eggs on 25th July, and state that "there is reason to believe that second clutches are laid."—EDS.]

A MARKED SNIPE.

HERR CHR. MORTENSEN writes to me that he has had a Common Snipe sent to him with a ring round one of its legs. On the ring is the inscription "R.P. E. 3594." The bird was shot by a sportsman in Andalusia, Spain.

Perhaps one of your readers may know something of the history of this bird.

C. B. TICEHURST.

[In addition to the birds noted in our last number as having

been marked, Mr. J. H. Gurney had 40 young and 51 old Gannets on the Bass Rock marked with a metal ring bearing the legend "1904. Bass Rock." Three of these birds were shortly afterwards caught not far from the Bass, but none of the others have been reported. We believe that a large number of birds of various species are ringed every year at Rossitten on the Baltic.—EDS.]

GREENSHANK IN STAFFORDSHIRE.

THE occurrence of the Greenshank (*Totanus canescens*) in Staffordshire is so rare that it may be of interest to note that, on the evening of 31st August, 1907, Mr. F. H. Thomas, of Fishley, near Walsall, shot an adult specimen. It rose from a "swag," or small pool, at the foot of a pit mound within two hundred yards of his house.

Dr. McAl dowie describes this species, in his "Birds of Staffordshire," as "a rare spring and autumn visitant."

W. WELLS BLADEN.

LARGE CLUTCH OF EGGS OF THE GREAT CRESTED GREBE.

IT may be of interest to know that on 20th May, 1907, I found a nest of the Great Crested Grebe on a reservoir near Aylesbury, Bucks., containing no less than seven eggs! Surely this is an extremely large number, and possibly was the product of two females.

L. W. CROUCH.

* * *

RARE BIRDS ON THE ISLE OF MAY.—*Correction.*—We much regret that in referring in our last number (*cf.* p. 296) to the birds recorded by the Misses Rintoul and Baxter we misquoted the records under the *Lapland Bunting*. Only one Lapland Bunting was seen (1st October), and none obtained. The other records included under this bird should have referred to the *Snow-Bunting*.

OSPREYS IN CO. SLIGO.—Mr. W. J. Williams records with proper regret that two immature Ospreys (*Pandion haliaetus*) were captured in co. Sligo during November, 1907 (*Zool.*, 1908, p. 33).

NIGHT-HERON IN CO. MEATH.—An immature example of *Nycticorax griseus*, in good plumage, was shot on Lord Darnley's estate in co. Meath on 21st November, 1907 (W. J. Williams, *Zool.*, 1908, p. 33).

SABINE'S SNIPE IN CO. CORK.—The "Field," February 1st, contains a short account of the melanic variety of the Common Snipe, at one time regarded as a distinct species—Sabine's Snipe—killed near Middleton, co. Cork, on January 24th, by Dr. Richard Fitzgerald. Like the specimen described in the "Ibis," 1905, p. 289, this bird seems to have lacked the characteristic longitudinal striping of the upper parts; and as I suggested (*l.c.*) these birds cannot properly be regarded as melanoid varieties, since they do not show traces of the normal plumage pattern through the dark pigment. It was pointed out by Mr. J. L. Bonhote that they bear resemblance in the pattern of their plumage to a perfectly distinct species—the Solitary Snipe (*Gallinago solitaria*), and they are to be regarded as instances of mutations, or discontinuous variations.

W. P. P.

SABINE'S GULL IN THE FIRTH OF FORTH.—An immature specimen of *Xema sabinii* was identified on August 31st, 1907 (W. Evans, *Ann. S.N.H.*, 1908, p. 53).

SALE OF A GREAT AUK'S EGG.—On the disposal of the museum of curiosities formed by the late T. G. Middlebrook at the "Edinburgh Castle" in January last, a Great Auk's egg was knocked down to Messrs. Rowland Ward & Co., for £110—the lowest price paid for a Great Auk's egg for many years. This egg has changed hands many times. Originally in the Field Collection, it passed to the Potts Collection, and was next purchased, together with a stuffed bird, for 600 guineas by Mr. Rowland Ward. The egg was then put up to auction at Stevens' Rooms, and was bought by Middlebrook for 280 guineas. Now it has again returned to Piccadilly.

BOOKS PUBLISHED DURING FEBRUARY.

- Wild Birds at Home.* Third Series. 18mo. (Gowans.) 6d. net.
A Book of Birds, by W. P. Pycraft. (Sydney Appleton.) 6s.
British Bird Life, by W. Percival Westell, with an introduction by The Rt. Hon. Sir Herbert Maxwell, Bart., F.R.S. 60 illustrations. (T. Fisher Unwin.) 3s. 6d. cheap edition.



NEST OF COMMON BITTERN ON THE FRINGE OF A DENSE PATCH OF RUSHES.

The position of the head and neck in two of the young suggests the protective attitude
(Photographed by F. W. W.)

BRITISH BIRDS

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

ASSISTED BY W. P. PYCRAFT, A.L.S., M.B.O.U.

CONTENTS OF NUMBER 11. APRIL 1, 1908.

The Breeding Habits of the Common Bittern, by E. W. Wade, M.B.O.U.	Page 329
The Spread of the Little Owl from the Chief Centres of its Introduction, by H. F. Witherby and N. F. Ticehurst	335
The "Powder-Down" of the Heron, by W. P. Pycraft	343
On the More Important Additions to our Knowledge of British Birds since 1899, by H. F. Witherby and N. F. Ticehurst (Part IX.)— <i>continued from page 322</i>	347
Notes :—"Hen-Harrier" Nesting in Surrey (H. F. W.). Comparative Legislation for the Protection of Birds. Chiffchaff in London (W. P. Pycraft). Swallow's Nest built on a Glass Gas Shade (Stephen J. White). Martin's Nest built on a Window-pane (J. A. Harvie-Brown). White-Winged Lark in Sussex (J. B. Nichols). Increase of the Starling in Northumberland (J. S. T. Walton). Short-Eared Owls in Ireland (W. J. Williams). Smew Inland in Northumberland (J. S. T. Walton), etc.	351

THE BREEDING HABITS OF THE COMMON BITTERN.

BY

E. W. WADE, M.B.O.U.

As the Bittern (*Botaurus stellaris*) has long since ceased to breed in this country, although it still frequently occurs from autumn to spring, it may be of interest to give the results of my observations on its nesting habits made during many seasons' hard work in Holland.

The Bittern is a bird of the wet marshes, and is distributed all over Holland, varying in numbers according as the season is wet or dry. On most of the large meres,

where reeds and rushes abound, the bird may be heard in spring, throughout North Holland, Friesland, and the shallow lagoons bordering on the various outlets of the Rhine. Generally a solitary pair seems to frequent each mere, but in favoured localities the birds are more numerous, as many as three being heard at one time, though each pair keeps to its own ground in the marsh. In the spring of 1903, when, through continuous rain, and the consequent backing up of the water, most of the low-lying Fries meadows were flooded, the boom of the Bittern was heard everywhere, and if breeding, it must have done so on the flooded meadows, but in ordinary seasons the note is confined to favoured localities only.

From the protection afforded to the eggs by the secluded position of the nest, one would expect the bird to increase, but on enquiring of the marshmen why it did not do so, we were told that it was shot in winter for eating. It lingers therefore only in those parts of Holland which have not been reclaimed from fen, in numbers which appear to be pretty constant, breeding only where there is plenty of water.

The peculiar note from which the Dutch name (Roerdomp) is derived, is uttered as the bird sits in some reed-bed over the water. It resembles the bellowing of a bull, but with a deeper resonance. When heard at close quarters the bird seems to catch its breath three times, as if inhaling air, and then booms three or four times, the first boom sounding half-choked, the others clear and loud, after which it is silent for twenty minutes to half-an-hour. On wet days the note is heard oftener than on fine.

As regards the means of producing a note of so great a volume, various theories have been propounded. The old superstition that the bird thrusts its bill into a reed-stem in order to increase the sound may be dismissed at once, but the note when heard at close quarters sounds as if some pent-up force were bursting forth, and perhaps the statement of Leonhard Baldner, the Strasburg naturalist (1666), that "the voice of these birds is produced through

the long nostrils, whilst the beak is closed and lifted up," may be the true explanation. Certainly, for a bird with no convolution of the trachea, the volume of sound is enormous. An old Dutch fenman told us that the boom



Nest among dead Bulrushes, visible at thirty paces when the old bird was not sitting. (Photographed by E. W. Wade.)

may be heard from February till 21st June, by which latter date the last of the young would be out of the nest.

Almost without exception our English writers mention the note as heard after twilight, some going so far as to state that it is never heard during the day, which possibly

arises from lack of opportunity for an intimate study of the bird in its breeding haunts, or from confusing the sound with the bellowing of a bull. Certain it is that the bird booms in the daytime almost as much as after dusk. Observations, extending over many years, both in Holland and Hungary, sometimes taken throughout the entire night, show that the note is heard both in daylight and at dusk. Full sunshine does not check the bird's call, which in April and May is often repeated in twilight, but in early June is more seldom heard at nightfall than during the day. In the hours of absolute darkness one hears it very little.

On one occasion, at 6.30 p.m., we were fortunate enough to flush a Bittern, apparently near the nest, for it flew circling round above us for twenty minutes, uttering now and then a single note "Käūw," which was answered by the boom of its mate (presumably the cock bird) from the reed-beds, he having previously been silent and becoming so again when we left the place and the female ceased to cry.

The mystery attaching to this bird, so seldom seen but so often heard, always made its nest a special object of search, but it was not till after years of hard work and watching, until in fact we went to live amongst the Dutch marshmen, spent long days with them, talking their language and questioning them about the ways of the marsh birds, that we came to understand and find out its secrets. The marshmen say that each pair of birds keeps to its own ground, and that the cock bird sits booming to his mate as she is engaged in nesting duties somewhere in the neighbourhood. Obviously, therefore, the best guide to the locality of the nest is the note of the bird.

One day, as my friend and I were wading in the marsh at some distance apart, he shouted to me, and on looking up I saw a large greyish-brown bird flying slowly from the place where he stood; its neck, which was stretched out straight, appearing disproportionately large compared to the body. The ground was intersected by numerous

shallow ditches, in one of which, placed amongst short dead reeds, was the nest. Built of fine dead reed-stems to a height of three or four inches above the water, with a very shallow depression in the centre, it appeared too small for a bird of this size. Scattered over it were flecks of grey down, and in it six eggs. So small was the surface of the nest that in brooding the eggs the parent bird's plumage must have protruded beyond the edge. We found feather-scale mixed with the nesting material right down to the foundations, as if the bird had used it constantly throughout the year as a resting and preening place, added to it as it became padded down, and finally laid her eggs upon it. This attachment to the nest was observed in another case, where a bird flew up from an empty nest in June, and examination showed the same feather-scale throughout. Other nests were found in due course, some in thick rush beds, others in floating patches of dead bulrushes, some with eggs, and some with young, and from these some general rules as to the nesting habits may be deduced.

If the haunt of the bird is in the neighbourhood of thick rushes the nest will be found there, but if none are present, an old bed of dead reeds or bulrushes, in which the colour of the bird makes it almost invisible, is chosen. Here the uncovered nest is easily seen (*see* text figure), sometimes at a distance of twenty feet, but until the bird leaves it, it is perfectly concealed. When the sitting bird is approached she remains motionless until the searcher is almost upon her, when she flies off straight from the eggs, leaving her treasures exposed in the flat insignificant nest, probably made so small from motives of concealment. Sometimes it looks as though she had appropriated an old nest of a coot, but the material is always the same, viz., dead reed stems. The nest is always placed above water, and even when surrounded by dense rushes, is in a situation where the bird can fly up easily (*see* Plate VI.). She appears never to run like a Rail, but more resembles the Heron in the nesting habit.

The bird may be frequently flushed in the marsh, when it flies three to four hundred yards, and if it has eggs, soon returns to the nest. On one occasion, as we returned to the boat after photographing the nest, we found the hen bird in a reed bed, sitting with neck stretched straight out only two yards from us.

The eggs may be found from early April to the first week in June, but the best average date is about 12th May. They vary in number from three to six, and show great differences in shape, from a long oval, pointed at each end, to a short, almost rounded, egg, but very few are without a finely pointed smaller end. In length they vary from $2\frac{1}{4}$ inches to $1\frac{7}{8}$ inches, and in width from $1\frac{1}{2}$ to $1\frac{3}{8}$ inches. Some of each clutch are more incubated than others and the young are of unequal sizes. In two clutches we saw, the eggs were marked, the one with small reddish-brown speckles, generally more numerous about the large end, the other with dull spots and blotches of olive-brown, especially marked about the ends of two of the eggs.

The young we saw were covered with a bristly light reddish-chocolate down, more scanty and lighter-coloured than in Gould's illustration,* nostrils, base of bill, eyelids and chin bare, throat covered with scanty greyish-white down. Gape, legs and feet, pale flesh colour; irides, dull greenish-yellow; gullet, vermilion. On being disturbed one of them threw up a fish a quarter of its own size, with the head only half digested, and as this was about 1 p.m., it is fair to suppose that a certain amount of feeding is done by the old birds during daylight.

The young have a very marked habit of stretching the neck and head upwards, suggesting that they instinctively assume the protective attitude characteristic of the old bird.

* Part VI. of the original folio of "Birds of Great Britain," or Plate 27, Vol. IV., when re-arranged.

THE SPREAD OF THE LITTLE OWL FROM THE CHIEF CENTRES OF ITS INTRODUCTION.

BY

H. F. WITHERBY AND N. F. TICEHURST.

THE Little Owl (*Athene noctua*) cannot now be regarded as anything more than an introduced species in these islands owing to the fact that so many have been "turned down" in various parts of the country. The interest in its possible migrations to England is, therefore, lost, and this is to be deplored, but there is undoubted value in tracing how it has spread from the various centres of its introduction. The following information has, therefore, been collected, and we must here express our great indebtedness to various correspondents who have very kindly supplied us with notes on the subject.

As long ago as 1843 Charles Waterton liberated five Little Owls, which he had brought from Rome the previous year, in Walton Park, Yorkshire, and of late years (about 1890 and again in 1905) Mr. W. H. St. Quintin has turned out some of these birds at Scampston Hall, Rillington, but they did not do very well, and have now apparently disappeared. Mr. St. Quintin writes that his is "not a well-wooded district, and there are no rock-crevices except along the coast . . . I have given up any hope of naturalizing the birds here."

Little Owls have been turned down no doubt in many other places (in Hampshire and at Tring for examples) in small numbers at different times, but it seems that the only "introductions" which have been really successful, and, therefore, are of importance to our present purpose of showing how an introduced species is able to multiply

and spread, are those by the late Lord Lilford, near Oundle, in Northamptonshire, and by Mr. E. G. B. Meade-Waldo, at Stonewall Park, near Edenbridge, in Kent.

From these centres of introduction the bird has spread in a very remarkable way. To deal first with the Northamptonshire introduction, the bird was first discovered breeding at Lilford in 1889, but for several years before Lord Lilford had made a practice of liberating Little Owls in various parts of his grounds.* From 1889 the birds appear to have multiplied and spread in a remarkable way.

In 1890 and subsequent years Lord Lilford records (*l.c.*) how they were found breeding in several places round about Lilford, while by 1892, in any case, and most likely before then, the bird had spread to Woburn, in the south-west of Bedfordshire. It has been generally believed that the bird was introduced at Woburn itself, but on this point the Duchess of Bedford kindly writes to us as follows :—

“I have known the Little Owl at Woburn since I first came to live here (Woburn Abbey) in 1892. The keepers say that it existed here before that date. I should like to correct the impression which appears to be very prevalent that we have imported it ourselves. We have never imported them, and as they were here so early as 1892 I conclude that the birds here must have come from Lord Lilford’s importation and not from the more recent one at Tring.

“There are a great many of them about the Park, and they have bred freely for many years. Owing to their habit of flying about in the daytime they are frequently seen. I have seen one kill an almost full-grown Thrush.”

Although it was not recorded between Lilford and Woburn previous to 1894, it probably existed in the north of the county but was unnoticed. In any case, according to a very useful account of its status in Bedfordshire,† it

* Lilford, *Notes on the Birds of Norths.*, p. 66.

† J. Steele-Elliott, *Zool.*, 1907, p. 384.

was seen in 1894 at Chawston, in the north-east of the county, and from that time appears to have made a stronghold of that neighbourhood. In 1897 it was seen at Turvey, on the western border of Bedford, about midway between Woburn and Lilford, and at Cranfield, nearer Woburn. In 1898 it was reported on the east side of the county, and at Liddington, north of Woburn. In 1899 it was still more generally distributed through the county, and by 1900 it had reached Luton, in the extreme south of Bedfordshire.

In 1901 it was reported as nesting at Great Barford and Southill, in the eastern part of the county, while in 1892 and the following years it nested in a number of other places. Mr. Steele-Elliott (*l.c.*) estimates its present numbers in Bedfordshire at two or three hundred pairs, and states that it is already the commonest Owl in the county, and is still on the increase.

Meanwhile it had spread to Ware, in the east of Hertfordshire, by 1897, and bred there that year and in 1898,* while by 1902 it was quite common and resident as far south as Watford.†

In June, 1903, one was heard at Hockley, in the south-east of Essex.‡ In 1906 we hear of several being seen in the north of Hertfordshire,§ and in 1907 three young were taken from a chalk pit near Royston,|| and a nest was found near Watton-at-Stone, and another near St. Albans.¶

To the south-west it was reported in Buckinghamshire, from Turville, in 1894, and from Fingest in 1896, both these places being in the south-west of the county, while it was recorded from Bletchley, in the north-east of the same county, in 1902.** In east Berkshire a pair was seen in the beginning of 1907 in Windsor Forest.†† In

* P. A. Buxton, *Zool.*, 1907, p. 430. † W. Bickerton, *in litt.*

‡ F. W. Frohawk, *Field*, 12, x., 1907. § Stuart Maples, *Zool.*, 1907, p. 353.

|| J. P. Nunn, *in litt.* ¶ Allan Ellison, *Zool.*, 1907, p. 430.

** E. Hartert and L. W. Rothschild, *Victoria History of Bucks. (Birds)*, p. 141. †† B. G. Van De Weyer, *in litt.*

Oxfordshire it has been reported near Henley in 1901,* and near Goring in 1907.†

A good many Little Owls have been liberated at Tring, and some of the birds recorded from western Hertfordshire, southern Buckinghamshire and Oxfordshire may possibly have had their origin from these introductions, but the birds turned down at Tring do not seem to have been very successful, and from the distribution and the dates of the records, as well as from the fact that the birds have undoubtedly spread correspondingly far in other directions from the centre of Lilford, it seems more reasonable to refer the records to that origin.

Its northward and eastward extensions have not been so well recorded, and there are many gaps, but its spread from the centre of Lilford is none the less fairly clear. The north-east of Northamptonshire has, for some time, been one of its strongholds, and eastwards we find it nesting near Offord Darcy, near Huntingdon, in 1907,‡ and in Cambridgeshire in 1907,§ while several have been reported from Suffolk and Norfolk since 1901 but none have yet bred in Norfolk.||

Northwards Lord Lilford himself¶ records a specimen from as far as Normanton in Rutland in 1891, and notes its gradual spread northwards near Lilford in the early nineties. In Rutland Mr. Haines states** that young were caught near Glaston in 1895, two birds were found dead near Seaton in 1897, one was caught as far north as Exton Park, and another shot at Burley in 1899, while in 1900 nests were found at the latter place, and in 1902 and subsequent years the birds appear to have bred freely in several districts. At Exton Park, Lord Gainsborough tells us, they have increased wonderfully since they first appeared. The bird now nests plentifully there in holes

* C. W. Bradshaw, *Zool.*, 1901, p. 476. † *Field*, 30, xi., 1907.

‡ F. C. R. Jourdain, *vide* C. E. Wright, *in litt.*

§ *id.*, *cf.* also *Field*, 5, x., 1907, and 12, x., 1907.

|| J. H. Gurney, *in litt.* ¶ *Birds of Norths.*, p. 67.

** C. Reginald Haines, *Birds of Rutland*, p. 91.

in the old thorn trees and is the commonest Owl in the Park. Around Uppingham Mr. W. T. Constable tells us that in a lecture recently given to the Natural Science Society of Uppingham School, Mr. R. N. Greenwood described the Little Owl as established in that part of the county, and that the members of the Society rarely went out on an expedition without seeing the bird, which was obviously increasing.

Meanwhile it had spread into Nottinghamshire,* where one was caught in 1896 at Newark-on-Trent, and another shot near Nottingham in 1901, while in subsequent years several were seen. The bird has even spread as far north as Lincoln, near which town one was shot as early as 1902, and another a little further south near Sleaford in 1904.†

To the north-westward it has recently nested in Leicestershire and occurred in south Derbyshire in 1906, and is evidently spreading,‡ and one was shot in 1906 in Staffordshire, on the Shropshire border,§ and arguing from these records, the bird appears actually to have spread to Shropshire, although the occurrences in that county may possibly be due to local importations. Mr. H. E. Forrest writes that one was heard calling near Willey, in south Shropshire, in 1899, and that another was caught in a trap near there in the same year, while another was taken near Shrewsbury in February, 1908.

The rapid extension of the Little Owl in all quarters from the centre of Lilford is thus very remarkable. There are many gaps in the records, but it must be borne in mind that where one has been recorded there are no doubt many others, for although the bird's plaintive and monotonous single whistle is very distinctive, and although it often flies in daylight, nevertheless it can easily be

* J. Whitaker, *Birds of Notts.*, p. 156.

† F. L. Blathwayt, *Zool.*, 1902, p. 112; 1904, p. 74.

‡ F. C. R. Jourdain, *in litt.*, cf. also *Derb. Arc. and Nat. Hist. Soc. Journal*, 1907.

§ W. Wells Bladen, *Trans. N. Staffs. F. Club*, 1906-7.

overlooked. Mr. Meade-Waldo, for instance, tells us that he has seen a keeper, attracted by the "mobbing" of small birds, search for a cat or Owl, and yet take no notice whatever when a Little Owl flew out from a neighbouring tree.

Turning now to the second successful introduction of this bird—that at Stonewall Park, near Edenbridge, in Kent—Mr. E. G. B. Meade-Waldo, to whom we are much indebted for information, writes as follows:—"We let out Little Owls first of all about 1874, and between then and 1880 about forty good birds went off. We knew of one nest in 1879. In 1896 and again in 1900 I 'hacked off' about twenty-five. Since then they have been comparatively abundant all through our district, which is roughly between Tunbridge Wells and Sevenoaks. I know of generally some forty nests in a radius of some four or five miles. With us their favourite haunts are old orchards and rocks."

From this centre the birds have spread in every direction, though, from the information at present available, they do not seem to have penetrated to anything like so great a distance as the Lilford birds have done. To the north-west they have crossed the Surrey border, and are now to be found in the Godstone valley and in the neighbourhood of Blindley Heath (Meade-Waldo), while westwards, in the same county, two pairs nested in 1907 on an estate near Horley.*

To the south the birds have spread into Sussex, where they are now established in the East Grinstead district, and at Forest Row and Withyham, on the borders of Ashdown Forest (Meade-Waldo).

At the latter place a nest containing an egg and two young birds was found in a hollow tree, 16th June, 1903, by Mr. W. Hosken.†

Returning to Kent, the main spread appears to have taken place to the north, through Sevenoaks and Wester-

* A. W. Thornthwaite, *in litt.*

† *Field*, 8, VIII., 1903.

ham. The earliest record we can find from the former is sometime prior to 1893, but the birds were probably there some years before that; likewise at Westerham it has been established at least six years,* and probably much longer. From these two places the birds have evidently spread north to Keston, Hayes, and Bromley (Meade-Waldo), and a single bird was reported from North Cray, between the latter place and Dartford, in 1897.†

From the valley of the Darent there are one or two isolated records, but the birds would seem to have penetrated at a very early date as far as Dartford. Mr. A. B. Farn informs us (*in litt.*) that he saw a bird, shot in the locality, in the flesh in a bird-stuffer's shop in the latter town in the early seventies, and in the winter of 1883-84 he himself saw one leave a hollow tree at Swanscombe. Mr. W. J. Davis states‡ that it is apparently not uncommon in Horton Woods, near Dartford, as he received two specimens from there in 1903 and several since.

From the Darent Valley a few birds seem to have spread eastward, and were reported from Shorne, between Gravesend and Rochester, some time prior to 1893,§ and from Cuxton, between Rochester and Maidstone, in 1894.||

To the east and south-east of their point of introduction they have been reported from as far off as Cranbrook in 1903,¶ and from Bilsington in 1906, and Boxley, near Maidstone, in 1907.**

Mr. C. W. R. Knight, in a letter to "Country Life," 19th October, 1907, described a nest found by him in April that year, but he does not give the locality. He remarks, however, that "the bird seems to be distributed throughout the wooded districts of Kent"; this is in our opinion far too sweeping a statement, for while the bird is probably far more common in the localities mentioned above than

* W. J. Davis, *Birds of Kent*, p. 103.

† *Field*, 20, II., 1897.

‡ W. J. Davis, *Birds of Kent*, p. 103.

§ C. H. Fielding, *Memories of Malling*, p. 257.

|| H. Elgar, *in litt.*

¶ R. E. Cheesman, *in litt.*

** R. J. Balston, and others, *Notes on the Birds of Kent*, p. 276.

the actual information at present available would represent, there is not a single record of recent years to the east of a line from Hythe to Rochester.

In south-west Sussex a pair of birds were liberated at Knepp Castle in 1876, but were both apparently killed in March and April of the following year within a distance of ten miles.*

* Borrer, *Birds of Sussex*, p. 33.



THE "POWDER-DOWN" OF THE HERON.

BY

W. P. PYCRAFT.

THE idea that our native avifauna has now been so thoroughly explored that little of importance remains to be discovered, is, unfortunately, deeply rooted in the minds of many, even enthusiastic, ornithologists.

Nevertheless it is a fact that we have, as yet, but touched the fringe of this study of British birds. Hosts of problems await our attention, and the attempted solution of these will give rise to as many more as yet unsuspected.

An outline of the work to be done in relation to nestling birds we have already given, and it is proposed here to present a few facts summarising our knowledge of the curious and mysterious powder which pervades the plumage of certain birds, such, for example, as the Heron-tribe and the Pigeons.

It is common knowledge that the plumage of the Herons is pervaded by a peculiar "bloom" comparable to that which covers the skin of the grape and other fruits, and, like this, is of a "waxy" character.

All who have kept Herons in confinement know that the surface of the water in which they bathe is always covered by a thin film of powder of a bluish colour; a powder which is insoluble and does not appear to mix with the water on which it floats.

An examination of a dead bird will show that this powder is in some way, to be discussed presently, derived from certain conspicuous patches of very remarkably modified feathers, downy in character, but of great length and exceedingly fragile; so much so that they might be dispersed with a few vigorous puffs of wind: to touch them at all roughly is fatal to them. These curious



Breast of the Common Heron, with some of the contour-feathers removed to show the patch of "powder-down" feathers.

feathers are known as "powder-down" feathers, and are found in patches distributed in three pairs over the body. The first, and largest, pair is hidden by the breast feathers. When these are pushed aside, the patches will be found lying on either side of the middle line and extending backwards as far as the middle of the sternum, and forwards on to the interclavicular air-sacs at the base of the under-side of the neck. The second pair is seated on the thigh, the area covered being triangular in shape and corresponding to the fleshy portion of the thigh, from the line of the femur backwards. The third pair is quite small, linear in shape, and inguinal in position.

When the skin of the body is removed, the roots of these remarkable feathers are seen to form closely packed masses, dark in colour, and rich in oil.

The friable nature of the feathers has already been alluded to, and it is generally believed that it is by this ready disintegration of these feathers that the powder is formed. That the tips of the feathers, in short, break up into an exceedingly fine powder. Under the microscope this powder has an exceedingly fine granular appearance, and as far as I have tested it, is insoluble in ether or benzole. To the touch it is generally described as greasy, but waxy would be a more accurate simile.

From the feather itself, even under a high power of the microscope, I have so far been able to gain but little information. The rami are exceedingly long and almost devoid of radii. Towards the tips the rami commonly take on a curiously zig-zag form, the preliminary stage, apparently, to disintegration.

As to the purpose and origin of these feathers, nothing is yet known; though I hope, in a later communication in the near future, to be able, if not to solve, at least to point the way to a solution of the problem. I suspect that the powder will be found to be derived from the disintegration of the outer layer of the rami, or feather barbs, for it bears a close resemblance, in many respects, to the friable sheath which invests growing feathers.

So far, I believe they are to be regarded as derived not from down-feathers, but from contour-feathers.

As to their function we are also completely in the dark. According to some, these feathers, at any rate in the Heron, are luminous, and are used by the bird as lures when fishing by night! Such a suggestion could, obviously, come only from those who were unacquainted with the habits of the Heron and the number and position of the supposed luminous areas. The assumption that this "powder-down" possessed luminous properties has led more than one writer, during the last few months, to suggest that the luminosity exhibited by certain Barn-Owls—to which reference has been made in this journal—was similarly due to "powder-down" feathers. But these are conspicuous by their absence in the Owls! Another suggestion is that the powder serves as a disinfectant, Herons and Parrots, for example, being cited as instances of birds which are devoid of external parasites as a consequence of the powder which permeates their plumage. But the truth of this hypothesis has, so far, never been seriously tested. At the time of writing I cannot recall whether the Herons and Parrots are free from the usual bird-lice (*Mallophaga*), but these swarm on Pigeons—at any rate on domesticated pigeons—and few other birds produce this powder in such abundance.

The source and nature of this powder in the Pigeons I am now endeavouring to discover, and I believe that in these birds we shall find the earliest stages in the evolution of this remarkable phenomenon. The results of my investigation I hope to lay before the readers of BRITISH BIRDS at an early date.

ON THE MORE IMPORTANT ADDITIONS TO OUR
KNOWLEDGE OF BRITISH BIRDS SINCE 1899.

BY

H. F. WITHERBY AND N. F. TICEHURST.

PART IX.

(Continued from page 322.)

PURPLE HERON *Ardea purpurea* L. S. page 369.

NORFOLK.—A young female is recorded as having been shot near Lowestoft about October 20th, 1899 (J. H. Gurney, *Zool.*, 1900, p. 112); one (doubtful) was reported to have been seen at Yarmouth on August 12th, 1901 (*id.*, *t.c.*, 1902, p. 92); a young male was shot at Barton on August 8th, 1906 (*id.*, *t.c.*, 1907, p. 133).

HERTFORDSHIRE.—An immature example was shot near Harpenden in November, 1902 (J. Steele-Elliott, *t.c.*, 1903, p. 107).

SCILLY ISLES.—An immature bird was secured at St. Mary's in April, 1898 (J. Clark and F. R. Rodd, *t.c.*, 1906, p. 301).

GREAT WHITE HERON *Ardea alba* L. S. page 371.

Five undoubted examples of this rare species are admitted by Howard Saunders on Mr. J. H. Gurney's authority. The following may perhaps be added.

NOTTINGHAMSHIRE.—One in Mr. F. S. Foljambe's well-known collection was shot many years ago at Osberton (J. Whitaker, *Birds of Notts.*, p. 178).

YORKSHIRE.—One seen in 1868 near Wadsley Bridge by Mr. A. S. Hutchinson is considered by Mr. Nelson to be a good record (*Birds of Yorks.*, p. 393).

LITTLE EGRET *Ardea garzetta*. S. page 373.

YORKSHIRE.—A male in the Grosvenor Museum, Chester, stated to have been shot near Paull, Humberside, March, 1826, should be admitted to the list (T. H. Nelson, *Birds of Yorks.*, p. 394).

[HAMPSHIRE.—Perhaps the specimen mentioned in "Yarrell" (4th ed., Vol. IV., p. 183) should be admitted (*cf.* *Birds of Hants*, p. 199, *Zool.*, 1901, p. 107.)]

SQUACCO HERON *Ardea ralloides*. S. page 377.

YORKSHIRE.—One was picked up alive on February 26th, 1902, at Everingham (T. H. Nelson, *Birds of Yorks.*, p. 395).

NOTTINGHAMSHIRE.—One shot at Bestwood Park in August, 1871, is not included in the "Manual" (J. Whitaker, *Birds of Notts.*, p. 178).

SURREY.—A specimen in the Charterhouse collection was killed at Vachery Pond, near Cranleigh—no date (J. A. Bucknill, *Birds of Surrey*, p. 209). Surrey is not mentioned by Saunders as one of the counties in which this bird has occurred.

SUSSEX.—An immature female was shot near Winchelsea on October 16th, and a male on October 25th, 1901 (N. F. Ticehurst, *Bull. B.O.C.*, XII., p. 29); an adult female was shot in Romney Marsh on June 19th, and another between Icklesham and Winchelsea on June 22nd, 1903 (*id.*, *Zool.*, 1903, p. 421). A male in full plumage was shot near Rye on June 3rd, 1905 (J. B. Nichols, *t.c.*, 1905, p. 349).

CORNWALL.—A male in "superb condition" was shot at Penwethers, near Truro, on June 1st, 1907. Twenty examples are said to have been taken in this county (J. Clark, *t.c.*, 1907, p. 285).

SCILLY ISLES.—Has been obtained several times since 1849 on Tresco, St. Mary's and St. Martin's (J. Clark and F. R. Rodd, *t.c.*, 1906, p. 302).

NIGHT-HERON *Nycticorax griseus*. S. page 379.

HAMPSHIRE.—One killed at Avon Castle was exhibited at Bournemouth in 1901 (*Birds of Hants.*, p. 201).

KENT.—An adult male was shot at Brookland, 4th June, 1900, and an immature female at Newenden, 28th September, 1904 (N. F. T.).

SUSSEX.—An immature female was shot at Pevensy on September 24th, 1904 (J. B. Nichols, *Zool.*, 1905, p. 267).

NORFOLK.—One was shot near Rollesby Bridge on November 8th, 1899 (J. H. Gurney, *t.c.*, 1900, p. 113).

LANCS.—An adult was killed at Newton-le-Willows "ten or twelve years ago" (T. A. Coward, *t.c.*, 1904, p. 314).

IRELAND.—A male was obtained and another said to have been seen near Killinick, co. Wexford (no date is mentioned) (G. E. H. Barrett-Hamilton, *Irish Nat.*, 1899, p. 230).

[Judging by the records of late years, the species can hardly be called "an almost annual visitor" (*cf. Manual*).]

LITTLE BITTERN *Ardetta minuta* (L.). S. page 381.

CORNWALL.—A male was captured at Lostwithiel on June 30th, 1901 (H. M. Evans, *Zool.*, 1901, p. 354).

SUSSEX.—An adult was caught by a dog near Winchelsea in May, 1904 (N. F. T.).

NORFOLK.—One at Hickling, 3rd June, 1899 (M. C. H. Bird) (J. H. Gurney, *Zool.*, 1900, p. 107).

YORKSHIRE.—The remains of one were picked up on January 7th, 1902, near Scarborough (T. H. Nelson, *Birds of Yorks.*, p. 398).

BRECON.—One at Llangorse Lake in 1903 (J. H. Salter, *Zool.* 1904, p. 70).

IRELAND.—One was found exhausted on Owey Island, off co. Donegal, on February 9th, 1908 (R. M. Barrington, *Irish Nat.*, 1908, p. 59).

COMMON BITTERN *Botaurus stellaris* (L.). S. page 383.

The many records of the Bittern in various parts of England prove that this bird continues to be a regular visitor, and it would undoubtedly breed again in suitable places were it not regarded as a trophy rather than as an interesting bird. To Scotland and Ireland its visits are irregular and the following records may be quoted.

SCOTLAND.—1900: January 10th, one seen in Moray; January 25th, one killed and another seen near Aberdeen; January (early), a pair shot near Ayr; December, several seen and one shot on the Carron (Forth). 1902: November 20th, one shot at Balmaghie (Solway). 1905: February, two or three shot near Ayr.

IRELAND.—1900: January 10th, one near Londonderry; August 9th, one at Groomsport, co. Down; 1904: February 5th, one at Portlaw, co. Waterford; November, one at Curraclloe, co. Wexford.

AMERICAN BITTERN *Botaurus lentiginosus* (Montagu).
S. page 385.

SCILLY ISLES.—One, in very poor condition, was caught on Bryher on October 10th, 1903 (T. Digby Pigott, *Bull. B.O.C.*, Vol. XIV., p. 32, and J. Clark and F. R. Rodd, *Zool.*, 1906, p. 302).

CORNWALL.—A male in good plumage, but in an emaciated condition, was killed at Porthcurnow on November 12th, 1906 (J. Clark, *Zool.*, 1907, p. 285).

WHITE STORK *Ciconia alba* Bechst. S. page 387.

HAMPSHIRE.—One was shot at Atherfield on 29th April, 1902 (*Birds of Hants.*, p. 205).

NORFOLK.—One was shot at South Wootton on 19th May, 1905 (J. H. Gurney, *Zool.*, 1906, p. 127).

So many White Storks have been imported alive of recent years and have subsequently flown away that all records of this bird must be received with a certain amount of suspicion, but the above, being shot in spring, are less open to objection than most.

BLACK STORK *Ciconia nigra* (L.). S. page 389.

SCILLY ISLES.—One was shot by Mr. Dorrien-Smith on May 8th, 1890 (J. Clark and F. R. Rodd, *Zool.*, 1906, p. 302).

GLOSSY IBIS *Plegadis falcinellus* (L.). S. page 391.

This bird has occurred with considerable frequency in the period under review, and we are inclined to think that Saunders' opinion that it is "now only of *accidental* occurrence" should be qualified by considering it as a species of almost yearly occurrence. The following is a brief summary of the records.

ENGLAND.—1900: October, one Cornwall; November, one Cornwall, one Durham. 1902: October, two Scilly Isles, one Herefordshire, one Hampshire, two Sussex; November, one Norfolk, one Sussex, one Yorkshire. 1903: August, one Norfolk; September, one shot, three others seen, Sussex. 1906: September, four Norfolk, one Sussex, one Devon; October, one Cornwall.

SCOTLAND.—1902: October, one Islay; November, one near Kelso, Tweed, one near Forres, one Loch Strathbeg. 1903: September, one Orkney; October, one Perthshire.

IRELAND.—1902: (no date) one co. Clare, one co. Wexford. 1903: September, two co. Cork. 1906: September, one co. Down, one co. Wexford, two co. Waterford, one co. Dublin, one co. Cork; October one co. Clare; "autumn," one co. Galway.

SPOONBILL *Platalea leucorodia* L. S. page 393.

The Spoonbill is now of such regular occurrence in East Anglia during spring and summer and is so carefully protected that there can be no doubt that we shall soon have the great satisfaction of regaining this handsome and interesting bird as a regular breeding species.

It has always been a rare bird in Scotland. Mr. Harvie-Brown now confirms its place in the avifauna of the Outer Hebrides (*cf. Ann. S.N.H.*, 1902, p. 204).

NOTES

“HEN-HARRIER” NESTING IN SURREY.

AN article in the “Field” of December 21st, 1907 (p. 1109) describes the nesting of a *Montagu’s* Harrier in Surrey. The article, which is signed “T. F.,” gives details of a Harrier’s nest, which is undoubtedly the same as that referred to as a *Hen-Harrier’s* nest in the article by Messrs. Mouritz and Bentham, published in our January number (see page 237). We have been at great pains to discover whether the identification, as stated in this Magazine, was correct, or that by the writer in the “Field.”

We regret very much, and we are sure that the authors of the article in question regret no less, that the readers of BRITISH BIRDS have been misinformed, and that the nest described and photographed was, without any doubt, that of a *Montagu’s* Harrier (*Circus cineraceus*).

The following is a summary of the evidence which has led us to this conclusion.

Messrs. Mouritz and Bentham have been in correspondence with the writer in the “Field,” who concealed his identity no doubt because he took two eggs from the nest, and they are satisfied that the nest described by “T. F.” and the nest examined by themselves is one and the same.

Messrs. Mouritz and Bentham identified the male bird, which they saw repeatedly, as a Hen-Harrier, owing to the absence (apparently) of streaks on the abdomen, and owing to the absence (apparently) of a dark bar on the secondaries. The author of the “Field” article describes the male as very pale, and he could distinguish no streaks on the abdomen, but he noticed the dark bar on the secondaries. Apparently none of the observers had an opportunity of seeing the upper side of the male, had they done so the lack of a white patch on the rump would have decided at once that it was a *Montagu’s* Harrier.

It is only fair to our authors to state that Mr. Mouritz had seen a pair of birds at this place, and identified them as Hen-Harriers long before the nest was found, viz., on March 17th. The female of this pair was shot on March 19th, and is undoubtedly a *Hen-Harrier*. The male then went away, and, as our authors concluded, returned with another mate; but what really happened was that their place was taken by a pair of *Montagu’s* Harriers.

“T. F.” gives us the measurements of the two eggs taken by him as about $1\frac{1}{2}$ by $1\frac{3}{8}$ inch (say 41.3×35 mm.)

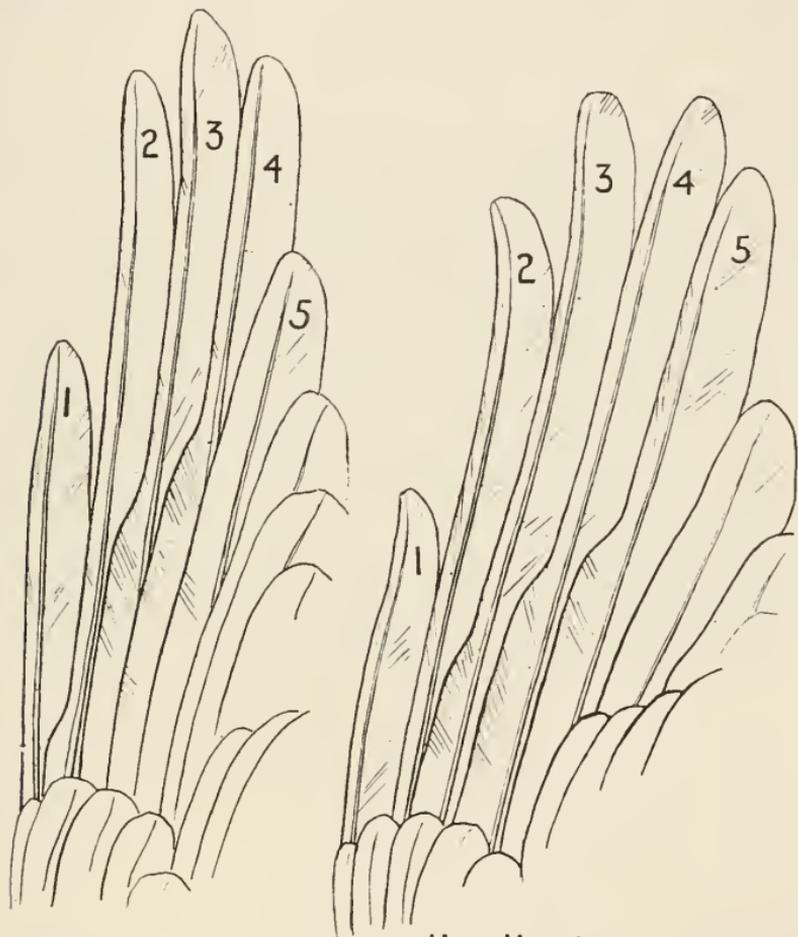
Unfortunately, the tests of size and weight do not furnish a safe criterion to distinguish the eggs of the two species, although in many cases it is possible to discriminate with tolerable certainty. The Rev. F. C. R. Jourdain has supplied us with the following notes on the subject. The average size of 100 Hen-Harriers' eggs is 44.7×34.9 mm., and the minimum 40.5×31.5 . On the other hand, 83 Montagu's Harriers' average 40.67×32.46 mm., but the maxima are 46×33.4 and 43.3×35.2 . It will be seen that in extreme cases the measurements overlap considerably, but judging from the breadth (which is by far the more reliable factor) the eggs are more likely to be those of the Hen-Harrier than of the other species. On an average, eggs of Montagu's Harrier weigh about 400 mg. less than those of the Hen-Harrier, but here again in extreme cases the data overlap. The measurements of Hen-Harriers' eggs as given in Mr. Dresser's book on the “Eggs of the Birds of Europe,” Part I., are decidedly too large, and are probably due to misprints.

The nestlings, however, afford positive proof. “T. F.” examined their primaries and noted that the fifth primaries were *not* notched (or emarginated) on their outer webs. Messrs. Mouritz and Bentham, unfortunately, did not examine the primaries, which in these species afford infallible characteristics for identification. Further, one of the young birds was shot in the neighbourhood by a keeper. The nestlings as described to me by Mr. Bentham and as described in the “Field,” were like the young one which was shot, and were typical of Montagu's Harrier in that they were very red on the underparts with but the faintest dark streaks. The bird that was shot is an undoubted Montagu's Harrier.

Mr. F. C. Selous has most kindly made most exhaustive enquiries on the spot, and through the kindness of Colonel Mark Mayhew he has been enabled to examine minutely the two birds which Colonel Mayhew purchased from the keeper who shot them. There can be no doubt whatever by the test of the primaries as well as by the coloration that the bird shot in March is an adult female Hen-Harrier, and that the bird shot in August is a young Montagu's Harrier. Mr. Selous further finds that Harriers are constantly in the neighbourhood of this nest, both in winter and in summer, and that they have nested there a good many times in the past twenty years. Two of his informants were confident that all these birds were Hen-Harriers, but there can be little doubt, from the information obtained by Mr Selous, that the birds

seen in winter and spring, at all events of late years, are Hen-Harriers, while those which nest are Montagu's Harriers. We must here record our best thanks to Mr. Selous for having taken the greatest pains and trouble to sift this matter to the bottom.

As the first five primaries of these two species afford such easy and certain means of identifying them, it has been thought worth while to give here drawings of the two wings.



Montagu's Harrier

Hen-Harrier

The distinctive characteristics generally used are as follows:—

Hen-Harrier.—(A) 2nd, 3rd, 4th and 5th primaries notched or emarginated on the outer web; (B) the notch on the 2nd primary just hidden by the coverts.

Montagu's Harrier.—(A) 2nd, 3rd and 4th primaries notched on the outer webs, but the 5th plain and *not* notched;

(B) the notch on the 2nd primary shows well beyond the coverts.

On a careful examination of a number of specimens, I find that the following further distinction in the primaries holds good :—

Hen-Harrier.—The 5th primary is as long as the 2nd.

Montagu's Harrier.—The 5th primary is considerably (nearly two inches) shorter than the 2nd.

H. F. W.

COMPARATIVE LEGISLATION FOR THE PROTECTION OF BIRDS.

THE ROYAL SOCIETY FOR THE PROTECTION OF BIRDS offer their Gold Medal and 20 Guineas for the best essay or treatise on this subject. The essay should take the form of an epitome of the legislation in force in the various countries of Europe (Great Britain excepted), together with a comparison of such legislation with (a) the law and regulations in force in Great Britain; (b) the proposals of the International Convention for the protection of birds useful to agriculture signed at Paris on March 19th, 1902; (c) the model law of the Audubon Societies adopted by certain of the United States of America.

Essays, which may be written in either English, French, or German, should consist of not less than 10,000 nor more than 25,000 words. They should be sent, post paid, not later than December 31st, 1908 (with the writer's name and address in a sealed envelope) to the Hon. Secretary the Royal Society for the Protection of Birds, 3, Hanover Square, London, from whom full particulars of the competition may be had.

Judges will be appointed by the Council of the Royal Society for the Protection of Birds, and their decision as to the merits of the essays must be regarded as final.

The writers of essays adjudged first, second, and third may be recommended by the judges for election as honorary life members of the Society.

The gold medal will be presented at the annual general meeting of the Society in March, 1909.

CHIFFCHAFF IN LONDON.

It may be worth while noting that Mr. Ogilvie-Grant and I watched a Chiffchaff (*Phylloscopus rufus*) on March 23rd, searching for insects in the open space at the back of the Natural History Museum, Cromwell Road, W.

W. P. PYCRAFT.

SWALLOW'S NEST BUILT ON A GLASS GAS SHADE.
HANGING over a gas burner in a stable at Oakwood, Crayford,

Kent, was a glass ceiling protector of the usual type, *i.e.*, a circular shade like an inverted soup plate. On this a pair of Swallows (*Hirundo rustica*) last year built their nest and were successful in rearing two broods.

When the young were fledged and clamoured for food, it was an extraordinary sight to see how the shade would swing about, and, owing to the weight being on one side, would often reach an angle at which it became quite dangerous for the occupants of the nest.

It is an interesting fact that, in spite of the slippery nature



Nest of Swallow built upon a glass gas shade.

of the glass on which the nest is built, it appears to be very securely fixed. The nest, a photograph of which is here reproduced, was exhibited by me at the February (1908) meeting of the British Ornithologists' Club.

STEPHEN J. WHITE.

MARTIN'S NEST BUILT ON A WINDOW-PANE.

MR. J. MILNE, since deceased (August 6th, 1906), when I visited him in 1905, showed me a house at Auchenblae (Tay) where a Martin (*Chelidon urbica*) had built its nest against a flat pane of glass. He obtained leave to take possession of the pane of glass and the nest attached, and carefully cut out the pane, and replaced it by another. In his own house he had a stone niche, in the corner of which another Martin had placed its

nest—the one in the top corner shown in the photograph. In order to show the normal position of Martins' nests, and the abnormal one upon the pane of glass, he fixed up the latter beside the former—and this is well depicted in the photograph, which was taken by Mr. Norrie in my presence.

J. A. HARVIE-BROWN.



Nests of House-Martin—the one in the corner built in a normal position; the other on a pane of glass. (From a Photograph lent by Mr. J. A. HARVIE-BROWN.)

[Nests placed in abnormal positions, and made of unusual materials are always interesting, and occasionally they are something more than this, as when they draw attention to details that have hitherto escaped observation under normal circumstances. The two photographs herewith subjoined well illustrate this point. One cannot help wondering how these birds managed to lay the foundations of such nests, and how afterwards the completed structures retained their hold. We

assume that the clay composing the nest is mixed with saliva, secreted by glands answering to those of the Edible Swift. But there seems to be no record of the presence of such glands in Swallows, and at the time of writing verification by dissection is impossible; but this point we may be able to clear up before long.—Eds.]

WHITE-WINGED LARK IN SUSSEX.

ON December 30th, 1907, a male, and on January 1st, 1908, a female White-winged Lark (*Melanocorypha sibirica*) were shot at Pevensy Sluice, Sussex.



Male White-winged Lark, shot at Pevensy, Sussex, on December 30th, 1907.

Both specimens are now in my collection. They were examined in the flesh by Mr. W. R. Butterfield, who exhibited them at the meeting of the British Ornithologists' Club, held on February 19th last.

A photograph of the male bird is here reproduced.

For particulars of the four previous occurrences of this species in England, I may refer the readers of BRITISH BIRDS to page 256 above, while an excellent account of its normal distribution is given in Saunders' "Manual."

J. B. NICHOLS.

INCREASE OF THE STARLING IN NORTHUMBERLAND.

WITH regard to the notes on the increase and extension of range of this bird (*supra*, p. 252) I may say that within the last thirty years its increase in this county has been very considerable, and during the greater part of the year large flocks may continually be seen. Its breeding range is pretty evenly distributed throughout the county. J. S. T. WALTON.

SHORT-EARED OWLS IN IRELAND.

IRELAND has been visited during the past winter by an enormous influx of Short-eared Owls (*Asio accipitrinus*). They were fairly distributed all over the country. In a small gorse covert in co. Tyrone over twenty birds were flushed by a shooting party and were unmolested; in co. Londonderry over ten birds were seen on the wing at the same time in a small bog. The chief flight seems to have taken place in November. From October 1st to March 1st I examined in all eighty-eight birds; during October four specimens were sent for mounting, in November forty, in December twenty, in January fifteen, and in February nine. All the birds were in good condition, some being very fat; females were more numerous than males. It will be interesting to find if any remain to breed, as this species has not yet been recorded as nesting in Ireland, although adult and immature birds have been shot in co. Wicklow in August.

W. J. WILLIAMS.

SMEW INLAND IN NORTHUMBERLAND.

AN adult female Smew (*Mergus albellus*) in fine plumage was shot in the neighbourhood of Colt Crag, North Tynedale, Northumberland, in December, 1907.

J. S. T. WALTON.

* * *

SALE OF A GREAT AUK'S EGG.—It would seem that in a note under this heading in our last number (page 328), some confusion was made with reference to the identity of the egg, although our information was obtained at first hand. Mr. E. Bidwell kindly writes to us as follows:—

The egg which was sold on January 29th, 1908, by Messrs. Debenham, Storr & Son, Limited, of 26, King Street, Covent Garden, at the disposal of the Middlebrook Museum, was described in the sale catalogue as under:—

“Lot 131.—This is one of the three eggs formerly in the collection of Comte Raoul de Beracé, and which afterwards became the property of Baron d'Hamonville. It was offered for sale by auction on July 19th, 1899, when it realised the

sum of £315. The specimen (slightly cracked) was placed on record in the memoirs of the Société Zoologique de France in 1888 (plate figure), and additional notes on its history appeared in the 'Bulletin' of the Société in 1891."

Very little information can be added to the above. Comte Raoul de Beracé, as he stated in a letter to Mr. George Dawson Rowley (dated 13th January, 1867), obtained this egg from a shipowner of St. Malo, more than thirty years before. It remained in the Count's collection until his death, and was acquired by Baron Louis d'Hamonville in March, 1887.

RARE BIRDS IN SUSSEX AND KENT.—Among the "Annual Notes" for 1907, collected by the Rev. E. N. Bloomfield, in "The Hastings and East Sussex Naturalist" (Vol. I., pp. 124, 125) we note the following interesting records by Messrs. N. F. Ticehurst, W. R. Butterfield, and W. Field:—

Great Grey Shrike (*Lanius excubitor*) at Pett Level, in June, 1907; Dartford Warbler (*Sylvia undata*) at Pett, in December, 1906; Baillon's Crake (*Porzana bailloni*) near Lydd, November 24th, 1906, and another at Pett, in June, 1907; Great Snipe (*Gallinago major*) at Brookland, on October 3rd, 1906; Spotted Redshank (*Totanus fuscus*) at Littlestone (no date); and Mr. T. Parkin records a Little Gull (*Larus minutus*) at Hastings, on February 23rd, 1907.

BRITISH WILLOW-TIT IN YORKSHIRE.—Among some Marsh-Tits submitted to Dr. Hartert for examination was a specimen of *Parus atricapillus kleinschmidti* taken at Bolton Abbey on January 3rd, 1908 (H. B. Booth, *Nat.*, 1908, p. 107).

GOLDEN ORIOLES BREEDING IN IMMATURE PLUMAGE.—At the meeting of the British Ornithologists' Club, held in February last, the Hon. E. S. Montagu exhibited two pairs of Golden Orioles (*Oriolus galbula*) from Hungary. They were breeding and had nests at the time, but the males were in immature plumage, much like that of the female. This was thought to be a newly ascertained fact, but it is not necessary to search further afield than "Yarrell" to find that it has been observed before, and that the male is supposed to take three years in attaining its full brilliant plumage (*cf.* Yarrell, *Hist. Brit. Birds*, Ed. IV., Vol. I., p. 240).

THE BREEDING OF THE KITE (*Milvus iclinus*) AND THE BUZZARD (*Buteo vulgaris*) IN ESSEX FIFTY YEARS AGO.—A paper which we regret to have overlooked, by Mr. Miller

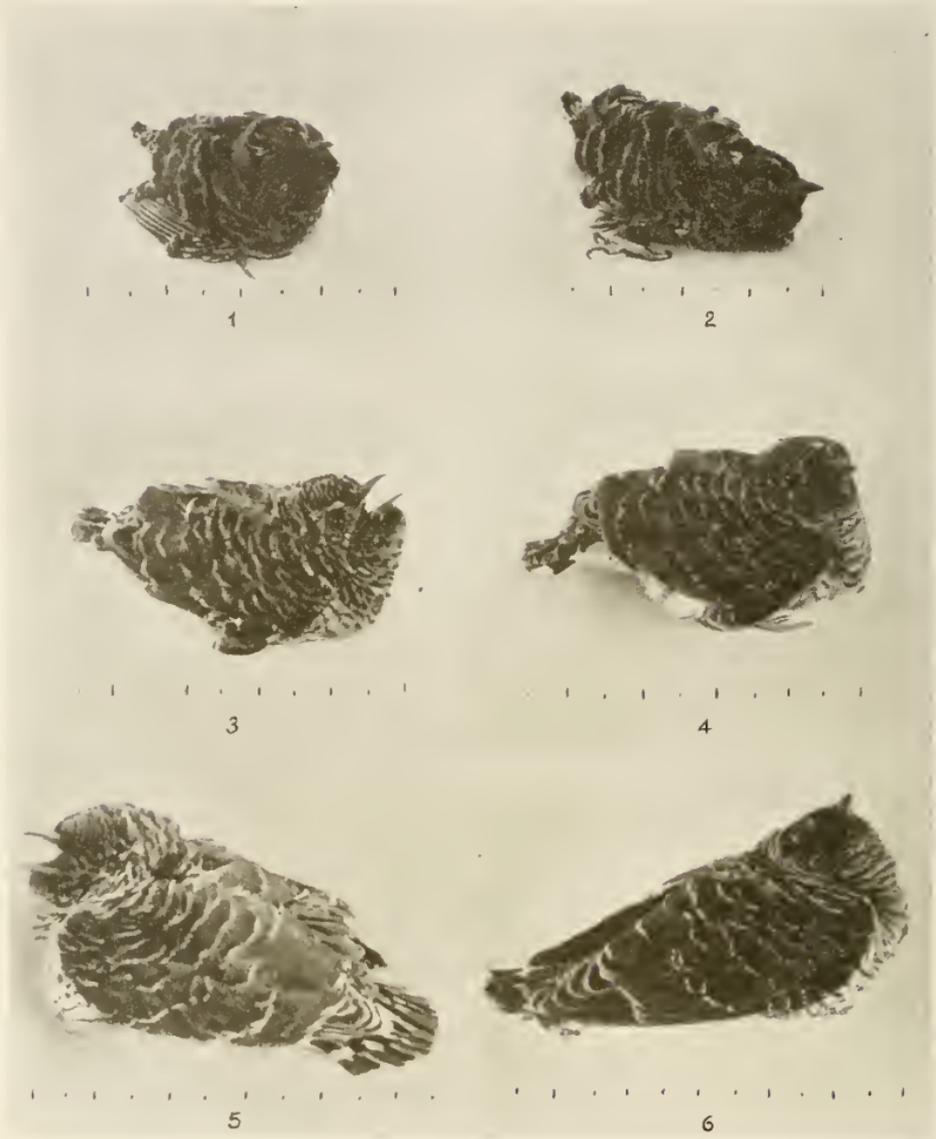
Christy on this subject appeared in the "Essex Naturalist" (Part 1, Vol. XV., pp. 18-23). The claim for the *Kite* having bred near Maldon in 1854, and for the *Buzzard* having nested near Purleigh in 1865, is founded upon some eggs which were sold at Stevens' in October, 1906. They were bought by Mr. O. V. Aplin, who not only supplied Mr. Christy with some interesting notes, but generously allowed the eggs to go to the Essex Museum of Natural History. Although the evidence is by no means conclusive that these eggs were correctly labelled, and that the birds really nested in Essex in the years stated, we think that Mr. Christy's conclusion that they may be taken as genuine is fair, especially as he points out that the district in which they were said to have been taken is very difficult of access. Incidentally Mr. Christy points to the interesting fact that the *Raven* bred in the same district as late as 1889.—EDS.

EAST SUSSEX HERONRIES.—In number three of the "Hastings and East Sussex Naturalist," which is the bright and useful little Journal of the flourishing local Natural History Society, Mr. T. Parkin, the President, has an article on the Heronry at Windmill Hill Place, Worthing. The author goes into the history of this interesting old heronry, which now contains annually from twenty-five to thirty-five occupied nests. We note that a new colony of Herons was formed last year at Plashett Park, near Lewes. The article is illustrated by Plates, one being from Horsfield's "History of Sussex."

SMEW REPORTED FROM CO. DONEGAL IN SUMMER.—A pair of *Mergus albellus* are said to have been seen by Professor Leebody at Inch, Lough Swilly, in May, 1907 (D. C. Campbell, *Irish Nat.*, 1908, p. 57). If the identification is to be relied upon the occurrence at the time of year is certainly remarkable.

GREAT CRESTED GREBE BREEDING IN CO. DONEGAL.—Two pairs of *Podiceps cristatus* were found breeding at Port Lough, in co. Donegal, in 1906 and 1907. The bird does not appear to have been previously recorded as breeding so far to the north-west in Ireland (D. C. Campbell, *Irish Nat.*, 1908, p. 57).

FORK-TAILED PETREL NEAR CHESTER.—A specimen of *Oceanodroma leucorhoa* is recorded from Ellesmereport on December 16th, 1907 (A. Newstead, *Nat.*, 1908, p. 111). The bird is apparently not uncommon in the Dee estuary at times (cf. H. E. Forrest, *Vert. Fauna N. Wales*, p. 413).



STAGES IN THE GROWTH OF A CUCKOO.

FIG. 1: 13 days old, length $4\frac{1}{4}$ "

FIG. 2: 14 days old, length $4\frac{1}{2}$ "

FIG. 3: 16 days old, length $5\frac{1}{3}$ "

FIG. 4: 18 days old, length $5\frac{3}{4}$ "

FIG. 5: 21 days old, length 8"

FIG. 6: 23 days old, length 9"

(Photographed by P. H. Bahr.)

BRITISH BIRDS

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

ASSISTED BY W. P. PYCRAFT, A.L.S., M.B.O.U.

CONTENTS OF NUMBER 12. MAY 1, 1908.

On the Development of a Young Cuckoo, by P. H. Bahr, M.A., F.Z.S., M.B.O.U.	Page 361
Some Observations on the Song-Periods of Birds, by C. J. and H. G. Alexander	367
The Nest of the Ringed Plover, and the Bearing thereof on the Evolution of Birds' Nests in General, by W. P. Pycraft	373
Notes:—The Birds of Fair Isle (H. F. W.). Melanism in the Coal-Titmouse (Percy F. Bunyard). Crossbill Nesting in Northumberland (J. S. T. Walton). An Old Record of the Little Bunting in Essex (H. E. Dresser). Migration of Hooded Crows (C. J. Alexander). Supposed Black Woodpecker in Nottinghamshire (J. Whitaker). Stock-Doves Nesting on Lincoln Minster (F. L. Blathwayt), etc., etc.	381
Review:—A Monograph of the Petrels (Order <i>Tubinares</i>) . .	390
Letter:—Wounded Peregrine Fed by its Mate (P. H. Bahr)	392

ON THE DEVELOPMENT OF A YOUNG CUCKOO.

BY

P. H. BAHR, M.A., F.Z.S., M.B.O.U.

THE subject of the accompanying illustrations was hatched on June 20th last year, in a Pied Wagtail's nest, situated quite close to the house, in a privet hedge, on the border of a path where gardeners were constantly passing and repassing all day long. This was the third consecutive year in which this particular pair of Wagtails had been so duped.

The young Cuckoo did not hatch till the young Wagtails, three in number, were three days old. But

though they were promptly ejected, I have no record of the time which elapsed between the hatching of the Cuckoo and the eviction of the rightful occupants of the nest. And this because I did not personally make the acquaintance of this Cuckoo till it was thirteen days old. At that age its most striking feature was an enormous abdomen, though scarcely less conspicuous was its covering of bristly, budding, feathers, which gave it the appearance rather of a lizard than a bird.

It was daily weighed and measured to record its rate of growth, and photographed to scale every second day. The marks below the bird in the photographs indicate inch and half-inch measurements, and constitute a scale of comparison (see Plate VII.). The weights and measurements are recorded below, and give quite astonishing results.

Date.	Age.	Length in inches.	Weight in ounces.
July 4th.	14 days.	$4\frac{5}{8}$	$2\frac{3}{4}$
.. 5th.	15 ..	5	$2\frac{3}{4}$
.. 6th.	16 ..	$5\frac{1}{2}$	3
.. 7th.	17 ..	$5\frac{3}{4}$	$3\frac{1}{4}$
.. 8th.	18 ..	$5\frac{3}{4}$	$3\frac{1}{4}$
.. 9th.	19 ..	6	$3\frac{1}{4}$
.. 10th.	20 ..	7	$3\frac{1}{4}$
.. 11th.	21 ..	8	$3\frac{1}{4}$
.. 12th.	22 ..	$8\frac{1}{2}$	$3\frac{1}{4}$
.. 13th.	23 ..	9	3
.. 14th.	24 ..	9	$2\frac{3}{4}$

It will be seen that at first the bird grew comparatively slowly in length,* but from the nineteenth to the twenty-first day of its existence it increased to the extent of one inch a day. This is accounted for by the extremely rapid growth of the tail-feathers, which took place at this period. The average increase in length works out at over half-an-inch a day. In comparing these with a set of similar observations on the American "Nighthawk," I find the increase to be exactly double.†

* The length is the distance from the tip of the beak to the end of the tail.

† Cf. Herrick, "The Home Life of Wild Birds," p. 81.

From a perusal of the above figures, another remarkable fact comes to light. It will be seen that on the fourteenth day of its life the Cuckoo weighed as much as on the day it flew; and that it decreased half-an-ounce in the last three days! The only explanation of this, I take it, is that its whole energy was devoted to growing feathers, and that the shedding of the feather-sheaths must largely account for this curious decrease. For a few hours during the last few days of these observations, the Cuckoo was confined in a cage, but, as I shall explain later, the consequently lessened food-supply cannot, in my opinion, be the cause of this loss in weight. I hope, on a future occasion, to be able to verify these observations, and by the use of a finer weighing machine to be able to record the more gradual increase of weight.

At first the bird evinced no fear of man, and on approach would open its beak, begging for food. By the sixteenth day the sense of fear had developed, and when the nest was approached it would puff out its throat, snap its bill, and strike at the offender's hand, assuming quite an alarming aspect. When placed on the board, for photographic purposes, it was able to crawl, and to take quite an interest in the surroundings. It answered the call of its foster-parents with alacrity, the answer taking the form of a miserable squeak, comparable, as has been fittingly put, to the twisting of a glass stopper in a bottle. It indicates one thing only; food, always more food!!

By the seventeenth day the Cuckoo completely filled the nest, and by the nineteenth was sitting outside it. By the twentieth day the primaries had grown considerably, and it was evident that the bird would fly in a few days. I therefore placed it on a suitable branch, and focussing the camera on it, proceeded to take pictures of the Wagtails attempting to allay its insatiable appetite. I found this not a very easy task, as both were very nervous and only the hen could be induced to approach. They appeared every ten minutes with their beaks full of flies, and other dainties, which the cock invariably ate himself. When

left for some time to itself the young Cuckoo, evidently enticed by the foster-parents, though unable to fly, would manage to flop back into the nest. Moreover, when the hen Wagtail eventually did summon up enough courage to settle on the hedge, she invariably first entered the nest and looked for her charge, whereas it was vociferating loudly, a conspicuous object enough, but a few feet away.

By the twenty-first day, when placed on its twig, the Cuckoo began to take an active interest in surrounding objects, and was observed to preen itself. When approached it became overpowered with rage, in which state it has been depicted (Fig. 1). The foster-parents apparently never roosted with their charge after a certain age, for though I often visited the nest at night, I failed to discover them.

On the twenty-second day I placed the Cuckoo in a small cage. The excreta were still encapsuled, and when the cage door was left open wide enough the Wagtails entered and removed them. The dietary at this period consisted of small slugs and moths, while on one occasion I found the carcase of a yellow underwing moth at the bottom of the cage. On the twenty-third day, in the early morning, the Cuckoo escaped from its prison, and I found it in the upper branches of a neighbouring apple tree, where doubtless it had flown. It was easily caught, but could not be induced to stay on the perch for long, for when the pangs of hunger became too strong, it flew straight off to the top of the tree again. When trying to catch the bird the second time it flew off across the garden, escorted by the Wagtails, to their evident delight. The apparently spontaneous attainment of the power of flight is remarkable. It flew straight off the branch with every appearance of confidence in its powers. During all the occasions on which I saw the Cuckoo fed, not once did the cock Wagtail attempt to approach.

On the twenty-fourth day I gave my captive its liberty. The Wagtails were overcome with joy, and crowded round it with their beaks full of dainty morsels. The hen



FIG. 1.—Cuckoo twenty-one days old. “When approached it became overpowered with rage.”

(Photographed by P. H. BARR).

bird came tumbling through the branches of the apple-tree as if wounded, squeaking, and trailing one wing—a performance which would not have disgraced a Reed-Bunting. For a day or two afterwards I heard the Cuckoo's familiar squeak in the high elms, and after that it was gone.

It will be seen from the photograph reproduced in Fig. 2, that when the young Cuckoo is being fed; its back



FIG. 2.—Pied Wagtail perched on the back of the Cuckoo while feeding it.

presents a convenient resting-place for the diminutive foster-parent.

This is no new fact, for it is mentioned in "Yarrell" (4th ed., II., p. 398), and an illustration of the same thing has been given by R. Kearton (*Nature's Carol Singers*, p. 14).

SOME OBSERVATIONS ON THE SONG-PERIODS
OF BIRDS.

BY

C. J. AND H. G. ALEXANDER.

THE observations on which this article is based have been made during the last three years, chiefly in the Tunbridge Wells district (Kent and Sussex) and at Wye (Kent), but also at Reigate (Surrey) and Rye (Sussex). They do not profess to represent the conditions prevailing anywhere except in the eastern part of the Weald.

No doubt the observations we have made will present no new facts to those who have paid attention to the subject, but we think it may be well to have them collected together here for comparison with those made in other districts.

In the middle of the song-period all the individuals of a species found in any locality sing every day, but at the extremes of their song-periods birds are much affected by situation and weather. The majority of birds sing most in hilly, partially wooded districts, but Skylarks sing equally wherever they are found, except that where they are numerous there is more chance of one singing under unfavourable conditions. Weather probably acts chiefly through the food supply. For instance, Thrushes stop singing directly there is a frost which lasts through the day, and after a long frost they do not resume their song fully for some days; Hedge-Sparrows and Robins do not stop unless the frost is considerable, and where they can get plenty of crumbs they will sing every day during severe weather, such as that in January of this year. But weather also acts directly: in the very mild period towards the end of December, 1907, Mistle-Thrushes sang a good deal, Creepers occasionally, and even a Blackbird was heard singing on two evenings. There is no reason to

suppose that they had not sufficient food during the slightly less mild period preceding this.

Then again, different species are differently affected by weather conditions other than temperature. Skylarks, for example, sing in frosty weather in the early days of their song-period if the sun is shining; while most species (and in our experience the Mistle-Thrush is no exception) dislike strong wind; Blackbirds, after their normal song-period is over, are most likely to sing during heavy showers—this has been attributed to an expectation of increased food supply; Hedge-Sparrows sing more than other species in drizzling or misty weather; while late snows, with the ground unfrozen, completely stop Thrushes and Chaffinches, and partially stop Robins and Hedge-Sparrows, but have little effect on Mistle-Thrushes and Skylarks.

Several species have an autumn, as well as a spring song-period. This is well seen in the Skylark, Pied Wagtail, Creeper, Goldcrest, Chiffchaff and Willow-Wren; less so in the Mistle-Thrush, Blackbird, Chaffinch and Lesser Whitethroat. The Swallow sings all through the summer, the Thrush, Robin and Hedge-Sparrow sing all through the winter, and the Wren makes no appreciable break either in winter or late summer.

It has often been suggested that autumn singing is that of birds of the year. This is certainly not the case with many individual birds well known to us, which sing on the same branches in autumn as in spring, and from these observations it may be concluded that in general autumn song comes from the adult birds. Where the young are markedly different from the old birds, it is easier to decide the point. We have watched young Robins carefully, but have not found them singing; on the other hand we have observed a young Pied Wagtail and also what appeared to be a young Willow-Wren singing in the autumn.

Most species sing every day during their regular song-periods, but the Marsh-Tit, Pied Wagtail, Reed-Bunting, Red-backed Shrike, Martin, and the Sand-Martin only

sing occasionally. The Willow-Tit, Yellow Wagtail, and Spotted Flycatcher we have only recorded once.

The following forms a summary of our observations on the song-periods of various birds:—

RESIDENTS.

MISTLE-THRUSH (*Turdus viscivorus*). Very occasionally during September and October, rather more often during late November and December, frequently at the end of December and early January, regularly from the end of January to the fourth week of May, occasionally afterwards to the first week of June.

SONG-THRUSH (*T. musicus*). Frequently during September, October, and early November, even beginning in the end of August; begins its spring song at the end of November or in early December, and continues to the third week of July; in very favourable localities the break and re-commencement in the end of November is not apparent.

BLACKBIRD (*T. merula*). Occasionally during the latter part of August and most of September, in the afternoon. Begins for a few minutes about three-quarters of an hour before sunrise on mild mornings after the middle of January; increases gradually during February, and sings regularly from then to the fourth week of July.

ROBIN (*Erithacus rubecula*). From the third or fourth week of July regularly to the fourth week of June, except during severe weather.

GOLDEN-CRESTED WREN (*Regulus cristatus*). Occasionally during the latter half of August, frequently during most of September, diminishing at the end; occasionally until the middle of October. Fairly regularly from early February, and regularly from the middle of March to the end of June; occasionally continuing until the fourth week of July.

HEDGE-SPARROW (*Accentor modularis*). Regularly from the second week of September to the end of July, occasionally during August; stops during frosty weather in December, and during severe weather in January.

TREE-CREEPER (*Certhia familiaris*). Occasionally in the second half of August, frequently in September and early October; very irregularly through October, November, December, January, and February; regularly from the second week of March to the middle of June; very occasionally to the beginning of August.

WREN (*Troglodytes parvulus*). Sings throughout the year, except in frosty weather.

PIED WAGTAIL (*Motacilla lugubris*). Occasionally in the end of August and September; frequently during October and early November; February, March, April, and May; occasionally in early June.

MEADOW-PIPIT (*Anthus pratensis*). Frequently in late February and March; regularly through April, May, and June; occasionally during July and early August.

GREENFINCH (*Ligurinus chloris*). Very occasionally from the middle of January; regularly from early March (when most arrive from their winter-quarters) to the second week of August, and occasionally to the end of the third week.

CHAFFINCH (*Fringilla cœlebs*). Occasionally during the second half of August and the first half of September, frequently during the second half of September, occasionally during October; very occasionally during January and early February; regularly from the middle of February to the first week of July; occasionally until the fourth week.

YELLOW BUNTING (*Emberiza citrinella*). Regularly from the middle of February or beginning of March to the fourth week of August.

REED-BUNTING (*E. schoeniclus*). Occasionally from the end of February to the end of July.

SKYLARK (*Alauda arvensis*). Occasionally in the second and frequently in the third week to the end of September; regularly through October and to the second week of November. Occasionally in the second and third weeks of January; regularly from the fourth week of January to the end of July.

MIGRANTS.

NIGHTINGALE (*Daulias lusciniæ*). From its arrival to the end of May, and occasionally to the third week of June. (July 6th, 1906, at Wye, unusually late.)

WHITETHROAT (*Sylvia cinerea*). From its arrival to the middle, and occasionally to the fourth week, of July.

LESSER WHITETHROAT (*S. curruca*). From its arrival to the first week, and occasionally to the fourth week, of July. Occasionally during latter part of August, and up to a few days before its departure, but its late song usually lacks the finishing "babble" and has a bat-like squeak interspersed.

BLACKCAP (*S. atricapilla*). From its arrival to the third week of July. (August 31st, 1907, at Tunbridge Wells, unusually late.)

GARDEN WARBLER (*S. hortensis*). From its arrival to the second week of July. (August 1st, 2nd and 5th, 1907, at Tunbridge Wells, unusually late.)

CHIFFCHAFF (*Phylloscopus rufus*). Occasionally from its arrival to the end of March; regularly on to the fourth week of July. Occasionally in the third and fourth weeks of August, regularly to the end of the fourth week of September and occasionally until its departure.

WILLOW-WREN (*P. trochilus*). From its arrival to the end of June; occasionally during July; regularly from the end of July to the end of August, and occasionally to the middle of September.

WOOD-WREN (*P. sibilatrix*). From its arrival to the first week of July.

REED-WARBLER (*Acrocephalus streperus*). From its arrival to the end of July.

SEDGE-WARBLER (*A. phragmitis*). From its arrival to the middle of July.

TREE-PIBIT (*Anthus trivialis*). From its arrival to the middle of July.

RED-BACKED SHRIKE (*Lanius collurio*). From its arrival to early June, but not regularly.

SWALLOW (*Hirundo rustica*). From the fourth week of April to the end of September or first week of October.

MARTIN (*Chelidon urbica*). Occasionally from the middle of May to the end of July.

SAND-MARTIN (*Cotile riparia*). Frequently from late April to early July; very occasionally in August and early September.

LINNET* (*Linota cannabina*). From its arrival in late March regularly to the third week of July; occasionally through August; frequently in late September; and occasionally through October.

The following species we have not yet fully observed:—

WHEATEAR (*Saxicola œnanthe*). April and May.

STONECHAT (*Pratincola rubicola*). Apparently sings chiefly in late March and April.

REDSTART (*Ruticilla phœnicurus*). Only occurs in our district on migration, but sings sometimes.

GOLDFINCH (*Carduelis elegans*). To some extent in September, and regularly from April to early August.

CIRL BUNTING (*Emberiza cirrus*). Much the same as the Yellowhammer.

COMMON BUNTING (*E. miliaria*). From its arrival in late March to early August.

We are making observations on notes or sounds which have the value of song in the Titmice, Woodpeckers, Cuckoo, Pigeons, Snipe and Dabchick.

* The Linnet is placed among the migrants because it is entirely absent from our district from early December until late January, while our breeding birds do not return until March.

THE NEST OF THE RINGED PLOVER, AND THE
BEARING THEREOF ON THE EVOLUTION OF
BIRDS' NESTS IN GENERAL.

BY

W. P. PYCRAFT.

THOUGH birds of any given species display a wonderful uniformity in their selection of nest-building materials, and in the structure of their nests, variations from the normal are constantly met with. Sometimes such variations are obviously the result of force of circumstances, but in other cases these departures are, or appear to be, peculiarly erratic. Up to the present time such instances have been regarded as merely curious, and no attempt has been made to analyze the nature of these aberrations. Nor, indeed, does any attempt ever appear to have been made to account for the differences which obtain in the domestic architecture of closely allied species breeding in the same area, and under the same conditions—as, for example, between the Mistle-Thrush, Song-Thrush, and Blackbird.

That a systematic study of the nests of our native birds would bring to light many important facts there can be no doubt, and it is much to be hoped that the readers of “British Birds” may be induced to contribute towards a solution of the problems they present.

The following remarks are offered not so much as a serious contribution to this subject as by way of an indication of the nature of the work to be done.

To begin at the beginning, it has been assumed that the earliest birds bred in holes of trees, laying their eggs on the decayed wood at the bottom of the hole, as is done by many birds to-day. But this assumption must be regarded with caution, inasmuch as the earliest known bird, Archæopteryx, was burdened with a peculiarly long,

reptilian tail, fringed on either side by a series of long feathers, which would have made nidification in the circumscribed space of a tree-trunk a very difficult matter. More probably this ancient bird found suitable nurseries on the summit of the dead stools of giant tree-ferns, or the crowns of evergreen oaks and similar trees, which had, at this time, already made their appearance, or even, perhaps, on the ground. As the open country gradually became tenanted by the evolution of non-arboreal birds, the bare ground probably at first sufficed, till later, by the increased persecution of enemies, which would soon discover the edible properties of eggs, convenient holes amid rocks, and natural burrows would be appropriated.

Those which clung to the more traditional custom of laying their eggs in the open were probably the earliest to produce coloured eggs, the colour being slowly evolved to secure some measure of protection. But this by the way. The habit of depositing the eggs on the ground has persisted till to-day, in spite of obvious disadvantages. And it is from such species that the evolution of nest-building may probably be gleaned. There are many species of ground-breeding birds, which might serve as a starting-point in this evolutionary study, but for the purposes of the present article we have chosen the Ringed Plover (*Ægialitis hiaticola*), inasmuch as we are enabled, thanks to the generosity of Mr. C. W. Colthrup, to illustrate our remarks by some very striking photographs. The "nests" here shown, it may be remarked, were photographed by Mr. Colthrup both before and after the removal of the eggs, and we have chosen the latter pictures, since they best illustrate the theme now under discussion—the evolution of the nest.

The Ringed Plover, as most of my readers are well aware, commonly makes no pretence at nest-building, the eggs being deposited on the shingle of some unfrequented beach. When, however, a more or less deliberate preparation for the eggs is made, a slight hollow suffices; and this hollow may either take the form of a natural depres-

sion or be formed by the bird, and lined, or not as the case may be, with a few small stones, probably picked up as they lay within reach of the beak as the cup is being made (see Fig. 1). In Fig. 2, the work of pebble collecting has apparently been more deliberate, and this is still more evident in Fig. 3. In Figs. 4-5, a yet more deliberate and ambitious nest has been made, the one lined with broken shells, apparently collected from a distance around the

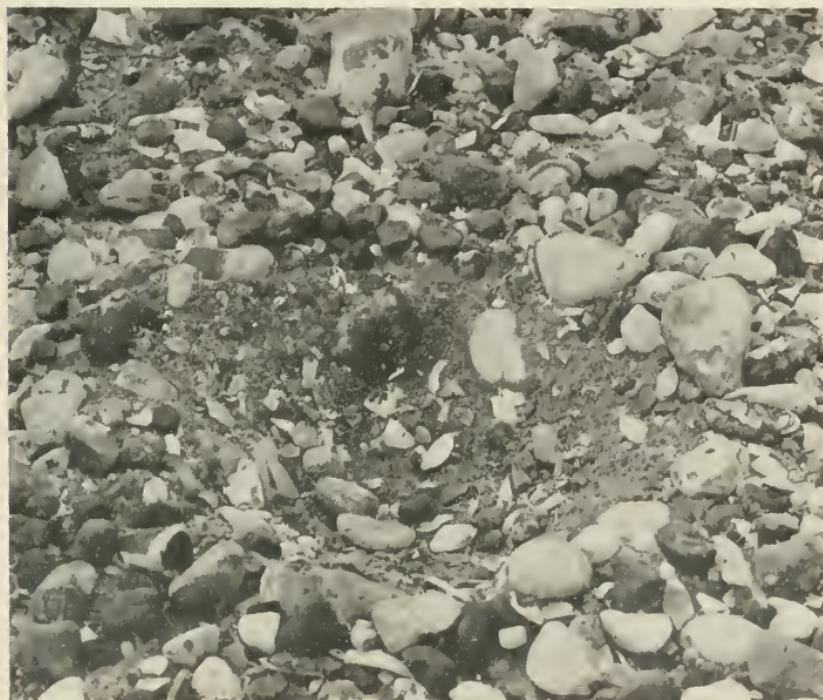


FIG. 1.—Nest of Ringed Plover: a hollow scooped out in shingle.
(Photographed by C. W. COLTHRUP.)

nest—the other with small sticks. Occasionally the droppings of rabbits are employed, and Col. Feilden has recorded an instance where the green fleshy leaves and stems of *Atriplex littoralis* were used.

Now, two questions are suggested by these facts. Firstly, what is the stimulus to the formation of a nest of any sort, in this species, seeing that so many individuals

dispense with any such preparation altogether? It may be that these nest-building individuals are the descendants of birds whose experiences of life have been somewhat different to what may be called the normal. That is to say, their ancestors may have lived under a somewhat different environment, where the brooding of the eggs had to be carried out on a cold damp soil. Such birds would



FIG. 2.—Nest of Ringed Plover : composed of small pebbles.
(Photographed by C. W. COLTHRUP.)

speedily discover the advantage of preparing some sort of a platform, not so much for the sake of the eggs, as for greater comfort and warmth. This being so—and what applies here applies also to all other species having similar nesting habits—all those birds which did not rise to the occasion would fail either to hatch their eggs or rear the young, the offspring, either before or soon after hatching, dying from chill, and thus, by a process of selection, only

the more astute parents would leave progeny. Perhaps we should regard those individuals which make no pretence at nest-building as birds which have lost the earlier habit. The need for such preparation being apparently slight, the stimulus has lost its force. Where the nest-building habit still persists, we may imagine this stimulus to have been transmitted unimpaired, because more strongly



FIG. 3.—Nest of Ringed Plover: composed of small pieces of stone.
(Photographed by C. W. COLTHRUP.)

developed in their ancestors. But this, ofcourse, is mere hypothesis.

Admitting the possibility of this interpretation we come to the second question.—What induces the choice of materials? That is to say, what induces some individuals to choose shingle, some shells, some wood-fragments, and others green vegetable matter? Do these birds act on suggestion? Having acquired the instinct to prepare a

nest, are the builders influenced in their choice of materials by the objects in the immediate neighbourhood of the site selected? In other words, it would seem that such birds as have developed the instinct of nest-building, even after this elementary fashion, when dominated by parental desire, display more or less individual taste in the matter of the materials to be used. But, let it be remembered,



FIG. 4.—Nest of Ringed Plover : composed of broken shells.
(Photographed by C. W. COLTHURP)

this "choice" is blind, that is to say, it is not exercised as a result of conscious reasoning as to consequences, as to the need, or otherwise, of defeating its enemies by cunningly blending its nursery with the general environment.

If the foregoing inferences are correct, we have here the key to the lines along which the development of more elaborate nests, such as those of Passerine birds, has pro-

ceeded. The chief restraining factor has been Natural Selection: for birds whose choice was unfortunate would bring down discovery and destruction upon their eggs and race, while where their choice tended in the direction of increased protective resemblance to the environment, the perpetuation of the race and the further perfection of the nest would be secured.



FIG. 5.—Nest of Ringed Plover: composed of small sticks.
(Photographed by C. W. COLTHRUP.)

Some striking instances of this individuality of taste in the selection of building materials have been placed on record. In Yarrell's "British Birds" for example, the case of a Goldfinch is given which had formed the ground-work of its nest after the usual fashion, when small parcels of wool were scattered about in the vicinity; as a consequence much of this wool was at once seized upon and worked into the fabric; then cotton was thrown

down, and at once the wool was left and the cotton seized ; finally, down was supplied, and with this the nest was completed, but withal typical, in shape and neatness of workmanship, of the Goldfinch.

By way of contrast we may quote the case of the Yellowhammer which laid its eggs on the bare ground and successfully hatched them !

But apart from the question of the choice of materials—the individual taste between more or less attractive and suitable objects to be employed—we have to consider the evolution of the nursery itself, as distinct from the component elements in its fabrication. And here natural selection must be regarded as the prime factor at work. We do not suppose, of course, that the *origin* of nest-building is to be traced thereto. The nest-building instinct was due rather to a “fortuitous variation”—a happy inspiration, due, as we have already remarked, to the desire to secure increased comfort when brooding on cold, damp ground. Over elaboration in the size and character of the nest has always been controlled by selection, and this factor has been most active in the case of ground-breeding birds where cover is practically wanting, as in the case of the Ringed Plover.

Assuming that the habit of nest-building began as we have suggested, it is easy to see how arboreal nests gradually came into being, for a bird which had learned the art of constructing a platform of sticks, or other materials, on the ground would—if driven, from one cause or another to seek safety during incubation in trees or bushes—adopt the same device in the new situation. And from this the passage to the more elaborate nest is easy.

Such are the broad outlines of the possible evolution of nests. Later we propose to return to this subject, filling up obvious gaps. Meanwhile, we would suggest that bird-photographers should turn their attention to the different types of nests, and the different choice of nest-building materials, exhibited by different individuals of the same species among our native birds.



NOTES

THE BIRDS OF FAIR ISLE.

WE have referred more than once to the extraordinarily successful results of Mr. W. Eagle Clarke's investigations of the birds which pass through Fair Isle. Mr. Clarke now gives (*Ann. S.N.H.*, 1908, pp. 72-85), details of the occurrences in 1907. Many of the systematic observations of movements are reserved, and Mr. Clarke hopes to prepare a full report on the remarkable passage movements witnessed at this station when further investigations have been carried out.

During 1907 the movements of no less than one hundred and seventeen species were recorded. Seventy-seven species were observed in the spring, while one hundred and eleven were noted in the autumn. Seventy-one species visited the island both in the spring and autumn of 1907.

Seventeen new birds were added to the fauna of this remarkable island, making the total number one hundred and sixty.

The following are brief particulars of the most interesting birds observed; some we have already mentioned in a short list (*vide supra*, p. 296):—

MISTLE-THRUSH (*Turdus viscivorus*).—This very rare visitor to the Orkneys and Shetlands visited Fair Isle in small numbers in the spring and autumn of 1907.

GREATER WHEATEAR (*Saxicola oenanthe leucorrhoa*).—Examples of this large Greenland form of the Common Wheatear arrived during the first week of September, and numbers passed through at intervals to the end of the month. In the spring the northern passage is said to have begun during the first week of April. No particulars as to measurements are given for the spring birds, and the date of their arrival is exceptionally early. In England, in 1905, no specimen of this large race was recorded before April 10th, while, in 1906, although one was procured on April 1st, no others were recorded until April 9th (*cf. Bull. B.O.C.*, vol. XVII. (1st Mig. Rep.), p. 22, and vol. XX. (2nd Mig. Rep.), p. 35). Mr. Clarke ascribes the early arrival to the very mild weather at the end of March, and it will be interesting to see if the "B.O.C. Migration Committee's" Report for 1907 endorses these observations with regard to the arrival of *S. o. leucorrhoa*.

BLACK-THROATED WHEATEAR (*Saxicola occidentalis*).—The third British and first Scottish example of this species was a male detected by Mr. Clarke amongst some Common Wheatears on September 25th. It is most remarkable that this bird should have got so far out of its course as to have reached so northern a latitude, at a time when it should have been travelling south from a point considerably south of the British Isles.

BLACK REDSTART (*Ruticilla titys*).—An immature bird was observed in April, and a female on November 8th. The species had not been recorded previously in the Shetlands.

BLUETHROAT (*Cyanecula succica*).—One was seen on October 7th and one on October 9th (*cf. supra*, p. 55).

GARDEN-WARBLER (*Sylvia hortensis*).—Occurred on five dates in spring, and is "probably a fairly common bird on both passages."

YELLOW-BROWED WARBLER (*Phylloscopus superciliosus*).—None were seen until October 13th, when a single bird was observed. Single birds were also seen on the 22nd and 29th, and two on the 21st (*cf. supra*, p. 82).

SIBERIAN CHIFFCHAFF (*Phylloscopus tristis*).—This species was added to the British list on the strength of a specimen sent to Mr. Eagle Clarke from Sule Skerry in 1902 (*cf. supra*, p. 8). On October 21st, 1907, one, and on the 24th no less than three females were captured at Fair Isle, and others were seen.

On February 5th Mr. Clarke received a specimen from Orkney. It was one of two birds which had been observed frequenting the nursery grounds at Kirkwall for a fortnight, and Mr. Clarke thinks they had passed the winter there.

WOOD-WREN (*Phylloscopus sibilatrix*).—This is a remarkable addition to the Fair Isle avifauna. Single birds were captured early in June and in August. It has not hitherto been recorded as visiting either the Orkneys or Shetlands.

Mr. Clarke also records that a specimen caught at the lantern on September 27th, 1906, was sent to him from Sule Skerry.

GRASSHOPPER WARBLER (*Locustella naevia*).—Hitherto unrecorded from Orkney or Shetland, a female of this species was captured on May 29th. It is questionable if this bird has ever been recorded from so far north before.

GREY-HEADED WAGTAIL (*Motacilla borealis*).—This is a species which one would expect to visit Fair Isle on passage.

“Fair numbers” were noted during the latter part of May and early June, while it also came under notice in September.

GREAT GREY SHRIKE (*Lanius excubitor*).—In April, single birds were seen on three occasions, and in autumn several were seen between the last week of October and the second week of November. Those obtained had only a single wing-bar.

RED-BACKED SHRIKE (*Lanius collurio*).—Several occurred in May, and a few young birds were seen in September (*cf. supra*, p. 148).

RED-BREASTED FLYCATCHER (*Muscicapa parva*).—An immature bird was seen on September 27th.

RED-RUMPED SWALLOW (*Hirundo rufula*).—Mr. George Stout, who obtained the only British example of this species in 1906 (*cf. supra*, p. 11), informs Mr. Clarke that it was in company with two others of the same species.

MEALY REDPOLL (*Linota linaria rostrata*).—A small party of this large Greenland race was seen on September 21st. None of the Fair Isle birds seen or obtained showed any signs of pink on the breast.

For previous occurrences compare *supra*, p. 182.

BLACK-HEADED BUNTING (*Emberiza melanocephala*).—A female of this species was obtained on September 21st, as already noted (*supra*, p. 248). It has only been obtained five times previously in the British Isles.

ORTOLAN BUNTING (*Emberiza hortulana*).—This Bunting again occurred in some numbers in the late spring, while in September several were seen at intervals. These, and Mr. Clarke's previous records (*cf. supra*, p. 248), show that the Ortolan is a bird of double passage in Fair Isle in any case.

LITTLE BUNTING (*Emberiza pusilla*).—The records of this species, which has been so rarely observed in this country, are most remarkable. On April 14th one was seen by Mr. George Stout at the distance of a few feet. The identification is regarded by Mr. Clarke as authentic, because Mr. Stout carefully examined in the flesh the bird procured in the previous autumn. The record is particularly remarkable because this species has never before been detected in this country in the spring, although it may be mentioned that one was taken in Holland in January, 1898.

In October “quite a number” of these birds visited the island. They were first seen on October 10th, and were observed until November 5th. Nine in all were identified,

but as they were amongst flocks of Twites it is extremely likely that others escaped detection.

LAPLAND BUNTING (*Calcarius lapponicus*).—For the third season in succession Lapland Buntings were observed in fair numbers. Some arrived at a remarkably early date—August 25th.

CARRION-CROW (*Corvus corone*).—An example of this species, which is an occasional visitor to the Orkneys and Shetlands, was seen continually during the author's visit in the autumn.

SHORT-TOED LARK (*Alauda brachydactyla*).—An example of this remarkable visitor from the south was detected among a small party of Skylarks on November 11th. It is the second Scottish specimen, the first being captured on Flannan Isle in September, 1904.

HOOPOE (*Upupa epops*).—An adult male of this species, another remarkable wanderer to so far north, visited the island on September 9th.

SNOWY OWL (*Nyctea scandiaca*).—One was seen on October 26th.

GREEN SANDPIPER (*Totanus ochropus*).—Single specimens were seen on July 31st and August 22nd. This species has now been recorded for three years in succession on its autumn passage; but it has not been detected elsewhere in the Orkneys or Shetlands.

H.F.W.

MELANISM IN THE COAL-TITMOUSE.

ON a recent visit to Mr. F. C. Selous, at Worplesdon, Surrey, while watching some Tits busily feeding on the cocoa-nuts hung up in the trees in front of the house, I noticed among them a very dark bird, which, with the naked eye, was almost unrecognisable, but on examining it through my binoculars, I saw that it was a Coal-Titmouse (*Parus ater*). On mentioning the matter to Mr. Selous, I was not surprised to find it had not gone unnoticed, and he informed me that there were two of them, and on looking out of the window later in the day, I had the pleasure of seeing them both. Having never before seen a case of melanism in the *Paridæ*, I made the following notes, assisted by powerful prism glasses:—General appearance, entirely greyish-black; head, beak, feet and legs, back and wings, jet black; belly, breast,

coverts, greyish-black; cheeks and occipital spot, which were just perceptible, dark greyish-black.

PERCY F. BUNYARD.

CROSSBILL NESTING IN NORTHUMBERLAND.

I HAVE good reason for believing that more than one pair of Crossbills (*Loxia curvirostra*) has nested in the valley of the Tyne. Although no nest was found a pair of old birds was observed feeding young ones a few years ago by an excellent field ornithologist, while another pair of birds was seen in another wood throughout the spring and summer of 1905.

J. S. T. WALTON.

AN OLD RECORD OF THE LITTLE BUNTING IN ESSEX.

THE following note, copied from my notebook, written at the time, may be of some value:—In the second week in November, 1892, Mr. Keulemans, who was then living at Southend-on-Sea, brought up some work he had done for me, and told me that he had seen an adult female *Emberiza pusilla* in very good plumage, which a bird-catcher had caught alive near Southchurch, and had offered him 5s. for it, which he refused. I told him that he must see the bird-catcher again and buy the bird for me. He wrote me that he had seen the man again, but that he had sent it up with a lot of Redpolls to a bird-fancier in Shoreditch. I went there to buy it, but was told that it had died and had been thrown away. Mr. Keulemans had figured the Little Bunting for me, and knew the bird well, so I think there could have been no mistake, and that it really was a Little Bunting.

H. E. DRESSER.

MIGRATION OF HOODED CROWS.

THE wintering Hooded Crows (*Corvus cornix*) were all gone from Wye this year by March 14th. On March 20th I saw one fly over north-east at 7.30 a.m., and another flying round at noon; W. B. Burgess saw one on this day fly over southwards; on the 21st, at 10 a.m., I also saw one fly straight over southwards, calling at intervals.

This is not the direction one would expect migrating Hooded Crows to take in spring, as it approximates to the south-westward direction followed in autumn.

C. J. ALEXANDER.

SUPPOSED BLACK WOODPECKER IN NOTTINGHAM-SHIRE.

A FEW days after Christmas of 1907 Mr. Francis Hall was walking in his grounds at Park Hall, near Mansfield, when a bird flew across in front of him and settled on the stem of a big tree. I may here say that Mr. Hall has also property in Canada, where he spends a portion of each year. Directly he saw the bird he said to himself, "Why, it is a Cock-of-the-woods"—the popular name of the Canadian Northern Woodpecker. After watching the bird for some time he saw it was shorter in length and stouter than the Canadian bird, with which he is quite familiar and of which he has a stuffed specimen at Park Hall. The bird then flew deeper amongst the trees and was lost to sight. Two or three days after, Mrs. Hall, when looking out of the billiard-room window, saw a strange bird in an old thorn tree on the edge of the lawn and drew Mr. Hall's attention to it. He at once saw it was the same bird and got a pair of field-glasses, and both he and Mrs. Hall had time to look at it before it flew away. This quite confirmed his former opinion that it was a Black Woodpecker (*Picus martius*), and had he known that the occurrence of the bird in this country was not yet authenticated he could have procured the specimen, for he had ample time to get his gun. Mr. Hall is quite familiar with the three British Woodpeckers, and says the bird he saw was half as large again as the Green Woodpecker, and was black with a scarlet top to its head.

Shortly before this, when a party of us were shooting some big woods about five miles from Park Hall, the keeper told me he had twice seen a black Jay—at least, he thought it could be nothing else. He had never been very near it, but saw it clearly flying through the trees, and it was about as big as a Jay and quite black—of this he was quite certain.

J. WHITAKER.

STOCK-DOVES NESTING ON LINCOLN MINSTER.

DURING the last few years I have noticed that Stock-Doves (*Columba œnas*) are in the habit of haunting the towers of Lincoln Minster. It is evident also that they breed there, as last summer I saw two young birds in a sheltered corner on the central tower, only a few feet from the bell "Great Tom," on which the hours are struck.

At the present time two or three pairs may be seen about the Cathedral in company with the Jackdaws and Domestic Pigeons. They can easily be distinguished with a good field-

glass, and also to the practised ear by their peculiar "grunting" note. A few days ago I was on the top of the central tower, and it was very evident that a pair of Stock-Doves had eggs or young some few feet below me. The pair were constantly alighting on a particular gargoyle, and were evidently very anxious to creep into some crevice among the masonry, but could not make up their minds to do this as long as I was standing a few feet above them. I got a good view of both birds at very close quarters. I have found many nests of Stock-Doves in holes in trees, rabbit burrows, or crevices in sea-cliffs, but have never come across them nesting on buildings before. I shall be much interested to hear whether that is a common practice with the species.

F. L. BLATHWAYT.

* * *

NESTING OF THE MARSH-WARBLER IN KENT.—Mr. Collingwood Ingram gives (*Field*, April 4th) a long and interesting account of the nesting of the Marsh-warbler (*Acrocephalus palustris*) in Kent in 1905 (*cf. supra*, p. 84).

The nest he describes as built in the centre of a thicket, between two and three feet from the ground. It was cup-shaped, and slung between two stems of a sapling ash, a third support being furnished by a dry nettle-stalk. Grass bents and hay loosely, but securely, twisted, bound this cradle to its supports, and horse-hair and "cocoa-nut fibres" formed its lining. The cocoa-nut fibres were brought, it seems, from a neighbouring hop-garden.

Mr. Ingram left four eggs in the nest, which duly hatched, the young being quite naked and very dark-skinned.

RICHARD'S PIPIT IN NORFOLK.—Mr. Norman F. Richardson writes that he shot in "Norfolk" on November 21st, 1907, a female *Anthus richardi* (*Field*, April 4th, 1908, p. 583). Two others were recorded from the Norfolk coast in the previous month (*vide supra*, p. 264).

WHITE WAGTAIL NESTING IN SUSSEX.—In the course of an article in the "*Field*" (April 11th) on this species in Sussex, Mr. J. Walpole Bond describes it as no rarity on the spring and autumn migration. He also gives details of a nest which he found on May 31st, 1904, in the rough wall of a hut on the line which runs from Brighton to the Devil's Dyke. Both birds were seen at close quarters and clearly identified as *Motacilla alba*.

PIED FLYCATCHER NESTING IN KIRKCUDBRIGHTSHIRE.—Mr. Robert Service records the nesting of two pairs of

Muscicapa atricapilla in 1907, but the locality is not mentioned (*Ann. S.N.H.*, 1907, p. 183, and 1908, p. 118).

NUTCRACKER IN KENT.—The "Field," April 4th, contains a record of the fact that a Nutcracker (*Nucifraga caryocatactes*) was shot "in Kent" on December 29th, 1907. Mr. Norman Richardson, who sends this note, does not give further particulars as to locality or sex, or as to whether this bird was of the typical form or of the Siberian race, *N. c. macrorhynchus*.

TENGMALM'S OWL IN SHETLAND.—Mr. Erik Hamilton writes to the "Field," April 4th, to say he had received, in the flesh, an apparently adult female Tengmalm's Owl (*Nyctala tengmalmi*) killed in the Shetlands on January 4th, 1908.

LITTLE OWL IN GLOUCESTERSHIRE.—Mr. Collingwood Ingram writes that a specimen of *Athene noctua* was found dead on February 20th, 1908, at Fairford (*Zool.*, 1908, p. 113).

BITTERN IN EAST LOTHIAN.—On January 8th a male *Botaurus stellaris* was captured alive near Whittingehame (W. Evans, *Ann. S.N.H.*, 1908, p. 119).

GLOSSY IBISES IN ABERDEENSHIRE AND AYRSHIRE.—Mr. George Sim records that an immature example of *Plegadis falcinellus* was shot at Watermill, Fraserburgh, during the "harvest-time" of 1907 (*Zool.*, 1908, p. 113). Mr. John Robertson records that an immature female of the same species was shot near Irvine, Ayrshire, in the middle of September, 1907 (*Ann. S.N.H.*, 1908, p. 119).

PINK-FOOTED GOOSE IN CO. ROSCOMMON.—Mr. H. G. O. Bridgeman records that while waiting for Bean Geese, on February 17th, 1908, on an island on Lough Key, two birds came over him, one of which he shot and found to be an example of *Anser brachyrhynchus*, which has only once before been recorded from Ireland (*Irish Naturalist*, 1908, p. 82).

TEAL NESTING IN NORTH DEVON.—Mr. B. F. Cummings records the nesting, in 1907, at the mouth of the Taw, of *Actition crecca*, which he says has not hitherto been recorded as nesting in North Devon (*Zool.*, 1908, p. 100).

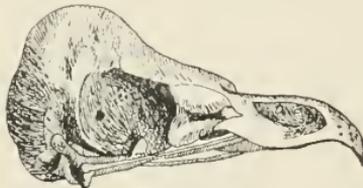
SMEW INLAND IN DUMFRIESHIRE.—Mr. Hugh S. Gladstone records that two immature examples of *Mergus albellus* occurred on January 6th at Dalswinton, ten miles from the sea (*Ann. S.N.H.*, 1908, p. 119).

LAND-RAIL IN EDINBURGH IN WINTER.—An example of *Crex pratensis* was found dead in a fresh condition in a garden

at Fettes College in February (P. M. Campbell, *Ann. S.N.H.*, 1908, p. 120).

BAR-TAILED GODWITS ON THE SOLWAY.—In an article on the status of *Limosa lapponica* on the shores of the Solway, Mr. Robert Service writes that a number of these birds remained throughout the summer of 1907, and that the autumn and winter of 1907 were remarkable for the large numbers of these Godwits (*Ann. S.N.H.*, 1908, pp. 85-87).

LEACH'S PETREL IN ABERDEENSHIRE.—Mr. A. Landsborough Thomson writes that he found a specimen of *Oceanodroma leucorhoa* on the shore near the Don on January 5th last. The species has only been recorded three times previously in Aberdeenshire (*Ann. S.N.H.*, 1908, p. 120).





REVIEWS



A Monograph of the Petrels (Order Tubinares). By F. Du Cane Godman, F.R.S. Large Royal 4to, with over 100 hand-coloured plates. Witherby & Co.

THIS Monograph of the Petrels was originally contemplated by the late Osbert Salvin, and there could not have been a more fitting author for the work. It has now been taken up by his friend, Dr. Godman, with whom he was associated in so many of his ornithological researches, and the large amount of material accumulated by him has been added to and brought up to date to form the basis of the present work.

It is to be issued in five quarterly parts, the first two of which are now before us. These deal with the large family of Storm Petrels, of which there are twenty-five species included in eight genera, and twenty-four species of Shearwaters in one genus (*Puffinus*). It will thus be seen that the greater number of the British species are included in these two instalments.

The general arrangement of the work is on the usual lines of such Monographs, and has been admirably carried out. Starting each species with an adequate synonymy, the author adds a short Latin diagnosis, and then follows the geographical distribution, and such detail of habits, food, and nesting as are at present known, and each article ends with a full description of the eggs and the various phases of plumage, including, in many cases the nestlings, and a statement of the sources whence the specimens described and figured were obtained.

It is inevitable, when dealing with such a wide subject, that the types of one or two of the species are still unique, and the breeding quarters of several others still unknown; so that there are many gaps in our knowledge that yet require filling. It is to be noted, however, that a large amount of fresh knowledge has lately been acquired with regard to a number of species by the researches of the recent antarctic expeditions, notably our own National, and the Scottish Expedition, and of this knowledge the author has made full use, as a glance at his article on Wilson's Petrel alone will at once show.

With regard to the occasional wanderers to the British Isles, we find their occurrences all briefly noticed with references to the original records. It is interesting to note that *Oceanodroma castro*, which was taken for the first time in Europe on the coast of Kent in 1895, was found twice in Denmark during

the autumn of the succeeding year. The differences between this bird and our own Fork-tailed Petrel the author is careful to point out very clearly; the two species have frequently been confounded in the past, and it is in points such as this that the working ornithologist will receive the greatest help from such a monograph as the present.

The Little Dusky Shearwater, which has now been obtained four times in the British Isles, must now, we note, be referred to as the Madeiran Shearwater (*P. bailloni* Bp.), as in the present work the form inhabiting the Madeiras has been separated by certain well-marked characteristics, given at length by the author, from Gould's original species, *P. assimilis*, of the Australian seas.

One or two forms, such as *Oceanodroma beali* and *Puffinus auduboni*, Dr. Godman evidently admits as good species with great reluctance, and where distinctions depend entirely on measurements and these vary to the extent they do in the Petrels between birds of undoubtedly the same species, it must ever be a difficult matter to decide on the validity or otherwise of closely allied forms. In these cases while retaining them under their distinctive names and pointing out their differences, the author carefully indicates the amount of variation to which each is subject and his reasons for doubting the goodness of the species.

Of the forty-nine species described in the present instalments thirty-nine are represented by coloured plates, carefully drawn to scale by Mr. Keulemans and excellently reproduced and hand-coloured. We do not remember to have ever seen better examples of this artist's work; as representations of the individual species the plates are excellent, while for general level of merit they will be hard to beat. The general style of the work is worthy of the importance of the subject and leaves nothing to be desired. A monograph on this large and interesting group of birds has been a long-felt want, and Dr. Godman is to be heartily congratulated on the splendid commencement he has made in the present two parts of his book, which when completed will enrich the science of ornithology with another monumental work.

N. F. T.



LETTERS

WOUNDED PEREGRINE FED BY ITS MATE.

To the Editors of BRITISH BIRDS.

SIRS,—My friend, Lehrer Precht, of Bremen, tells me the following tale, which I have every reason to believe is quite authentic:—It appears that during the hard frost experienced at the beginning of January last a labourer caught a fine female Peregrine (*Falco peregrinus*) in the following way: On the outskirts of Bremen (Germany) there are large fields, flooded during the winter. On a small island in the midst of such a field lay the Peregrine, her wings frozen to the ground holding her a prisoner. Around her lay the remains of Wild Duck, Partridges, and Pheasants, while above hovered her mate. On examination both legs were found to be broken by shot, the right thigh in two places. These injuries had been inflicted at least a fortnight before, for union between the ends of the broken bones had been almost completed, and an open wound was suppurating freely. Several pellets of No. 8 shot was extracted. Since both legs were disabled the bird was powerless to obtain food, so during the whole period the bird was fed by her trusty mate, and was, when killed, in good condition. Having perforce to roost on the ground, her feathers became frozen to the damp surface.

The above story explains a fact which has puzzled Precht for years. He was skinning a Goshawk, and noticed that the humerus had been broken by a shot, and that the bone had completely united again. He wondered how the bird could possibly have fed itself during the period in which it was incapacitated. Arguing from the above instance, it may have been fed by its mate.

P. H. BAHR.

INDEX.

- Accentor. Alpine (additions), 109.
 — Hedge. See Sparrow, Hedge.
accipitrinus, *Asio*. See Owl, Short-eared.
acuta, *Dafila*. See Pintail.
adamsi, *Colymbus*. See Diver, White-billed.
 Additions to the list of British Birds since 1899, 4.
 Additions to our Knowledge of British Birds since 1899, 52, 81, 109, 147, 178, 246, 280, 314, 347.
acesalon, *Falco*. See Merlin.
cestiva, *Dendroica*. See Warbler, American Yellow.
alba, *Ardea*. See Heron, Great White.
 — *Ciconia*. See Stork, White.
 — *Motacilla*. See Wagtail, White.
abellus, *Mergus*. See Smew.
albicilla, *Haliaetus*. See Eagle, White-tailed.
 ALEXANDER, C. J., Note on Migration of Hooded Crows, 385.
 — C. J. and H. G., Some Observations on the Song-periods of Birds, 367.
 — H. G., Note on Woodchat in Kent, 226.
alpestris, *Otocorys*. See Lark, Shore.
aluco, *Syrnium*. See Owl, Tawny.
americanus, *Coccyzus*. See Cuckoo, American Yellow-billed.
anglica, *Loxia curvirostra*. See Crossbill, English.
anglicus, *Dendrocopos major*. See Woodpecker, British Great Spotted.
anglorum, *Regulus regulus*. See Wren, British Golden-crested.
apiaster, *Merops*. See Bee-eater.
apivorus, *Fernis*. See Buzzard, Honey.
apus, *Cypselus*. See Swift.
aquaticus, *Acrocephalus*. See Warbler, Aquatic.
arborca, *Alda*. See Lark, Wood.
- ARNOLD, E. C., Notes on Combined Nest of Whitethroat and Hedge Sparrow, 153; Icterine Warbler in Norfolk, 226; American Pectoral Sandpiper in Sussex, 230.
arvensis, *Alda*. See Lark, Sky.
ater, *Parus*. See Titmouse, Coal.
atricapilla, *Muscicapa*. See Flycatcher, Pied.
 — *Sylvia*. See Blackcap.
 Auk, Great; Remains at Broch of Ayre, 310; Eggs of, Sold, 328, 358.
aureola, *Emberiza*. See Bunting, Yellow-breasted.
 Avocet nesting in the Zoological Gardens, 91.
avocetta, *Recurvirostra*. See Avocet.
bari, *Ethya*. See Pochard, Baer's.
 BARR, P. H., A Study of the Home-life of the Osprey, 17, 40; Note on Nuthatch, as Nest-builder, 122; Some Observations on the Breeding Habits of the Red-necked Phalarope, 202; On the development of a Young Cuckoo; Letter on Wounded Peregrine fed by its mate, 392.
bailloni, *Porzana*. See Crake, Baillon's.
bairdi, *Tringa*. See Sandpiper, Baird's.
bassana, *Sula*. See Gannet.
 BEDFORD, HER GRACE THE DUCHESS OF, Notes on Nesting of the Lesser Tern in the Outer Hebrides, 232; Great Grey Shrike and Eider Duck in Kirkeudbrightshire, 263.
 Bee-eater (additions), 282.
beema, *Motacilla*. See Wagtail, Sykes'.
belgica, *Limosa*. See Godwit, Black-tailed.
 BENTHAM, C. H., and L. B. MOURITZ, Breeding of Hen-

- Harrier and Hobby in Surrey, 237. Cf. also 351.
- biarmicus*, *Panurus*. See Titmouse, Bearded.
- bifasciata*, *Loxia*. See Crossbill, Two-barred.
- Bird-life of the Borders Reviewed, 60.
- BIRD. REV. M. C. H., Letter on Incubation Spots, 62.
- Bittern, American (additions), 349.
- Common, in Yorkshire, 326; Breeding Habits of, 329; (additions), 349; in East Lothian, 388.
- Little, in Inverness, 265; (additions), 349.
- Blackbird (additions), 53; Abnormal Eggs of, 264; and Ring-Ousel inter-breeding, 153; Song-period of, 367.
- Blackcap, Song-period of, 367.
- BLADEN, W. WELLS. Notes on Pallas's Sand-grouse in Middlesex, 190; Greenshank in Staffordshire, 327.
- BLATHWAYT, REV. F. L., Note on Stock-Doves Nesting on Lincoln Minster, 386.
- Bluetthroat (additions), 55; at Fair Isle, 296, 382.
- White-Spotted (Saunders), 7; The First British, 228.
- BOND, J. WALPOLE-. See Bryden.
- BONHOTE, J. L., Letter on Four Birds in a Long-tailed Tit's Nest, 32.
- borealis*, *Motacilla*. See Wagtail, Grey-headed.
- brachydactyla*, *Alauda*. See Lark, Short-toed.
- brachyrhynchus*, *Anser*. See Goose, Pink-footed.
- Brambling in June in Yorkshire, 123.
- BRIGGS, T. H., Note on Blue-headed Wagtail at Lynmouth, 187.
- Britain, Birds of, Reviewed, 300.
- britannica*, *Sitta europæa*. See Nuthatch, British.
- britannicus*, *Carduelis carduelis*. See Goldfinch, British.
- *Cinclus cinclus*. See Dipper, British.
- *Parus ater*. See Titmouse, British Coal.
- britannica*, *Certhia familiaris*. See Creeper, British.
- Broch of Ayre, Orkney, Bird Remains from, 309.
- BRYDEN, H. A., and J. WALPOLE-BOND, Letter on the Ornithology of Sussex, 299.
- Bullfinch, Northern (additions), 246.
- Bunting, Black-headed, at Fair Isle, 233, 383; (additions), 248.
- Cirl (additions), 248; Habits and Distribution in North Wales, 275; in Merionethshire, 325; Song-period of, 367.
- Common, Song-period of, 367.
- Lapland, at Fair Isle, 233, 384; (additions), 249; on the Isle of May, 296, 327.
- Little (additions), 249; in Kent, 291; at Fair Isle, 296, 383; an Old Record of, in Essex, 385.
- Meadow (Saunders), 13.
- Ortolan, at Fair Isle, 233, 383; (additions), 248.
- Reed, Male Incubating, 297; Song-period of, 367.
- Rustic (additions), 248.
- Snow (additions), 250.
- Willow. See Yellow-breasted.
- Yellow, Song-period of, 367.
- Yellow-breasted (Saunders), 13; in Norfolk, 263.
- BUNYARD, PERCY F., Notes on Nesting of the Lesser Redpoll in Kent, 155; Melanism in the Coal-Titmouse, 384.
- Buzzard, Common, Breeding of, in Essex, 359.
- Honey, Melanistic Variety of, 265; (additions), 319.
- Rough-legged (additions), 318.
- calidris*, *Totanus*. See Redshank.
- campestris*, *Anthus*. See Pipit, Tawny.
- camtschatkensis*, *Calliope*. See Ruby-throat, Siberian.
- canadensis*, *Grus*. See Crane, Canadian.
- candicans*, *Falco*. See Falcon, Greenland.
- canescens*, *Totanus*. See Green-shank.
- cannabina*, *Linota*. See Linnet.

- canorus, Cuculus.* See Cuckoo.
carbo, Phalacrocorax. See Cormorant.
carolinensis, Pandion haliaetus. See Osprey.
caryocatactes, Nucifraga. See Nutcracker.
caterinae, Saxicola. See Wheatear, Black-eared.
caudata, Acredula. See Titmouse, Long-tailed.
cenchris, Falco. See Kestrel, Lesser.
cervinus, Anthus. See Pipit, Red-throated.
cettiæ, Cettia. See Warbler, Cetti's.
 Chaffinch, Song-period of, 367.
 CHAPMAN, ABEL, Memoir of Howard Saunders, 197.
 Chiffchaff (additions), 82; in Shetland, 289; in London, 354; Song-period of, 367.
 — Siberian (Saunders), 8; at Fair Isle, 382; in Orkney, 382.
chloris, Liguirinus. See Greenfinch.
cia, Emberiza. See Bunting, Meadow.
cineraceus, Circus. See Harrier, Montagu's.
cinerea, Ardea. See Heron, Common.
 — *Perdrix.* See Partridge.
 — *Sylvia.* See Whitethroat.
cinereocapilla, Motacilla flava. See Wagtail, Ashy-headed.
cirlus, Emberiza. See Bunting, Cirl.
citrinella, Chrysomitris. See Finch, Citril.
 — *Emberiza.* See Bunting, Yellow.
 CLARKE, WILLIAM EAGLE, Notes on the Far-southern Winter Quarters of the Arctic Tern, 28; The Spring Moults of the Arctic Tern, 59; Letter on "The Birds of Yorkshire," 233; Little Bunting in Kent, 291.
 CLARKE, W. J., Notes on Nesting Sites of the Common Heron, 155; Pacific Eider, 158.
cælebs, Fringilla. See Chaffinch.
cælestis, Gallinago. See Snipe.
cæruleus, Parus. See Titmouse, Blue.
 — *Porphyrio.* See Gallinule, Purple.
colchicus, Phasianus. See Pheasant.
collaris, Accentor. See Accentor, Alpine.
collurio, Lanius. See Shrike, Red-backed.
comminutus, Dendrocopus minor. See Woodpecker, British Lesser Spotted.
 Cormorant, Nestling Plumage of, 166; Remains at Broch of Ayre, 310.
cornix, Corvus. See Crow, Hooded.
corone, Corvus. See Crow, Carrion.
 COWARD, T. A., Note on Brambling in June in Yorkshire, 123.
 Crane, Baillon's (Nesting), 80; in Kent and Sussex, 359.
 — Corn. See Rail, Land.
 — Little (Nesting), 107.
 Crane, Canadian, in Ireland, 90.
crecca, Nettion. See Teal.
 Creeper, Tree (additions), 110; British (Hartert), 218; Song-period of, 367.
 — Wall (additions), 110.
crepidatus, Stercorarius. See Skua, Arctic.
cristatus, Parus. See Titmouse, Crested.
 — *Podicipes.* See Grebe, Great Crested.
 — *Regulus.* See Wren, Golden-crested.
 — *Vanellus.* See Lapwing.
 Crossbill, English (Hartert), 209; (additions), 247; nesting in Northumberland, 385.
 — Continental, in Scotland, 296.
 — Scottish Mountain (Hartert), 211.
 — Two-barred (additions), 247.
 CROUCH, L. W., Notes on Cirl Bunting in Merionethshire, 325; Large clutch of Eggs of the Great Crested Grebe, 327.
 Crow, Carrion, at Fair Isle, 384.
 — Hooded (additions), 254; Migration of, 385.
 Cuckoo, Number of Eggs laid by, 124; (additions), 283; Incubation Period in the, 291, 325; Laying in Nest of Lesser Redpoll, 313; Three Eggs in a Robin's Nest, 325; On the development of a Young, 361.
 — American Yellow-billed (additions), 284.

- CUMMINGS, S. G., Notes on the Habits and Distribution of the Cirl Bunting in North Wales, 275.
- Curllew. See Stone-Curlew.
- curruca*, *Sylvia*. See Whitethroat, Lesser.
- curvirostra*, *Loxia*. See Crossbill.
- cyaneus*, *Circus*. See Harrier, Hen.
- DAVIES, WILLIAM, Note on Redshank Breeding in Warwickshire, 191.
- DENT, G., Note on Breeding of the Blue-headed Wagtail in Wiltshire, 89.
- deserti*, *Saxicola*. See Wheatear, Desert.
- Dipper, British (Hartert), 220.
- Diver, Plumage of Great Northern and White-billed, 294.
- Great Northern. Remains of at Broch of Ayre, 310.
- domesticus*, *Passer*. See Sparrow, House.
- Dove, Stock, Nesting on Lincoln Minster, 386.
- Turtle, Hybrid, 185.
- DRESSER, H. E., Note on An old Record of the Little Bunting in Essex, 385.
- dresseri*, *Parus palustris*. See Titmouse, British Marsh.
- dubius*, *Turdus*. See Thrush, Dusky.
- Ducks. See Eider, Pintail, Pochard, Snew, Teal.
- Eagle, White-tailed (Nesting), 76.
- Economic Ornithology, Note on, 224.
- Editorial, 1.
- Eggs, Weight of Birds', Note on, 193.
- Egret, Little (additions), 347.
- Eider, Common, in Kirkcudbrightshire, 263.
- Supposed Pacific, in Orkney, 15, 69, 125, 158.
- elegans*, *Carduelis*. See Goldfinch.
- enucleator*, *Pyrrhula*. See Grosbeak, Pine.
- epops*, *Upupa*. See Hoopoe.
- crythrina*, *Pyrrhula*. See Grosbeak, Scarlet.
- erythropus*, *Anser*. See Goose, Lesser White-fronted.
- ETCHES, A. H., Note on Redshank Breeding in Warwickshire, 158.
- europæa*, *Sitta*. See Nuthatch.
- EVANS, W., Note on Continental Crossbill in Scotland, 290.
- excubitor*, *Lanius*. See Shrike, Great Grey.
- exilipes*, *Linota hornemannii*. See Redpoll, Mealy.
- Fair Isle, Rare Birds at, 233, 381.
- jalcinellus*, *Plegadis*. See Ibis, Glossy.
- Falcon, Greenland (additions), 320.
- Gyr (additions), 321.
- Iceland (additions), 320.
- Peregrine, wounded, fed by its mate, 392.
- Red-footed (additions), 321.
- familiaris*, *Certhia*. See Creeper, Tree.
- *Ardon*. See Warbler, Grey-backed.
- FARREN, WILLIAM, The Crouching Habit of the Stone-Curlew, 301.
- feldeggi*, *Motacilla*. See Wagtail, Black-headed.
- Fieldfare in August, 122.
- Finch, Citril (Saunders), 12.
- Serin, supposed, in Sussex, 57; (additions), 181.
- Snow (Saunders), 13; in Kent, 189.
- See Brambling, Bullfinch, Chaffinch, Goldfinch, Greenfinch, Hawfinch.
- Firecrest. See Wren.
- flammea*, *Strix*. See Owl, Barn.
- flava*, *Motacilla*. See Wagtail, Blue-headed.
- flaviostris*, *Linota*. See Twite.
- Flight, Wind and, 115, 143, 168.
- Soaring of Small Birds, 261.
- The Down-stroke of the Wing, 262, 288.
- fluviatilis*, *Tachybaptus*. See Grebe, Tail-feathers of.
- Flycatcher, Pied (additions), 148; Nesting in Kirkcudbrightshire, 387.
- Red-breasted (additions), 149; at Fair Isle, 233, 383; at Bell Rock, 297.

- Food of Black-headed Gull, 191, 231, 259, 293.
- Forms, On Birds represented in the British Isles by Peculiar, 208.
- FORREST, H. E., Letter on the Vertebrate Fauna of North Wales, 298; Note on Common Snipe Nesting in August, 326.
- FROHAWK, F. W., Note on Fieldfare in August, 122.
- frugilegus*, *Corvus*. See Rook.
- juncea*, *Surnia*. See Owl, Hawk.
- fuscatus*, *Turdus*. See Thrush, Dusky.
- fuscicollis*, *Tringa*. See Sandpiper, Bonaparte's.
- fuscus*, *Totanus*. See Redshank, Spotted.
- galbula*, *Oriolus*. See Oriole, Golden.
- Gallinule, Purple (Nesting), 108.
- Gannet Remains at Broch of Ayre, 310.
- Gare Fowl Remains at Broch of Ayre, 310.
- garrulus*, *Ampelis*. See Waxwing.
- *Coracias*. See Roller.
- garzetta*, *Ardea*. See Egret, Little.
- giu*, *Scops*. See Owl, Scops.
- glacialis*, *Colymbus*. See Diver, Great Northern.
- GLADSTONE, HUGH S., The Red-necked Phalarope in Ireland, 174.
- Godwit, Bar-tailed, on the Solway, 389.
- Black-tailed, in Barra, 233; in Scotland, 297.
- Golderest. See Wren.
- Goldfinch, British (Hartert), 211; (additions), 178; Song-period of, 367.
- Goose, Lesser White-fronted (Saunders), 14.
- Pink-footed, in co. Roscommon, 388.
- Goshawk (additions), 319.
- graculus*, *Phalacrocorax*. See Shag.
- Grebes, Tail-feathers of, 125.
- Great-crested, Large Clutch of Eggs of, 327; Breeding in co. Donegal, 360.
- GREEN, J. F., Note on Three Cuckoo's Eggs in a Robin's Nest, 325.
- Greenfinch (additions), 150; Song-period of, 367.
- Greenshank in Staffordshire, 327.
- gregarius*, *Vanellus*. See Plover, Sociable.
- griseigena*, *Podiceps*. See Grebe, Tail-feathers of.
- griseus*, *Macrorhamphus*. See Snipe, Red-breasted.
- *Nycticorax*. See Heron, Night.
- *Puffinus*. See Shearwater, Sooty.
- Grosbeak, Pine (additions), 247.
- Scarlet (additions), 246; on Isle of May, 296.
- Grouse, Red (Hartert), 222; and Ptarmigan Hybrid, 269.
- Willow, in Scotland, 272.
- Grouse-Disease, Note on, 229.
- Gull, Black-headed, Food of, 191, 231, 259, 293.
- Little, in Sussex, 359.
- Sabine's, in the Firth of Forth, 328.
- GURNEY, J. H., Note on Birds Struck by Lightning, 29.
- gyrfalco*, *Falco*. See Falcon, Gyr.
- haliactus*, *Pandion*. See Osprey.
- Harrier, Hen, Breeding in Surrey, 237, 351; (additions), 317.
- Marsh (additions), 316.
- Montagu's (additions), 317; Breeding in Surrey, 351.
- HARRISON, T., Note on the Food of the Black-headed Gull, 231.
- HARTERT, DR. ERNST, on Birds represented in the British Isles by Peculiar Forms, 208.
- HARVIE-BROWN, J. A., Note on Martin's Nest built on a Window-pane, 355.
- Hawfinch (additions), 150; Breeding in Northumberland, 188.
- HEADLEY, F. W., Wind and Flight, 115, 143, 168; Notes on Partridge carrying a Young One, 190; Soaring of Small Birds, 261; The Downstroke of the Wing, 262.
- Heron, Common, Nesting on Dungeness Beach, 97; Nesting Sites of, 155, 157; The "Powder-Down" of the, 343.
- Great White (Nesting), 78, 157; (additions), 347.

- Heron, Night, in co. Meath 327 ;
 (additions), 348.
 — Purple (additions), 347.
 — Squacco (additions), 348.
 Heronries in East Sussex, 360.
 Hertfordshire Natural History
 Society, Transactions of the,
 noticed, 160.
hiaticola, *Egialitis*. See Plover,
 Ringed.
hiemalis, *Junco*. See Snowbird,
 American.
hirtensis, *Troglodytes troglodytes*.
 See Wren, St. Kilda.
 Hobby Breeding in Surrey, 237 ;
 (additions), 321.
holboellii, *Linota linaria*. See Red-
 poll, Mealy.
 Hoopoe at Fair Isle, 233, 384 ;
 (additions), 282.
 HOPE, LINNÆUS E. See Thorpe.
hornemannii, *Linota*. See Redpoll,
 Mealy.
hortensis, *Sylvia*. See Warbler,
 Garden.
hortulana, *Emberiza*. See Bunting,
 Oortolan.
hortulanus, *Scrinus*. See Finch,
 Serin.
hyperboreus, *Phalaropus*. See
 Phalarope, Red-necked.
 Ibis, Glossy, in Orkney, 190 ; at
 Speymouth, 297 ; (additions),
 350 ; in Aberdeenshire and
 Ayrshire, 388.
icterina, *Hypolais*. See Warbler,
 Icterine.
ictinus, *Milvus*. See Kite.
ignavus, *Bubo*. See Owl, Eagle.
ignicapillus, *Regulus*. See Wren,
 Fire-crested.
iliacus, *Turdus*. See Redwing.
impennis, *Alca*. See Auk, Great.
 Incubation Spots, 62.
 INGRAM, COLLINGWOOD, Note on
 the Incubation Period in the
 Cuckoo, 291.
isabellina, *Saxicola*. See Wheatear,
 Isabelline.
islandus, *Falco*. See Falcon,
 Iceland.
 Jay, British (Hartert), 209.
 JOURDAIN, REV. F. C. R., Letter
 on Birds struck by Lightning,
 62 ; Notes on Nesting Sites of
 the Common Heron, 156 ; Birds
 covering up their eggs, 226 ;
 Downstroke of the Wing, 288.
 JOY, NORMAN H., Note on Great
 and Blue Tits covering up their
 Eggs, 187.
 Kent, the Birds of, Reviewed, 95.
 — Notes on the Birds of, Re-
 viewed, 234.
 KERR, GRAHAM W., Note on Marsh-
 Warbler Nesting in Surrey,
 186.
 KERRY, F., Note on Number of
 Eggs laid by the Cuckoo, 124.
 Kestrel, Nestling Plumage of, 166.
 — Lesser (additions), 322.
 KIRKPATRICK, TEMPLE, Note on
 Ring-Ousel and Blackbird inter-
 breeding, 153.
 Kite, Breeding of the, in Essex, 359.
 — Black (additions), 319.
kleinschmidti, *Parus atricapillus*.
 See Titmouse, Willow.
kuhli, *Puffinus*. See Shearwater,
 Great Mediterranean.
lagopus, *Butco*. See Buzzard,
 Rough-legged.
 — *Lagopus*. See Grouse, Willow.
 LANGTON, HERBERT, Notes on
 supposed Serin Finches in
 Sussex, 57 ; Golden Oriole in
 Sussex, 59.
lapponica, *Limosa*. See Godwit,
 Bar-tailed.
lapponicus, *Calcarius*. See Bunt-
 ing, Lapland.
 Lapwing Breeding in November,
 265.
 Lark, Black (Saunders), 14.
 — Shore (additions), 256.
 — Short-toed (additions), 255 ;
 at Fair Isle, 296, 384.
 — Sky, Mouth Spots of, 258 ;
 Song-period of, 367.
 — White-winged (additions), 256 ;
 in Sussex, 357.
 — Wood (additions), 255 ; at
 Fair Isle, 296.
 LECHNER, A. A. VAN PELT, Letter
 on Four Birds in a Long-tailed
 Tit's Nest, 62.
lentiginosus, *Botaurus*. See Bittern,
 American.

- leucorodia*, *Platalea*. See Spoonbill.
leucorrhoa, *Oceanodroma*. See Petrel, Fork-tailed.
 — *Saxicola œnanthe*. See Wheat-ear, Greater.
 Lightning, Birds struck by, 29, 62.
 Linnet (additions), 182; Song-period of, 367.
 LODGE, R. B., Note on Nesting Habits of Great White Heron and Common Heron, 157.
 LOWE, W. W., Note on the Soaring of Birds, 225.
lugubris, *Motacilla*. See Wagtail, Pied.
lusciniæ, *Daulias*. See Nightingale.
luscinioides, *Locustella*. See Warbler, Savi's.
 LYNES, COMMANDER H., An Incident in the Southward Migration of the Swallow, 285.
 MACPHERSON, A. HOLTE, Note on Wood-pigeon Swimming, 292.
macrorhynchus, *Nucifraga caryocatactes*. See Nutcracker.
macrura, *Sterna*. See Tern, Arctic.
maculata, *Tringa*. See Sandpiper, American Pectoral.
major, *Dendrocopus*. See Woodpecker, Great Spotted.
 — *Parus*. See Titmouse, Great.
 — *Gallinago*. See Snipe, Great.
 Marking Birds, Notes on, 58, 298, 326
 Marsh-Birds, The Home-Life of Some, Reviewed, 268.
 Martin, House, Late stay of, 127; (additions), 149; Nest built on a Window-pane, 355; Song-period of, 367.
 — Sand, Late Stay of, 127; Song-period of, 367.
martius, *Picus*. See Woodpecker, Black.
maura, *Pratincola*. See Stonechat, Siberian.
 May, Isle of, Rare Birds on, 295, 327.
 MEADE-WALDO, E. G. B., Notes on the Incubation Period of the Stone-Curlew, 92; Birds Covering up their Eggs, 227.
 Medley, A Bird Collector's, Reviewed, 235.
melanocephala, *Emberiza*. See Bunting, Black-headed.
 — *Motacilla*. See Wagtail, Black-headed.
 — *Sylvia*. See Warbler, Sardinian.
melanoleucus, *Totanus*. See Yellow-shank, Greater.
melanoptera, *Glareola*. See Pratincole, Black-winged.
melba, *Cypselus*. See Swift, Alpine.
melophilus, *Erithacus rubecula*. See Robin, British.
meridionalis, *Lanius*. See Shrike, Southern Grey.
 Merlin (additions), 321.
mcrula, *Turdus*. See Blackbird.
migrans, *Milvus*. See Kite, Black.
 Migrating Birds returning to the same Place, 58, 93.
 (Migration) "Report on the Immigrations of Summer Residents in the Spring of 1906," Reviewed, 30.
 — Desire for Observers, 324.
miliaria, *Emberiza*. See Bunting, Common.
 MILLAIS, J. G., Note on Roller in Sussex, 189.
minor, *Dendrocopus*. See Woodpecker, Lesser Spotted.
 — *Lanius*. See Shrike, Lesser Grey.
minuta, *Ardetta*. See Bittern, Little.
 — *Sterna*. See Tern, Lesser.
minutus, *Larus*. See Gull, Little.
 MITCHELL, DR. P. CHALMERS, Letter on the Ear of the Woodcock, 61.
modularis, *Accentor*. See Sparrow, Hedge.
mollissima, *Somateria*. See Eider.
montanus, *Passer*. See Sparrow, Tree.
montifringilla, *Fringilla*. See Brambling.
 MOURITZ, L. B. See BENTHAM.
muraria, *Tichodroma*. See Creeper, Wall.
 Museum, British, History of the Collections contained in the Natural History Departments of the, (Birds), Reviewed, 96.
musicus, *Cygnus*. See Whooper.
 — *Turdus*. See Thrush, Song.

- mutus*, *Lagopus*. See Ptarmigan.
nevia, *Locustella*. See Warbler,
 Grasshopper.
 NELSON, T. H., Note on the First
 British Example of the White-
 spotted Bluethroat. 228.
 Nesting Habits observed Abroad,
 25, 48, 76, 107.
 Nestling Birds, and some of the
 Problems they Present. 102,
 129, 162.
 Nestlings, the Flanges and Mouth-
 spots of, 130, 186, 225, 258.
 Nests, The Evolution of Birds', 373.
 NEWTON, ALFRED—A Memoir, 33.
newtoni, *Parus major*. See Tit-
 mouse, British Great.
 NICHOLS, J. B., Note on Rare Birds
 in Sussex, Kent, and Essex,
 185; The Grey-backed Warbler
 in Kent, 257; Note on White-
 winged Lark in Sussex, 357.
 NICHOLS, W. B., Letter on the Ear
 of the Woodcock, 61.
 Nightingale (additions), 55; Song-
 period of, 367.
 — Thrush (Saunders), 8.
nigra, *Ciconia*. See Stork, Black.
nisoria, *Sylvia*. See Warbler,
 Barred.
nivalis, *Montifringilla*. See Finch,
 Snow.
 — *Plectrophenax*. See Bunting,
 Snow.
 NOBLE, HEATLEY, Notes on Pintail
 in Berkshire, 292; Incubation
 Period in the Cuckoo, 325.
noctua, *Athene*. See Owl, Little.
 Norfolk and Norwich Naturalists'
 Society, Transactions of the,
 Noticed, 160.
 Norfolk Estuary, Wild Life on a,
 Reviewed, 236.
nubicus, *Lanius*. See Shrike,
 Masked.
 Nutcracker (Nesting), 49; in
 Sussex, 185; (additions), 254;
 in Kent, 388.
 Nuthatch as a Nest-builder, 122;
 British (Hartert), 218.
obscurus, *Parus cæruleus*. See
 Titmouse, British Blue.
occidentalis, *Saxicola*. See Wheat-
 ear, Black-throated.
ochropus, *Totanus*. See Sandpiper,
 Green.
œnanthe, *Saxicola*. See Wheatear,
 Common.
œnas, *Columba*. See Dove, Stock.
œruginosus, *Circus*. See Harrier,
 Marsh.
 OGLIVIE-GRANT, W. R., On Two
 supposed Hybrids between Red
 Grouse and Ptarmigan, 269;
 Note on the Plumage of a Great
 Northern Diver and a White-
 billed Northern Diver, 294.
 OLDHAM, CHARLES, Note on Lesser
 Whitethroat in Cumberland,
 324.
 Oriole, Golden, in Sussex, 59;
 breeding in Immature Plumage,
 359.
orphea, *Sylvia*. See Warbler,
 Orphean.
 Orotolan. See Bunting.
 Osprey, Home-life of, 17, 40; in
 co. Sligo, 327.
otus, *Asio*. See Owl, Long-eared.
 Ousel, Ring, (additions), 54; and
 Blackbird interbreeding, 153.
 Owl, Barn, Nestling Plumage of,
 166.
 — Eagle (additions), 316.
 — Hawk (additions), 316.
 — Little (additions), 315; the
 Spread of the, from the chief
 centres of its Introduction,
 335; in Gloucestershire, 388.
 — Long-eared (additions), 314.
 — "Luminous," 289.
 — Scops (additions), 316.
 — Short-eared (additions), 314;
 in Ireland, 358.
 — Snowy, Colour of, 264; (ad-
 ditions) 315; at Fair Isle, 384.
 — Tawny, Down Plumage of,
 164, 166.
 — Tengmalm's (additions), 314;
 in Shetland, 388.
palumbarius, *Astur*. See Goshawk.
palumbus, *Columba*. See Pigeon,
 Wood.
palustris, *Acrocephalus*. See
 Warbler, Marsh.
palustris, *Parus*. See Titmouse,
 Marsh.
paradoxus, *Syrhaptus*. See Sand-
 grouse, Pallas's.

- PARKIN, THOMAS, The Sardinian Warbler in Sussex, a new British Bird, 86.
- Partridge carrying a Young One, 190.
- parva, Muscicapa.* See Flycatcher, Red-breasted.
- — *Porzana.* See Crake, Little.
- parvulus, Troglodytes.* See Wren.
- Pastor. See Starling, Rose-coloured.
- PEARSON, C. E., Note on Four Birds in a Long-tailed Tit's Nest, 93.
- PENROSE, DR. F. G., Note on Yellow-breasted Bunting in Norfolk, 263.
- Peregrine. See Falcon.
- Petrel, Fork-tailed (or Leach's), near Chester, 360; in Aberdeenshire, 389.
- Petrels, A Monograph of the, reviewed, 390.
- Phalarope, Red-necked, in Ireland, 174; On the Breeding Habits of, 202.
- Pheasant, Nestling Plumage of, 166.
- philomela, Daulias.* See Nightingale, Thrush.
- phœnicurus, Ruticilla.* See Redstart.
- phragmitis, Acrocephalus.* See Warbler, Sedge.
- Pigeon, Wood, Diphtheria, 243, 288, 323; Swimming, 292.
- pilaris, Turdus.* See Fieldfare.
- Pintail in Berkshire, 292.
- Pipit, Meadow, Nesting in Hole, 94; Song-period of, 367.
- — Red-throated (additions), 112.
- — Richard's (additions), 113; in Cornwall, 155; in Norfolk, 264, 387; in co. Dublin, 290.
- — Tawny (additions), 112.
- — Tree (additions), 112; Song-period of, 367.
- — Water (additions), 113.
- Plover, Ringed, Nests of, 373.
- — Sociable, in Kent, 57.
- Pochard, Baer's, at Tring, 14, 63.
- polyglotta, Hypolais.* See Warbler, Melodious.
- pomeranus, Lanus.* See Shrike, Woodchat.
- "Powder-Down" of the Heron, 343.
- pratensis, Anthus.* See Pipit, Meadow.
- — *Crex.* See Rail, Land.
- Pratincole, Black-winged (Saunders), 15.
- Preservation of Rare British Breeding Birds, 323.
- PROCTOR, MAJOR F. W., The Lesser Redpoll as a Breeding Species in Berkshire, 312.
- Protection of Birds, Comparative Legislation for the, 354.
- Ptarmigan and Red Grouse Hybrid, 269.
- pugnax, Machetes.* See Ruff.
- purpurea, Ardea.* See Heron, Purple.
- pusilla, Emberiza.* See Bunting, Little.
- pusillus, Ereunetes.* See Sandpiper, Semi-palmated.
- PYCRAFT, W. P., Nestling Birds and some of the Problems they Represent, 102, 129, 162; Note on Late Nesting of the Bearded Tit, 154; The "Powder-Down" of the Heron, 343; Note on Chiffchaff in London, 354; The Nest of the Ringed Plover, and the Bearing thereof on the Evolution of Birds' Nests in General, 373.
- pyrrhula, Pyrrhula.* See Bullfinch, Northern.
- raii, Motacilla.* See Wagtail, Yellow.
- Rail, Land, in Edinburgh in winter, 388.
- ralloides, Ardea.* See Heron, Squacco.
- rayi, Motacilla flava.* See Wagtail, Yellow.
- Redpoll, Lesser, Nesting in Kent, 155; (additions), 183; as a Breeding Species in Berkshire, 312.
- — Mealy (additions), 182; at Fair Isle, 233, 383.
- Redshank Nesting in the Zoological Gardens, 91; Breeding in Warwickshire and elsewhere Inland, 158, 191.
- — Spotted, in Kent, 359.
- Redstart (additions), 54; Song-period of, 367.
- — Black (additions), 54; at Fair Isle, 296, 382; near Dublin, 324.

- Redwing (additions), 53.
richardi, *Anthus*. See Pipit, Richard's.
- RICKETT, C. B., Notes on Wood-Wren Nesting in Ross-shire, 154; White Wagtail in East Ross-shire, 155; Richard's Pipit in Cornwall, 155.
- ridibundus*, *Larus*. See Gull, Black-headed.
- riparia*, *Cotile*. See Martin, Sand.
- risorius*, *Turtur*. See Dove, Turtle.
- Robin, British (Hartert), 219; Song-period of, 367.
- ROBINSON, H. W., Notes on Early Nesting of Shag in Orkney, 189; Glossy Ibises in Orkney, 190.
- Roller in Sussex, 189; (additions), 281.
- Rook (additions), 254.
- rosea*, *Aegithalos caudatus*. See Titmouse, British Long-tailed.
- roseus*, *Pastor*. See Starling, Rose-coloured.
- rostrata*, *Linota linaria*. See Redpoll, Mealy.
- ROTHSCHILD, THE HON. WALTER, The British Willow-Tit, 44; Letter on Baer's Pochard as a British Bird, 63.
- rubetra*, *Pratincola*. See Whinchat.
- rubicola*, *Pratincola*. See Stonechat.
- Ruby-throat, Siberian (Saunders), 8.
- rufescens*, *Linota*. See Redpoll, Lesser.
- Ruff, Nesting in Norfolk, 65.
- rufitergum*, *Garrulus glandarius*. See Jay, British.
- rufula*, *Hirundo*. See Swallow, Red-rumped.
- rufus*, *Phylloscopus*. See Chiffchaff.
- rustica*, *Emberiza*. See Bunting, Rustic.
- *Hirundo*. See Swallow.
- rusticula*, *Scolopax*. See Woodcock.
- Rutland, Notes on the Birds of, Reviewed, 128.
- sabinii*, *Xema*. See Gull, Sabine's.
- Sand-Grouse, Pallas's, in Middlesex, 190.
- Sandpiper, American Pectoral, in Sussex, 230; Breeding Habits of, 230.
- Sandpiper, Baird's (Saunders), 15.
- Bonaparte's, in Kent, 231.
- Green, at Fair Isle, 384.
- Semi-palmated, in Kent, 223.
- SAUNDERS, HOWARD, Additions to the List of British Birds since 1899, 4; Note on his Death, 161; Memoir of, 197.
- scandiaca*, *Nyctea*. See Owl, Snowy.
- schœnichus*, *Emberiza*. See Bunting, Reed.
- SCLATER, DR. P. L., F.R.S., Remarks on a supposed New British Tit of the Genus *Parus*, 23.
- scolopax*, *Ædicnemus*. See Stone-Curlew.
- scotica*, *Loxia curvirostra*. See Crossbill, Scottish.
- *Parus cristatus*. See Titmouse, Scottish Crested.
- scoticus*, *Lagopus lagopus*. See Grouse, Red.
- SELOUS, F. C., Nesting Habits observed Abroad of some Rare British Birds, 25, 48, 76, 107.
- Serin. See Finch.
- Shag, Early Nesting in Orkney, 189; Remains at Broch of Ayre, 310.
- SHARPE, DR. R. BOWDLER, Memoir of Alfred Newton, 33.
- Shearwater, Great Mediterranean, (Saunders), 16.
- Sooty, in Kent, 264.
- Shrike, Great Grey (additions), 147; in Kirkcudbrightshire, 263; in Sussex, 359; at Fair Isle, 383.
- Lesser Grey (additions), 147; in Kent, 188.
- Masked (Saunders), 11.
- Red-backed (additions), 148; Nesting in Yorkshire, 193; on the Isle of May, 296; song-period of, 367; at Fair Isle, 383.
- Southern Grey, in Norfolk, 124.
- Woodchat (additions), 148 in Kent, 185, 226; in Oxfordshire, 193.
- sibilatrix*, *Phylloscopus*. See Wren, Wood.
- sibirica*, *Alauda*. See Lark, White-winged.
- Siskin (additions), 180.
- Skua, Arctic, Diving, 296.

- SMALLEY, F., The supposed Occurrence of the Pacific Eider in British Waters, 69; Note on Redshank Breeding in Warwickshire and Lancashire, 191.
- Smew inland in Northumberland, 358; Reported from co. Donegal in Summer, 360; inland in Dumfriesshire, 388.
- Snipe, Drumming of the, 92; movement of the Beak in, 229; Nesting in August, 326; a Marked, 326.
- Great, in Kent, 359.
- Red-breasted, in Kent, 231.
- Sabine's, 328.
- Snowbird, American (Saunders), 12.
- Soaring of Birds, Notes on, 225, 261.
- Song-periods of Birds, Some observations on the, 367.
- Sparrow, Hedge, Mouth of, 130; and Whitethroat. Combined Nest of, 153; Song-period of, 367.
- House (additions), 181.
- Tree (additions), 181.
- spinus*, *Carduelis*. See Siskin.
- spipoleta*, *Anthus*. See Pipit, Water.
- Spoonbill (additions), 350; in the West of Scotland, 297.
- Spüröser. See Nightingale, Thrush.
- Staffordshire Field Club, Annual Report of the North, Noticed, 94.
- stapazina*, *Saxicola*. See Wheatear, Black-eared.
- Starling. Increase of, in Northumberland, 358; (additions), 251. Marked, 298.
- Rose-coloured (additions), 253; in Argyllshire, 297.
- stellaris*, *Botaurus*. See Bittern, Common.
- STEUART-MENZIES, W., Note on the Food of the Black-headed Gull, 293.
- STEWART, E. S., Note on Common Bittern in Yorkshire, 326.
- Stonechat, Song-period of, 367.
- Siberian (Saunders), 7.
- Stone-Curlew, Incubation Period of, 92.
- The Crouching Habit of, 301.
- Stork, Black (additions), 350.
- Stork, White (additions), 350.
- streperus*, *Acrocephalus*. See Warbler, Reed.
- STUBBS, FRED, Note on the Pacific Eider, 125.
- subbuteo*, *Falco*. See Hobby.
- suecica*, *Cyanecula*. See Bluethroat.
- superciliosus*, *Phylloscopus*. See Warbler, Yellow-browed.
- Sussex, The Ornithology of, 299.
- Swallow, Late Stay of, 127; Southward Migration of, 285; Nest Built on a Glass Gas Shade, 354; Song-period of, 367.
- Red-rumped (Saunders), 11; at Fair Isle, 383.
- Swan. See Whooper.
- Swift (additions), 280; Returning to Different Colonies at Different Times, 265.
- Alpine (additions), 280.
- Teal. Marked, 298; Nesting in North Devon, 388.
- TEMPLE, GRENVILLE N., Note on Great Tits usurping Nest of Blue Tits, 290.
- tengmalmi*, *Nyctala*. See Owl, Tengmalm's.
- Tern, Arctic, Far Southern Winter Quarters of, 28; Spring Mould of, 59.
- Lesser, Nesting in North Uist, 193; Probable Nesting on Lewis, 232.
- THOMSON, A. LANDBOROUGH, Note on White Eggs of the Woodcock, 124.
- THORPE, D. LOSH, and LINNÆUS E. HOPE, Food of the Black-headed Gull, 259.
- Thrush, Dusky (Saunders), 5.
- Mistle (additions), 53; Song-period of, 367; at Fair Isle, 381.
- Song, Song-period of, 367.
- White's (additions), 53.
- TICEHURST, C. B., Note on Sociable Plover in Kent, 57; Wood-pigeon Diphtheria, 243, 288, 323; Letter on a Marked Teal, 298; Note on a Marked Snipe, 326.
- TICEHURST, N. F. See WITHERBY.
- On the Nesting of a Pair of Herons on Dungeness Beach,

- 97; On the Yellow Wagtails, 133; On some Bird Remains from the Broch of Ayre, Orkney, 309; Notes on Lesser Grey Shrike in Kent, 188; Snow-Finch in Kent, 189; Sooty Shearwater in Kent, 264; American Pectoral Sandpiper in Sussex, 230; Bonaparte's Sandpiper in Kent, 231; Red-breasted Snipe in Kent, 231.
- tinnunculus*, *Falco*. See Kestrel.
- Titmouse, Bearded (additions), 109; Mouth of, 130; Late Nesting of, 154.
- Blue, British (Hartert), 213.
- Coal, British (Hartert), 213; Melanism in, 384.
- Crested (additions), 110; Scottish (Hartert), 215.
- Great (additions), 110; British (Hartert), 213; Usurping Nest of Blue Titmouse, 290.
- Long-tailed, Four in a Nest, 32, 62, 93; (additions), 110; British (Hartert), 217.
- Marsh, British (Hartert), 214; in Aberdeenshire, 297.
- Willow, The British, (23), 44, 214; in Yorkshire, 359.
- Titmice Covering up their Eggs, 187, 226, 290.
- titys*, *Ruticilla*. See Redstart, Black.
- Tongue-marks in Young Birds, See Nestlings.
- torquatus*, *Turdus*. See Ousel, Ring.
- torquilla*, *Iynx*. See Wryneck.
- tristis*, *Phylloscopus*. See Chiffchaff, Siberian.
- trivialis*, *Anthus*. See Pipit, Tree.
- trochilus*, *Phylloscopus*. See Wren, Willow.
- TUCK, REV. JULIAN G.. Note on Migrating Birds returning to the same Place, 93.
- TULLOCH, JOHN S., Note on Chiffchaffs in Shetland, 289.
- turdoides*, *Acrocephalus*. See Warbler, Great Reed.
- TURNER, MISS E. L., The Re-appearance of the Ruff as a Nesting Species in Norfolk, 55.
- turtur*, *Turtur*. See Dove, Turtle.
- Twite (additions), 184.
- undata*, *Sylvia*. See Warbler, Dartford.
- urbica*, *Chelidon*. See Martin, House.
- varius*, *Turdus*. See Thrush, White's.
- vespertinus*, *Falco*. See Falcon, Red-footed.
- viridanus*, *Phylloscopus*. See Warbler, Greenish Willow.
- viridis*, *Motacilla*. See Wagtail, Grey-headed.
- viscivorus*, *Turdus*. See Thrush, Mistle.
- v-nigrum*, *Somateria*. See Eider, Pacific.
- vulgaris*, *Buteo*. See Buzzard, Common.
- *Coccothraustes*. See Hawfinch.
- *Sturnus*. See Starling.
- WADE, E. W., The Breeding Habits of the Common Bittern, 329.
- Wagtail, Ashy-headed (Ticehurst), 137.
- Black-headed (Saunders), 10; (Ticehurst), 137.
- Blue-headed (Saunders), 11; Nesting Abroad, 48; Breeding in Wiltshire, 89; at Winchelsea, 185; at Lynmouth, 187; (Ticehurst), 134, 138.
- Grey-headed (Saunders), 10; (Ticehurst), 136; at Winchelsea, 185; at Fair Isle, 233, 382.
- Pied, Mouth of, 130; (Hartert), 212; Song-period of, 367.
- Sykes' (Saunders), 11; (Ticehurst), 136.
- White (additions), 111; in East Ross-shire, 155; Nesting in Sussex, 387.
- Yellow, Position in the British Avifauna, 133; (Hartert), 212.
- Wales, The Vertebrate Fauna of North. Reviewed, 266; Letter on, 298.
- WALTON, J. S. T., Notes on Tongue-spots of Nestling Grasshopper-Warbler, 186; Hawfinch Breeding in Northumberland, 188; Increase of the Starling

- in Northumberland, 358 ;
Smew Inland in Northumber-
land, 358 ; Crossbill Nesting in
Northumberland, 385.
- Warbler, American Yellow
(Saunders), 9.
- Aquatic (additions), 85.
- Barred (additions), 56 ; on
the Isle of May, 296.
- Cetti's (Saunders), 9 ; in
Sussex, 185.
- Dartford (additions), 81 ; in
Cornwall, 126 ; in Sussex, 359.
- Garden (additions), 56 ; in
Shetland, 126 ; Song-period of,
367 ; at Fair Isle, 382.
- Grasshopper, Tongue-spots of,
186 ; at Fair Isle, 382.
- Great Reed (additions), 84.
- Greenish Willow (additions),
82.
- Grey-backed, in Kent, 257.
- Icterine (additions), 83 ; in
Norfolk, 226.
- Marsh (additions), 84 ; in
Surrey, 186 ; in Hampshire,
296 ; Nesting in Kent, 387.
- Melodious (additions), 83 ; in
Cornwall, 127.
- Orphean (Nesting), 25 ; (ad-
ditions), 56.
- Reed (additions), 84 ; Song-
period of, 367.
- Sardinian, in Sussex, 86.
- Savi's (Nesting), 26.
- Sedge, Song-period of, 367.
- Willow. See Wren.
- Wood. See Wren.
- Yellow-browed (additions),
82 ; at the Isle of May, 296 ;
at Fair Isle, 296, 382.
- Waxwing (additions), 148.
- Wheatear, Black-eared (Saunders),
6 ; at Winchelsea, 185.
- Black-throated (Saunders), 7 ;
at Fair Isle, 233, 382.
- Common, Song-period of, 367.
- Desert (additions), 54.
- Greater, at Fair Isle, 381.
- Isabelline (Nesting), 48.
- Whinchat (additions), 54.
- WHITAKER, J., Note on Supposed
Black Woodpecker in Notting-
hamshire, 386.
- WHITE, STEPHEN J., Note on
Swallow's Nest on a Glass
Gas Shade, 354.
- Whitethroat (additions), 55 ; and
Hedge-Sparrow, Combined Nest
of, 153 ; Song-period of, 367.
- Lesser (additions), 55 ; Nest-
ing in Forfar, 126 ; in Cornwall
in August, 126 ; in Cumber-
land, 324 ; Song-period of, 367.
- Whooper, Remains of, at Broch of
Ayre, 310.
- WHYMPER, CHARLES, Letter on the
Ear of the Woodcock, 32.
- WILLIAMS, W. J., Note on Short-
eared Owls in Ireland, 358.
- WILSON, VICTOR, Note on Migrat-
ing Birds returning to the same
Place, 58.
- WITHERBY, H. F., and TICEHURST,
N. F., On the more important
Additions to our Knowledge
of British Birds since 1899,
52, 81, 109, 147, 178, 246,
280, 314, 347 ; the Spread of
the Little Owl from the chief
Centres of its introduction, 335.
- wolfi*, *Cyanocula*. See Bluethroat,
White-spotted.
- Woodchat. See Shrike.
- Woodcock, Ear of, 32, 61 ; White
Eggs of, 124.
- Woodpecker, Black, Supposed oc-
currence in Nottinghamshire,
386.
- Great Spotted, British (Har-
tert), 221 ; (additions), 280.
- Lesser Spotted, British (Har-
tert), 221 ; (additions), 281.
- Wren, Song-period of, 367.
- Fire-crested (additions), 81 ;
in Cornwall, 126.
- Golden-crested, (additions),
81 ; British (Hartert), 218 ;
Song-period of, 367.
- St. Kilda (Hartert), 219.
- Willow (additions), 82 ; Song-
period of, 367.
- Wood (additions), 83 ; in
East Ross-shire, 154 ; Song-
period of, 367 ; at Fair Isle,
382 ; at Sule Skerry, 382.
- Wryneck (additions), 280.
- Yellowshank, Greater (Saunders),
16.
- yeltoniensis*, *Alauda*. See Lark,
Black.
- Yorkshire, The Birds of, Reviewed,
194 ; Letter on, 233.

5782.3

BRITISH BIRDS

AN ILLUSTRATED MAGAZINE
DEVOTED TO THE BIRDS OF
THE BRITISH ISLES

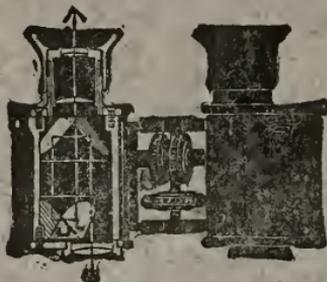
JUNE 1,
1907.

Vol. I.
No. 1.



MONTHLY · ONE · SHILLING · NET
326 HIGH · HOLBORN · LONDON
WITHERBY & CO

THE NATURALISTS' FIELD GLASS.



GOERZ PRISM BINOCULARS.

HIGH POWER. LARGE FIELD.
LIGHT AND COMPACT.

"For my own special use . . . I have found it absolutely the best I ever looked through."—F. G. AFLALO.

TO BE OBTAINED OF ALL OPTICIANS.

Catalogues Free on Application to

C. P. GOERZ, 1 to 6, Holborn Circus, London, E.C.
(WHOLESALE AND COLONIAL ONLY.)

BRITISH BIRDS.

EDITORIAL COMMUNICATIONS should be addressed to the Editors of British Birds at 326, High Holborn. All manuscript should be clearly written with wide margins, and on one side only of the paper. Photographs intended for reproduction should be silver prints, with the surface as glossy as possible. Manuscripts or photographs which are required to be returned if unused must be accompanied by a stamped and directed envelope, but the Editors cannot hold themselves responsible for accidental loss or damage.

THE ANNUAL SUBSCRIPTION to *British Birds* is 10s. 6d. post free, payable in advance. All orders and communications with reference to the sale of the Magazine should be addressed to the Publishers, **Witherby & Co., 326, High Holborn, London.**

ADVERTISEMENTS. — Applications for Scale of Charges, and all communications with regard to Advertisements, should be addressed to **Witherby & Co., Advert. Dept., 326, High Holborn, London.**

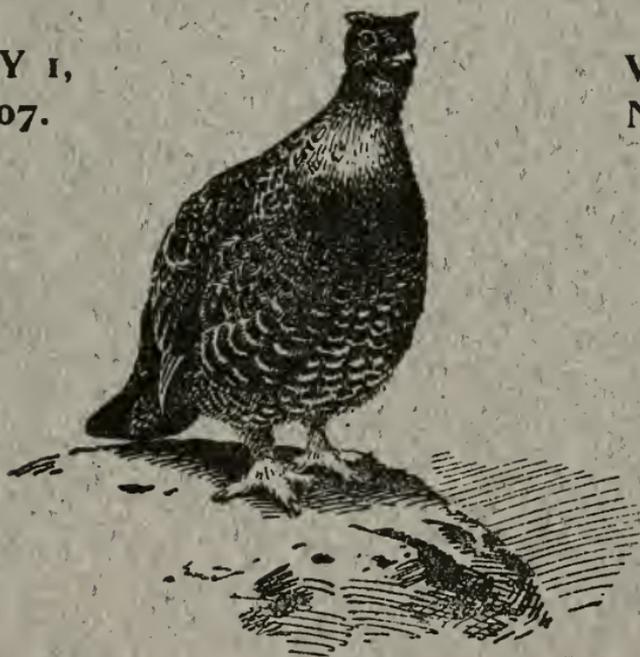
57162100

BRITISH BIRDS

AN ILLUSTRATED MAGAZINE
DEVOTED TO THE BIRDS ON
THE BRITISH LIST

JULY 1,
1907.

Vol. 1.
No. 2.



MONTHLY ONE SHILLING NET
326 HIGH HOLBORN LONDON
WITHERBY & CO

WATKINS & DONCASTER,

Naturalists,

And Manufacturers of CABINETS and APPARATUS for Entomology, Birds' Eggs and Skins, and all Branches of Natural History.

A LARGE STOCK OF INSECTS, and BIRDS' EGGS and SKINS.

Speciality:—Objects for Nature Study, Drawing Classes, &c.

BIRDS, MAMMALS, &c., PRESERVED and MOUNTED by FIRST-CLASS WORKMEN TRUE TO NATURE.

All Books and Publications on Natural History supplied.

36, STRAND, LONDON, W.C. (Five Doors from Charing Cross.)

Catalogue (102 pp.) post free.

JOHN WHELDON & CO.,

38, GREAT QUEEN STREET, LONDON, W.C.

(Established 60 Years.)

Largest and most varied Stock of Works relating to

NATURAL HISTORY,

ORNITHOLOGICAL, BOTANICAL,

GEOLOGICAL, MICROSCOPICAL, Etc., Etc.

In Great Britain.

CATALOGUES ISSUED.

DALLMEYER'S

Naturalists' Camera,

1907 MODEL,

For Telephoto or Ordinary LENSES.



DALLMEYER'S

Lenses are used
by the most
skilled Bird
Photographers.

*The following are
specially recommended:*

THE STIGMATIC SERIES II. F/6 (Convertible.)

THE SERIES D PATENT PORTRAIT LENSES F 6.

(A Rapid Long Focus Lens at a Moderate Price.)

High or Moderate Power Telephoto Lenses (Original Make).

We are Specialists in Cameras and Apparatus for Photo-Ornithologists.

CATALOGUES AND ADVICE FREE.

J. H. DALLMEYER, LIMITED, DENZIL RD.,

Showrooms: 25, NEWMAN ST., W. NEASDEN, LONDON, N.W.

W. F. H. ROSENBERG,

Naturalist and Importer of Exotic Zoological Collections,
57, HAVERSTOCK HILL, LONDON, N.W.

Dealer in Specimens in all branches of Zoology. Largest stock of Birdskins
in the World.

Price List No. 6—**BIRDSKINS**—containing over 4300 species, sent post
free on application.

Frequent arrivals direct from the Collectors; periodical Lists of these post free.

Specimens sent on approval. Public and private Museums supplied.

Collections arranged. Large or small typical Collections in any group made up.

PHOTOGRAVURE OF PROFESSOR NEWTON.

A few copies of the Photogravure Portrait of Professor Newton have been prepared on a large paper suitable for framing. Copies may be obtained from the Publishers of "British Birds" at the price of **1s. 2d.** each, carefully packed and post free.

BRITISH BIRDS.

EDITORIAL COMMUNICATIONS should be addressed to the Editors of British Birds at 326, High Holborn. All manuscript should be clearly written with wide margins, and on one side only of the paper. Photographs intended for reproduction should be silver prints, with the surface as glossy as possible. Manuscripts or photographs which are required to be returned if unused must be accompanied by a stamped and directed envelope, but the Editors cannot hold themselves responsible for accidental loss or damage.

THE ANNUAL SUBSCRIPTION to British Birds is 10s. 6d. post free, payable in advance. All orders and communications with reference to the sale of the Magazine should be addressed to the Publishers, Witherby & Co., 326, High Holborn, London.

ADVERTISEMENTS. — Applications for Scale of Charges, and all communications with regard to Advertisements, should be addressed to Witherby & Co., Advert. Dept., 326, High Holborn, London.

JUST PUBLISHED.

Of interest to all Naturalists and Big
Game Hunters.

RECENT HUNTING TRIPS
IN
BRITISH NORTH AMERICA.

BY
F. C. SELOUS.

Illustrated with 65 plates from photographs of Wild Moose, Caribou, and Sheep from life, as well as the most remarkable animals shot by the author, and views of the Country.

Demy 8vo, Cloth, Gilt Top, 16s. net.

Describes adventures with big game, incidents of travel, and gives many original observations on the habits of wild animals in wild regions, brilliant word pictures of the scenery, and details of equipment, &c.

THE MYCETOZOA, and some Questions which they suggest. By the Right Hon. Sir EDWARD FRY, D.C.L., LL.D., F.R.S. An important Monograph on these very interesting organisms, which are referred neither to the Plants nor to the Animals. Crown 8vo. Cloth. Gilt. 1s.

CLOUDS AND WEATHER SIGNS. By Commander D. WILSON-BARKER, R.N.R., F.R.S.E., F.R.Met.Soc. Illustrated with a Series of Cloud Photographs by the Author. 1s. net.

THE BIRDS OF HAMPSHIRE AND THE ISLE OF WIGHT. By the Rev. J. E. KELSALL, M.A., M.B.O.U., and PHILIP W. MUNN, F.Z.S., M.B.O.U. Illustrated with Drawings by G. E. Lodge, and Photographs from Life by Smith Whiting, and others, together with Coloured Map of County. Over 400 pages. Demy 8vo. Cloth Bound. Gilt Top. 15s. net.

WATKINS & DONCASTER,

Naturalists,

And Manufacturers of CABINETS and APPARATUS for Entomology, Birds' Eggs and Skins, and all Branches of Natural History.

A LARGE STOCK OF INSECTS, and BIRDS' EGGS and SKINS.

Speciality.—Objects for Nature Study, Drawing Classes, &c.

BIRDS, MAMMALS, &c., PRESERVED and MOUNTED by FIRST-CLASS WORKMEN TRUE TO NATURE.

All Books and Publications on Natural History supplied.

36, STRAND, LONDON, W.C. (Five Doors from Charing Cross.)

Catalogue (102 pp.) post free.

JOHN WHELDON & CO.,

38, GREAT QUEEN STREET, LONDON, W.C.

(Established 60 Years.)

Largest and most varied Stock of Works relating to

NATURAL HISTORY,

ORNITHOLOGICAL, BOTANICAL,

GEOLOGICAL, MICROSCOPICAL, Etc., Etc.

In Great Britain.

CATALOGUES ISSUED.



DALLMEYER'S

Naturalists' Camera,

1907 MODEL,

For Telephoto or Ordinary LENSES.

Specialists in

Cameras for

Ornithologists.

J. H. DALLMEYER,
LTD.,

Denzil Road,

Neasden,

LONDON, N.W.

SHOWROOMS:

25, NEWMAN ST., W.

JUST PUBLISHED.

Of interest to all Naturalists and Big
Game Hunters.

**RECENT HUNTING TRIPS
IN
BRITISH NORTH AMERICA.**

BY
F. C. SELOUS.

*Illustrated with 65 plates from photographs of Wild Moose,
Caribou, and Sheep from life, as well as the most remarkable
animals shot by the author, and views of the Country.*

Demy 8vo, Cloth, Gilt Top, 16s. net.

Describes adventures with big game, incidents of travel, and gives many
original observations on the habits of wild animals in wild regions,
brilliant word pictures of the scenery, and details of equipment, &c.

In Preparation.

Prospectus on Application.

THE
VERTEBRATE FAUNA
OF
NORTH WALES

BEING A HISTORY OF THE MAMMALS, BIRDS, REPTILES,
AMPHIBIANS AND FISHES TO BE FOUND IN THAT PART
OF WALES LYING NORTH OF THE DOVEY ESTUARY

BY
H. E. FORREST.

FULLY ILLUSTRATED.

Large Demy 8vo (8½ × 6). Over 500 Pages.

*Limited Edition. Price to Subscribers in advance, 12s. 6d. After publication
the price will be raised.*

326, HIGH HOLBORN, LONDON.

BRITISH BIRDS

AN ILLUSTRATED MAGAZINE
DEVOTED TO THE BIRDS OF
THE BRITISH ISLES

AUGUST 1,
1907.

Vol. I.
No. 3.



MONTHLY ONE SHILLING NET
326 HIGH HOLBORN LONDON
WITHERBY & CO.

WATKINS & DONCASTER,

Naturalists,

And Manufacturers of CABINETS and APPARATUS for Entomology, Birds' Eggs and Skins, and all Branches of Natural History.

A LARGE STOCK OF INSECTS, and BIRDS' EGGS and SKINS.

Speciality:—Objects for Nature Study, Drawing Classes, &c.

BIRDS, MAMMALS, &c., PRESERVED and MOUNTED by FIRST-CLASS WORKMEN TRUE TO NATURE.

All Books and Publications on Natural History supplied.

36, STRAND, LONDON, W.C. (Five Doors from Charing Cross.)

Catalogue (102 pp.) post free.

JOHN WHELDON & CO.,

38, GREAT QUEEN STREET, LONDON, W.C.

(Established 60 Years.)

Largest and most varied Stock of Works relating to

NATURAL HISTORY,

ORNITHOLOGICAL, BOTANICAL,

GEOLOGICAL, MICROSCOPICAL, Etc., Etc.

In Great Britain.

CATALOGUES ISSUED.

DALLMEYER'S Naturalists' Camera,

1907 MODEL,

For Telephoto or Ordinary LENSES.



DALLMEYER'S

Lenses are used
by the most
skilled Bird
Photographers.

*The following are
specially recommended:*

THE STIGMATIC SERIES II. F/6 (Convertible.)

THE SERIES D PATENT PORTRAIT LENSES F 6.

(A Rapid Long Focus Lens at a Moderate Price.)

High or Moderate Power Telephoto Lenses (Original Make).

We are Specialists in Cameras and Apparatus for Photo-Ornithologists.

CATALOGUES AND ADVICE FREE.

J. H. DALLMEYER, LIMITED, DENZIL RD.,

Showrooms: 25, NEWMAN ST., W. NEASDEN, LONDON, N.W.

BRITISH BIRDS

AN ILLUSTRATED MAGAZINE
DEVOTED TO THE BIRDS OF
THE BRITISH ISLANDS

SEPTEMBER 2,
1907.

Vol. I.
No. 4.



MONTHLY ONE SHILLING NET
326 HIGH HOLBORN LONDON
WITHERBY & CO

WATKINS & DONCASTER,

Naturalists,

And Manufacturers of CABINETS and APPARATUS for Entomology, Birds' Eggs and Skins, and all Branches of Natural History.

A LARGE STOCK OF INSECTS, and BIRDS' EGGS and SKINS.

Speciality:—Objects for Nature Study, Drawing Classes, &c.

BIRDS, MAMMALS, &c., PRESERVED and MOUNTED by FIRST-CLASS WORKMEN TRUE TO NATURE.

All Books and Publications on Natural History supplied.

36, STRAND, LONDON, W.C. (Five Doors from Charing Cross.)

Catalogue (102 pp.) post free.

JOHN WHELDON & CO.,

38, GREAT QUEEN STREET, LONDON, W.C.

(Established 60 Years.)

Largest and most varied Stock of Works relating to

NATURAL HISTORY,

ORNITHOLOGICAL, BOTANICAL,

GEOLOGICAL, MICROSCOPICAL, Etc., Etc.

In Great Britain.

CATALOGUES ISSUED.



DALLMEYER'S

Naturalists' Camera,

1907 MODEL,

For Telephoto or Ordinary LENSES.

DALLMEYER'S

Lenses are used
by the most
skilled Bird
Photographers.

*The following are
specially recommended:*

THE STIGMATIC SERIES II. F/6 (Convertible.)

THE SERIES D PATENT PORTRAIT LENSES F 6.

(A Rapid Long Focus Lens at a Moderate Price.)

High or Moderate Power Telephoto Lenses (Original Make).

We are Specialists in Cameras and Apparatus for Photo-Ornithologists.

CATALOGUES AND ADVICE FREE.

J. H. DALLMEYER, LIMITED, DENZIL RD.,

Showrooms: 25, NEWMAN ST., W. NEASDEN, LONDON, N.W.

W. F. H. ROSENBERG,

Naturalist and Importer of Exotic Zoological Collections,
57, HAVERSTOCK HILL, LONDON, N.W.

Dealer in Specimens in all branches of Zoology. Largest stock of Birdskins
in the World.

Price List No. 6—**BIRDSKINS**—containing over 4300 species, sent post
free on application.

Frequent arrivals direct from the Collectors; periodical Lists of these post free.
Specimens sent on approval. Public and private Museums supplied.
Collections arranged. Large or small typical Collections in any group made up.

BRITISH BIRDS.

EDITORIAL COMMUNICATIONS should be addressed to the Editors of British Birds at 326, High Holborn. All manuscript should be clearly written with wide margins, and on one side only of the paper. Photographs intended for reproduction should be silver prints, with the surface as glossy as possible. Manuscripts or photographs which are required to be returned if unused must be accompanied by a stamped and directed envelope, but the Editors cannot hold themselves responsible for accidental loss or damage.

THE ANNUAL SUBSCRIPTION to British Birds is 10s. 6d. post free, payable in advance. All orders and communications with reference to the sale of the Magazine should be addressed to the Publishers, Witherby & Co., 326, High Holborn, London.

ADVERTISEMENTS. — Applications for Scale of Charges, and all communications with regard to Advertisements, should be addressed to Witherby & Co., Advert. Dept., 326, High Holborn, London.

PHOTOGRAVURE of the late PROFESSOR NEWTON.

A few copies are still to be had of the photogravure portrait of the late PROFESSOR NEWTON.

Post free, securely packed (flat), 1s. 2d.

PUBLISHERS, "BRITISH BIRDS,"

326, HIGH HOLBORN, LONDON.

RECENT HUNTING TRIPS IN BRITISH NORTH AMERICA. By F. C. SELOUS. A

work of interest to all Naturalists and Big Game Hunters. Illustrated with 65 plates from photographs taken from life. Describes adventures with big game, incidents of travel, and gives many original observations on the habits of wild animals in wild regions. Demy 8vo. Cloth. Gilt Top. 16s. net.

THE VERTEBRATE FAUNA OF NORTH WALES: being a History of the Mammals, Birds, Reptiles,

Amphibians and Fishes to be found in that part of Wales lying north of the Dovey Estuary. By H. E. FORREST. Fully illustrated. Large Demy 8vo ($8\frac{1}{2} \times 6$). About 500 pages. Limited Edition. Price to Subscribers, 12s. 6d. After publication the price will be raised. Subscribers desiring to secure a copy of this work should send in their orders at once. Prospectus on Application.

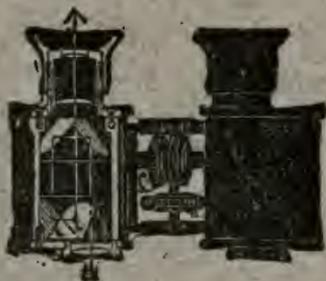
BIRD MIGRATION: — The Reports on the Immigrations of Summer Residents in the Springs of 1905 and 1906. By the **COMMITTEE** appointed by The British Ornithologists' Club. Vol. 2 (1906) just ready. 190 pages. Illustrated with 34 Maps. Price 6s. each, post free.

THE MYCETOZOA, and some Questions which they suggest. By the Right Hon. Sir EDWARD FRY, D.C.L., LL.D., F.R.S. An important Monograph on these very interesting organisms, which are referred neither to the Plants nor to the Animals. Crown 8vo. Cloth. Gilt. 1s.

CLOUDS AND WEATHER SIGNS. By Commander D. WILSON-BARKER, R.N.R., F.R.S.E., F.R.Met.Soc. Illustrated with a Series of Cloud Photographs by the Author. 1s. net.

THE BIRDS OF HAMPSHIRE AND THE ISLE OF WIGHT. By the Rev. J. E. KELSALL, M.A., M.B.O.U., and PHILIP W. MUNN, F.Z.S., M.B.O.U. Illustrated with Drawings by G. E. Lodge, and Photographs from Life by Smith Whiting, and others, together with Coloured Map of County. Over 400 pages. Demy 8vo. Cloth Bound. Gilt Top. 15s. net.

THE NATURALISTS' FIELD GLASS.



GOERZ PRISM BINOCULARS.

HIGH POWER. LARGE FIELD.
LIGHT AND COMPACT.

"With my glasses—the GOERZ PRISM BINOCULAR, No. 30, $\times 9$ —I have been able to distinguish sea-birds on their nests two-and-a-half miles away; at a distance of a quarter of a mile a bird, the size of a sparrow, can be recognised. No better aid for observing such far-away objects can be obtained or desired."—OLIVER G. PIKE.

TO BE OBTAINED OF ALL OPTICIANS.

Catalogues Free on Application to

C. P. GOERZ, 1 to 6, Holborn Circus, London, E.C.

(WHOLESALE AND COLONIAL ONLY.)

W. F. H. ROSENBERG,

Naturalist and Importer of Exotic Zoological Collections,
57, HAVERSTOCK HILL, LONDON, N.W.

Dealer in Specimens in all branches of Zoology. Largest stock of Birdskins
in the World.

Price List No. 6—**BIRDSKINS**—containing over 4300 species, sent post
free on application.

Frequent arrivals direct from the Collectors; periodical Lists of these post free.

Specimens sent on approval. Public and private Museums supplied.

Collections arranged. Large or small typical Collections in any group made up.

BRITISH BIRDS.

THE ANNUAL SUBSCRIPTION to British Birds is 10s. 6d. post free, payable in advance. All orders and communications with reference to the sale of the Magazine should be addressed to the Publishers, Witherby & Co., 326, High Holborn, London.

ADVERTISEMENTS. — Applications for Scale of Charges, and all communications with regard to Advertisements, should be addressed to Witherby & Co., Advert. Dept., 326, High Holborn, London.

RECENT HUNTING TRIPS IN BRITISH NORTH AMERICA. By F. C. SELOUS. A

work of interest to all Naturalists and Big Game Hunters. Illustrated with 65 plates from photographs taken from life. Describes adventures with big game, incidents of travel, and gives many original observations on the habits of wild animals in wild regions. Demy 8vo. Cloth. Gilt Top. 16s. net.

THE VERTEBRATE FAUNA OF NORTH WALES: being a History of the Mammals, Birds, Reptiles,

Amphibians and Fishes to be found in that part of Wales lying north of the Dovey Estuary. By H. E. FORREST. Fully illustrated. Large Demy 8vo (8½ × 6). About 500 pages. Limited Edition. Price to Subscribers, 12s. 6d. After publication the price will be raised. Subscribers desiring to secure a copy of this work should send in their orders at once. Prospectus on Application.

BIRD MIGRATION: — The Reports on the Immigrations of Summer Residents in the Springs of 1905 and 1906. By the **COMMITTEE** appointed by The British Ornithologists' Club. Vol. 2 (1906) just ready. 190 pages. Illustrated with 34 Maps. Price 6s. each, post free.

THE MYCETOZOA, and some Questions which they suggest. By the Right Hon. Sir EDWARD FRY, D.C.L., LL.D., F.R.S. An important Monograph on these very interesting organisms, which are referred neither to the Plants nor to the Animals. Crown 8vo. Cloth. Gilt. 1s.

CLOUDS AND WEATHER SIGNS. By Commander D. WILSON-BARKER, R.N.R., F.R.S.E., F.R.Met.Soc. Illustrated with a Series of Cloud Photographs by the Author. 1s. net.

THE BIRDS OF HAMPSHIRE AND THE ISLE OF WIGHT. By the Rev. J. E. KELSALL, M.A., M.B.O.U., and PHILIP W. MUNN, F.Z.S., M.B.O.U. Illustrated with Drawings by G. E. Lodge, and Photographs from Life by Smith Whiting, and others, together with Coloured Map of County. Over 400 pages. Demy 8vo. Cloth Bound. Gilt Top. 15s. net.

BRITISH BIRDS

AN ILLUSTRATED MAGAZINE
DEVOTED TO THE BIRDS ON
THE BRITISH ISLTS

OCTOBER 1,
1907.

Vol. I.
No. 5.



MONTHLY ONE SHILLING NET
326 HIGH HOLBORN LONDON
WITHERBY & CO.

WATKINS & DONCASTER,

Naturalists,

And Manufacturers of CABINETS and APPARATUS for Entomology, Birds' Eggs and Skins, and all Branches of Natural History.

A LARGE STOCK OF INSECTS, and BIRDS' EGGS and SKINS.

Speciality:—Objects for Nature Study, Drawing Classes, &c.

BIRDS, MAMMALS, &c., PRESERVED and MOUNTED by FIRST-CLASS WORKMEN TRUE TO NATURE.

All Books and Publications on Natural History supplied.

36, STRAND, LONDON, W.C. (Five Doors from Charing Cross.)
Catalogue (102 pp.) post free.

JOHN WHELDON & CO.,

38, GREAT QUEEN STREET, LONDON, W.C.
(Established 60 Years.)

Largest and most varied Stock of Works relating to

NATURAL HISTORY,

ORNITHOLOGICAL, BOTANICAL,

GEOLOGICAL, MICROSCOPICAL, Etc., Etc.

In Great Britain.

CATALOGUES ISSUED.

DALLMEYER'S

Naturalists' Camera,

1907 MODEL,

For Telephoto or Ordinary LENSES.



DALLMEYER'S

Lenses are used
by the most
skilled Bird
Photographers.

*The following are
specially recommended:*

THE STIGMATIC SERIES II. F/6 (Convertible.)

THE SERIES D PATENT PORTRAIT LENSES F 6.

(A Rapid Long Focus Lens at a Moderate Price.)

High or Moderate Power Telephoto Lenses (Original Make).

We are Specialists in Cameras and Apparatus for Photo-Ornithologists.

CATALOGUES AND ADVICE FREE.

J. H. DALLMEYER, LIMITED, DENZIL RD.,

Showrooms: 25, NEWMAN ST., W. NEASDEN, LONDON, N.W.

BRITISH BIRDS

AN ILLUSTRATED MAGAZINE
DEVOTED TO THE BIRDS ON
THE BRITISH ISLTS

NOVEMBER 1,
1907.

Vol. 1.
No. 6.



MONTHLY ONE SHILLING NET
326 HIGH HOLBORN LONDON
WITHERBY & CO

WATKINS & DONCASTER,

Naturalists,

And Manufacturers of CABINETS and APPARATUS for Entomology, Birds' Eggs and Skins, and all Branches of Natural History.

A LARGE STOCK OF INSECTS, and BIRDS' EGGS and SKINS.

Speciality:—Objects for Nature Study, Drawing Classes, &c.

BIRDS, MAMMALS, &c., PRESERVED and MOUNTED by FIRST-CLASS WORKMEN TRUE TO NATURE.

All Books and Publications on Natural History supplied.

36, STRAND, LONDON, W.C. (Five Doors from Charing Cross.)

Catalogue (102 pp.) post free.

JOHN WHELDON & CO.,

38, GREAT QUEEN STREET, LONDON, W.C.

(Established 60 Years.)

Largest and most varied Stock of Works relating to

NATURAL HISTORY,

ORNITHOLOGICAL, BOTANICAL,

GEOLOGICAL, MICROSCOPICAL, Etc., Etc.

In Great Britain.

CATALOGUES ISSUED.



DALLMEYER'S

Naturalists' Camera,

1907 MODEL,

For Telephoto or Ordinary LENSES.

DALLMEYER'S

Lenses are used
by the most
skilled Bird
Photographers.

*The following are
specially recommended:*

THE STIGMATIC SERIES II, F/6 (Convertible.)

THE SERIES D PATENT PORTRAIT LENSES F 6.

(A Rapid Long Focus Lens at a Moderate Price.)

High or Moderate Power Telephoto Lenses (Original Make).

We are Specialists in Cameras and Apparatus for Photo-Ornithologists.

CATALOGUES AND ADVICE FREE.

J. H. DALLMEYER, LIMITED, DENZIL RD.,

Showrooms: 25, NEWMAN ST., W. NEASDEN, LONDON, N.W.

W. F. H. ROSENBERG,

Naturalist and Importer of Exotic Zoological Collections,
57, HAVERSTOCK HILL, LONDON, N.W.

Dealer in Specimens in all branches of Zoology. Largest stock of Birdskins
in the World.

Price List No. 6—BIRDSKINS—containing over 4300 species, sent post
free on application.

Frequent arrivals direct from the Collectors; periodical Lists of these post free.
Specimens sent on approval. Public and private Museums supplied.
Collections arranged. Large or small typical Collections in any group made up.

BRITISH BIRDS.

EDITORIAL COMMUNICATIONS should be addressed to the Editors of British Birds at 326, High Holborn. All manuscript should be clearly written with wide margins, and on one side only of the paper. Photographs intended for reproduction should be silver prints, with the surface as glossy as possible. Manuscripts or photographs which are required to be returned if unused must be accompanied by a stamped and directed envelope, but the Editors cannot hold themselves responsible for accidental loss or damage.

THE ANNUAL SUBSCRIPTION to British Birds is 10s. 6d. post free, payable in advance. All orders and communications with reference to the sale of the Magazine should be addressed to the Publishers, Witherby & Co., 326, High Holborn, London.

ADVERTISEMENTS. — Applications for Scale of Charges, and all communications with regard to Advertisements, should be addressed to Witherby & Co., Advert. Dept., 326, High Holborn, London.

PHOTOGRAVURE of the late PROFESSOR NEWTON.

A few copies are still to be had of the photogravure portrait of the late PROFESSOR NEWTON.

Post free, securely packed (flat), 1s. 2d.

PUBLISHERS, "BRITISH BIRDS,"
326, HIGH HOLBORN, LONDON.

Important Work by the President of the British Ornithologists' Union.

A MONOGRAPH
OF THE
PETRELS

(ORDER TUBINARES)

BY

F. DU CANE GODMAN,
D.C.L., F.R.S.

ALL THE KNOWN SPECIES OF PETRELS, SHEARWATERS AND ALBATROSES WILL BE FULLY DEALT WITH, AND THE WORK WILL BE ILLUSTRATED BY MORE THAN

ONE HUNDRED HAND-COLOURED PLATES,

Drawn and Coloured under the most careful supervision.

Large Quarto (10 by 13 inches). Printed on Rag Paper. The Work is to be completed in Five Quarterly Parts.

**THE FIRST PART WILL BE READY EARLY IN
DECEMBER.**

THE EDITION IS LIMITED TO 225 NUMBERED COPIES.

The Subscription Price of each Part is **£2 5s.**, and the complete work may be paid for in advance at the reduced price of **£10 10s.**

THE PRICE WILL BE RAISED BEFORE COMPLETION OF THE WORK.

Full Prospectus, with Specimen Plate, on Application.

LONDON :

WITHERBY & CO., 326, HIGH HOLBORN.

W. F. H. ROSENBERG,

Naturalist and Importer of Exotic Zoological Collections,
57, HAVERSTOCK HILL, LONDON, N.W.

Dealer in Specimens in all branches of Zoology. Largest stock of Birdskins
in the World.

Price List No. 6—BIRDSKINS—containing over 4300 species, sent post
free on application.

Frequent arrivals direct from the Collectors; periodical Lists of these post free.
Specimens sent on approval. Public and private Museums supplied.
Collections arranged. Large or small typical Collections in any group made up.

BRITISH BIRDS.

EDITORIAL COMMUNICATIONS should be addressed
to the Editors of British Birds at 326, High Holborn.

All manuscript should be clearly written with wide
margins, and on one side only of the paper. Photo-
graphs intended for reproduction should be silver
prints, with the surface as glossy as possible.
Manuscripts or photographs which are required to
be returned if unused must be accompanied by a
stamped and directed envelope, but the Editors
cannot hold themselves responsible for accidental
loss or damage.

THE ANNUAL SUBSCRIPTION to British Birds is
10s. 6d. post free, payable in advance. All orders
and communications with reference to the sale of
the Magazine should be addressed to the Publishers,
Witherby & Co., 326, High Holborn, London.

ADVERTISEMENTS. — Applications for Scale of
Charges, and all communications with regard to
Advertisements, should be addressed to Witherby &
Co., Advert. Dept., 326, High Holborn, London.

PHOTOGRAVURE of the late PROFESSOR NEWTON.

A few copies are still to be had of the photogravure
portrait of the late PROFESSOR NEWTON.

Post free, securely packed (flat), 1s. 2d.

PUBLISHERS, "BRITISH BIRDS,"
326, HIGH HOLBORN, LONDON.

Subscription List closes October 30th.

THE VERTEBRATE FAUNA OF NORTH

WALES: being a History of the Mammals, Birds, Reptiles, Amphibians and Fishes to be found in that part of Wales lying north of the Dovey Estuary. By **H. E. FORREST**. Fully illustrated. Large Demy 8vo ($8\frac{1}{2} \times 6$). About 500 pages. Limited Edition. Price to Subscribers, **12s. 6d.** After publication the price will be raised. Prospectus on Application.

RECENT HUNTING TRIPS IN BRITISH NORTH AMERICA. By **F. C. SELOUS**. A

work of interest to all Naturalists and Big Game Hunters. Illustrated with 65 plates from photographs taken from life. Describes adventures with big game, incidents of travel, and gives many original observations on the habits of wild animals in wild regions. Demy 8vo. Cloth. Gilt Top. **16s. net.**

Athenæum.—" . . . the charm of the faithful descriptions of adventure to be found in his earlier books, and the change of scene from the Old to the New World; appeal strongly to a large section of the public, who . . . will not be disappointed."

Morning Post.—" . . . in wild, unexplored regions, paddling his imported canoe on lakes unnamed in maps, and down rivers that perhaps never before bore a white man's burden, he sought and found and bagged the game . . ."

THE BIRDS OF HAMPSHIRE AND THE ISLE OF WIGHT. By the Rev. **J. E. KELSALL, M.A., M.B.O.U.**, and **PHILIP W. MUNN, F.Z.S., M.B.O.U.**

Illustrated with Drawings by **G. E. Lodge**, and Photographs from Life by **Smith Whiting**, and others, together with Coloured Map of County. Over 400 pages. Demy 8vo. Cloth Bound. Gilt Top. **15s. net.**

BIRD MIGRATION: — The Reports on the Immigrations of Summer Residents in the Springs of 1905 and 1906. By the **COMMITTEE** appointed by The British Ornithologists' Club. Vol. 2 (1906) just ready. 190 pages. Illustrated with 34 Maps. Price **6s.** each, post free.

THE MYCETOZOA, and some Questions which they suggest. By the Right Hon. Sir

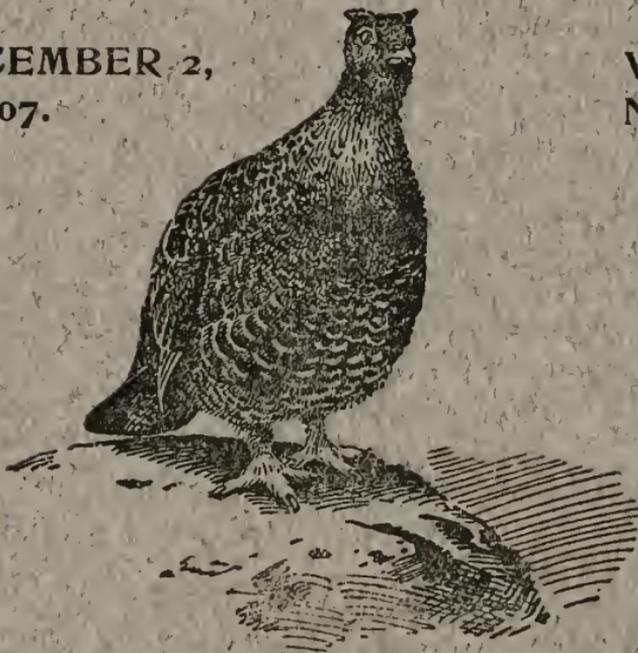
EDWARD FRY, D.C.L., LL.D., F.R.S. An important Monograph on these very interesting organisms, which are referred neither to the Plants nor to the Animals. Crown 8vo. Cloth. Gilt. **1s.**

BRITISH BIRDS

AN ILLUSTRATED MAGAZINE
DEVOTED TO THE BIRDS OF
THE BRITISH ISLES

DECEMBER 2,
1907.

Vol. I.
No. 7.



MONTHLY ONE SHILLING NET
326 HIGH HOLBORN LONDON
WITHERBY & CO

WATKINS & DONCASTER,

Naturalists,

And Manufacturers of CABINETS and APPARATUS for Entomology, Birds' Eggs and Skins, and all Branches of Natural History.

A LARGE STOCK OF INSECTS, and BIRDS' EGGS and SKINS.

Speciality:—Objects for Nature Study, Drawing Classes, &c.

BIRDS, MAMMALS, &c., PRESERVED and MOUNTED by FIRST-CLASS WORKMEN TRUE TO NATURE.

All Books and Publications on Natural History supplied.

36, STRAND, LONDON, W.C. (Five Doors from Charing Cross.)

Catalogue (102 pp.) post free.

JOHN WHELDON & CO.,

38, GREAT QUEEN STREET, LONDON, W.C.

(Established 60 Years.)

Largest and most varied Stock of Works relating to

NATURAL HISTORY,

ORNITHOLOGICAL, BOTANICAL,

GEOLOGICAL, MICROSCOPICAL, Etc., Etc.

In Great Britain.

CATALOGUES ISSUED.

DALLMEYER'S Naturalists' Camera,

1907 MODEL,

For Telephoto or Ordinary LENSES.



DALLMEYER'S

Lenses are used
by the most
skilled Bird
Photographers.

*The following are
specially recommended:*

THE STIGMATIC SERIES II. F/6 (Convertible.)

THE SERIES D PATENT PORTRAIT LENSES F 6.

(A Rapid Long Focus Lens at a Moderate Price.)

High or Moderate Power Telephoto Lenses (Original Make).

We are Specialists in Cameras and Apparatus for Photo-Ornithologists.

CATALOGUES AND ADVICE FREE.

J. H. DALLMEYER, LIMITED, DENZIL RD.,

Showrooms: 25, NEWMAN ST., W. NEASDEN, LONDON, N.W.

BRITISH BIRDS

AN ILLUSTRATED MAGAZINE
DEVOTED TO THE BIRDS OF
THE BRITISH ISLANDS

JANUARY 1,
1908.

Vol. 1.
No. 8.



MONTHLY ONE SHILLING NET
326 HIGH HOLBORN LONDON
WITHERBY & CO

WATKINS & DONCASTER,

Naturalists,

And Manufacturers of CABINETS and APPARATUS for Entomology, Birds' Eggs and Skins, and all Branches of Natural History.

A LARGE STOCK OF INSECTS, and BIRDS' EGGS and SKINS.

Speciality:—Objects for Nature Study, Drawing Classes, &c.

BIRDS, MAMMALS, &c., PRESERVED and MOUNTED by FIRST-CLASS WORKMEN TRUE TO NATURE.

All Books and Publications on Natural History supplied.

36, STRAND, LONDON, W.C. (Five Doors from Charing Cross.)
Catalogue (102 pp.) post free.

JOHN WHELDON & CO.,

38, GREAT QUEEN STREET, LONDON, W.C.
(Established 60 Years.)

Largest and most varied Stock of Works relating to

**NATURAL HISTORY,
ORNITHOLOGICAL, BOTANICAL,
GEOLOGICAL, MICROSCOPICAL, Etc., Etc.**
In Great Britain.

CATALOGUES ISSUED.

DALLMEYER'S Naturalists' Camera,

1907 MODEL,

For Telephoto or Ordinary LENSES.



DALLMEYER'S
Lenses are used
by the most
skilled Bird
Photographers.

*The following are
specially recommended:*

THE STIGMATIC SERIES II. F/6 (Convertible.)

THE SERIES D PATENT PORTRAIT LENSES F 6.

(A Rapid Long Focus Lens at a Moderate Price.)

High or Moderate Power Telephoto Lenses (Original Make).

We are Specialists in Cameras and Apparatus for Photo-Ornithologists.

CATALOGUES AND ADVICE FREE.

J. H. DALLMEYER, LIMITED, DENZIL RD.,

Showrooms: 25, NEWMAN ST., W. NEASDEN, LONDON, N.W.

PART I. NOW READY.

A MONOGRAPH OF THE PETRELS.

By **F. DU CANE GODMAN, D.C.L., F.R.S.**, President of the British Ornithologists' Union. The Petrels, Shearwaters, and Albatrosses will be fully dealt with, and the work will contain over 100 Hand-Coloured Plates, drawn and coloured with the utmost care. Large Royal 4to (10 by 13). Printed on Rag Paper. In Five Quarterly Parts at **£2 5s.** per part. The complete work, if paid for in advance, **£10 10s.** The First Part will be ready in December, 1907. Only 225 copies will be issued. Prospectus on Application.

NOW READY.

THE VERTEBRATE FAUNA OF NORTH

WALES: being a History of the Mammals, Birds, Reptiles, Amphibians and Fishes to be found in that part of Wales lying north of the Dovey Estuary. By **H. E. FORREST.** Illustrated with 28 full-page Plates. Large Demy 8vo ($8\frac{1}{2} \times 6$). Over 600 pages. Limited Edition. **17s. 6d.** net.

HIGH-CLASS PHOTOGRAVURES. Size

11 x 9, suitable for Framing. Price **1s. 6d.** each, post free.

The late **HOWARD SAUNDERS.**

The late **ALFRED NEWTON.**

WITHERBY & CO., 326, HIGH HOLBORN, LONDON.

BRITISH BIRDS.

THE ANNUAL SUBSCRIPTION to **British Birds** is **10s. 6d.** post free, payable in advance. All orders should be addressed to the Publishers, **Witherby & Co., 326, High Holborn, London.**

W. F. H. ROSENBERG,

Naturalist and Importer of Exotic Zoological Collections,
57, HAVERSTOCK HILL, LONDON, N.W.

Dealer in Specimens in all branches of Zoology. Largest stock of Birdskins in the World.

Price List No. 6—**BIRDSKINS**—containing over 4300 species, sent post free on application.

Frequent arrivals direct from the Collectors; periodical Lists of these post free.

Specimens sent on approval. Public and private Museums supplied.

Collections arranged. Large or small typical Collections in any group made up.

THE HOME-LIFE OF SOME MARSH-BIRDS. Photographed and Described by **EMMA L. TURNER, F.L.S.**, and **P. H. BAHR, B.A., M.B.O.U.** Illustrated with **32 Full-page Plates** finely reproduced from First-Class Life-Photographs, forming a Series of Pictures of the Most Intimate Incidents in the Home-Life of some of the Shiest of Birds. 62 Pages of Letterpress descriptive of the points of interest illustrated in the Photographs. Many **Text Illustrations** from Mr. Bahr's clever sketches. Demy 8vo. Art Linen Covers, 2s. 6d. net. Cloth Boards, 3s. net.

Field.—" . . . beautifully printed . . . the photographic plates remarkably well reproduced."

Scotsman.—"The authors between them have furnished the plates, thereby proving themselves at once artists and naturalists. The book will please all bird-lovers."

DIE VÖGEL DER PALÄARKTISCHEN FAUNA, von **ERNST HARTERT.** Large 8vo. Complete in about 12 Parts. Parts I.-IV. now ready. Price 4s. each. For the convenience of British Ornithologists, Messrs. Witherby & Co. have made arrangements to publish in England this well-known work.

It is the only work which treats of the local races of all Palaearctic Birds in a concise form.

It is based on the examination of very large material.

Most of the descriptions are original.

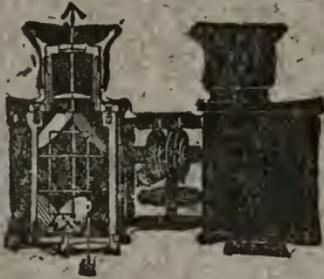
In the synonyms each quotation has been verified, and the original locality of the species has been added.

Special attention has been paid to Geographical distribution.

GILBERT WHITE OF SELBORNE. By **W. H. MULLENS, M.A., LL.M.** Thirty-two Pages. Seven Plates. 2s. 6d. net. A Concise Description of Gilbert White, his celebrated Book, and the Village of Selborne. Exhaustive Bibliography. Important to Lovers of Selborne.

RECENT HUNTING TRIPS IN BRITISH NORTH AMERICA. By **F. C. SELOUS.** A work of interest to all Naturalists and Big Game Hunters. Illustrated with 65 plates from Photographs taken from life. Describes adventures with big game, incidents of travel, and gives many original observations on the habits of wild animals in wild regions. Demy 8vo. Cloth. Gilt Top. 16s. net.

THE NATURALISTS' FIELD GLASS.



**GOERZ
PRISM
BINOCULARS.**

**HIGH POWER. LARGE FIELD.
LIGHT AND COMPACT.**

"With my glasses—the GOERZ PRISM BINOCULAR, No. 30, x 9—I have been able to distinguish sea-birds on their nests two-and-a-half miles away; at a distance of a quarter of a mile a bird, the size of a sparrow, can be recognised. No better aid for observing such far-away objects can be obtained or desired."—OLIVER G. PIKE.

TO BE OBTAINED OF ALL OPTICIANS.

Catalogues Free on Application to

C. P. GOERZ, 1 to 6, Holborn Circus, London, E.C.
(WHOLESALE AND COLONIAL ONLY.)

W. F. H. ROSENBERG,

**Naturalist and Importer of Exotic Zoological Collections,
57, HAVERSTOCK HILL, LONDON, N.W.**

Dealer in Specimens in all branches of Zoology. Largest stock of Birdskins
in the World.

Price List No. 6—BIRDSKINS—containing over 4300 species, sent post
free on application.

Frequent arrivals direct from the Collectors; periodical Lists of these post free.

Specimens sent on approval. Public and private Museums supplied.

Collections arranged. Large or small typical Collections in any group made up.

BRITISH BIRDS.

**THE ANNUAL SUBSCRIPTION to British Birds is
10s. 6d. post free, payable in advance. All orders
should be addressed to the Publishers, Witherby & Co.,
326, High Holborn, London.**

HIGH-CLASS PHOTOGRAVURES. Size

11 x 9, suitable for Framing. Price 1s. 6d. each, post free.

The late **HOWARD SAUNDERS.**

The late **ALFRED NEWTON.**

WITHERBY & CO., 326, HIGH HOLBORN, LONDON.

A MONOGRAPH OF THE PETRELS.

By **F. DU CANE GODMAN, D.C.L., F.R.S.**, President of the British Ornithologists' Union. The Petrels, Shearwaters, and Albatroses will be fully dealt with, and the work will contain over 100 Hand-Coloured Plates, drawn and coloured with the utmost care. Large Royal 4to (10 by 13). Printed on Rag Paper. In Five Quarterly Parts at **£2 5s.** per part. The First Part will be ready in December, 1907. Only 225 copies will be issued. Prospectus on Application.

DIE VÖGEL DER PALÄARKTISCHEN FAUNA, von ERNST HARTERT.

Large 8vo. Complete in about 12 Parts. Parts I.-IV. now ready. Price **4s.** each. For the convenience of British Ornithologists, Messrs. Witherby & Co. have made arrangements to publish in England this well-known work.

It is the only work which treats of the local races of all Palaeartic Birds in a concise form.

It is based on the examination of very large material.

Most of the descriptions are original.

In the synonyms each quotation has been verified, and the original locality of the species has been added.

Special attention has been paid to Geographical distribution.

THE VERTEBRATE FAUNA OF NORTH

WALES: being a History of the Mammals, Birds, Reptiles, Amphibians and Fishes to be found in that part of Wales lying north of the Dovey Estuary. By **H. E. FORREST.** Illustrated with 28 full-page Plates. Large Demy 8vo ($8\frac{1}{2} \times 6$). Over 500 pages. Limited Edition. **17s. 6d.** net.

GILBERT WHITE OF SELBORNE.

By **W. H. MULLENS, M.A., LL.M.** Thirty-two Pages. Seven Plates. **2s. 6d.** net. A Concise Description of Gilbert White, his celebrated Book, and the Village of Selborne. Exhaustive Bibliography. Important to Lovers of Selborne.

RECENT HUNTING TRIPS IN BRITISH NORTH AMERICA.

By **F. C. SELOUS.** A work of interest to all Naturalists and Big Game Hunters. Illustrated with 65 plates from Photographs taken from life. Describes adventures with big game, incidents of travel, and gives many original observations on the habits of wild animals in wild regions. Demy 8vo. Cloth. Gilt Top. **16s.** net.

BRITISH BIRDS

AN ILLUSTRATED MAGAZINE
DEVOTED TO THE BIRDS ON
THE BRITISH ISLTS

FEBRUARY 1,
1908.

Vol. 1.
No. 9.



MONTHLY ONE SHILLING NET
326 HIGH HOLBORN LONDON
WITHERBY & CO

NOW READY. PARTS 1 to 34.

To be completed in 150 parts, 4to, each containing 2 or 3 Coloured Plates, with letterpress. Price, per part, 1s. 6d. net. Parts are not sold separately. Orders only received for the entire Work.

OOLOGIA UNIVERSALIS PALÆARCTICA.

Edited by **GEORGE KRAUSE.**

English Edition Revised by **OLIVER G. PIKE.**

The beautifully executed Plates, of which there will be about 350, and the accuracy and convenience for reference of the text, will make this publication the **Standard Work on Palæarctic Birds' Eggs**, and will render it indispensable as a work of reference.

Write for full particulars to—

WILLIAMS & NORGATE,
14, Henrietta Street, Covent Garden, London, W.C.

THE NATURALISTS' FIELD GLASS.



GOERZ PRISM BINOCULARS.

HIGH POWER. LARGE FIELD.
LIGHT AND COMPACT.

“For my own special use . . . I have found it absolutely the best I ever looked through.”—F. G. AFLALO.

TO BE OBTAINED OF ALL OPTICIANS.

Catalogues Free on Application to

C. P. GOERZ, 1 to 6, Holborn Circus, London, E.C.
(WHOLESALE AND COLONIAL ONLY.)

BRITISH BIRDS.

THE ANNUAL SUBSCRIPTION to **British Birds** is 10s. 6d. post free, payable in advance. All orders should be addressed to the Publishers, **Witherby & Co., 326, High Holborn, London.**

BRITISH BIRDS

AN ILLUSTRATED MAGAZINE
DEVOTED TO THE BIRDS ON
THE BRITISH ISLTS

MARCH 2,
1908.

Vol. I.
No. 10.



MONTHLY ONE SHILLING NET
326 HIGH HOLBORN LONDON
WITHERBY & CO.

WATKINS & DONCASTER,

Naturalists,

And Manufacturers of CABINETS and APPARATUS for Entomology, Birds' Eggs and Skins, and all Branches of Natural History.

A LARGE STOCK OF INSECTS, and BIRDS' EGGS and SKINS.

Speciality:—Objects for Nature Study, Drawing Classes, &c.

BIRDS, MAMMALS, &c., PRESERVED and MOUNTED by FIRST-CLASS WORKMEN TRUE TO NATURE.

All Books and Publications on Natural History supplied.

36, STRAND, LONDON, W.C. (Five Doors from Charing Cross.)

Catalogue (102 pp.) post free.

DALLMEYER'S Naturalists' Camera,

1907 MODEL,

For Telephoto or Ordinary LENSES.



DALLMEYER'S

Lenses are used
by the most
skilled Bird
Photographers.

*The following are
specially recommended:*

THE STIGMATIC SERIES II. F/6 (Convertible.)

THE SERIES D PATENT PORTRAIT LENSES F 6.

(A Rapid Long Focus Lens at a Moderate Price.)

High or Moderate Power Telephoto Lenses (Original Make).

We are Specialists in Cameras and Apparatus for Photo-Ornithologists.

CATALOGUES AND ADVICE FREE.

J. H. DALLMEYER, LIMITED, DENZIL RD.,
Showrooms: 25, NEWMAN ST., W. NEASDEN, LONDON, N.W.

W. F. H. ROSENBERG,

Naturalist and Importer of Exotic Zoological Collections,
57, HAVERSTOCK HILL, LONDON, N.W.

Dealer in Specimens in all branches of Zoology. Largest stock of Birdskins
in the World.

Price List No. 6—**BIRDSKINS**—containing over 4300 species, sent post
free on application.

Frequent arrivals direct from the Collectors; periodical Lists of these post free.

Specimens sent on approval. Public and private Museums supplied.

Collections arranged. Large or small typical Collections in any group made up.

NOW READY. PARTS 1 to 34.

To be completed in 150 parts, 4to, each containing 2 or 3 Coloured Plates, with letterpress. Price, per part, 1s. 6d. net. Parts are not sold separately. Orders only received for the entire Work.

OOLOGIA UNIVERSALIS PALÆARCTICA.

Edited by **GEORGE KRAUSE.**

English Edition Revised by **OLIVER G. PIKE.**

The beautifully executed Plates, of which there will be about 350, and the accuracy and convenience for reference of the text, will make this publication the **Standard Work on Palæarctic Birds' Eggs**, and will render it indispensable as a work of reference.

Write for full particulars to—

WILLIAMS & NORGATE,

14, Henrietta Street, Covent Garden, London, W.C.

THE VERTEBRATE FAUNA OF NORTH

WALES: being a History of the Mammals, Birds, Reptiles, Amphibians and Fishes to be found in that part of Wales lying north of the Dovey Estuary. By **H. E. FORREST.** Illustrated with 28 full-page Plates. Large Demy 8vo ($8\frac{1}{2} \times 6$). Over 600 pages. Limited Edition. 17s. 6d. net.

Country Life.—"Its author must be congratulated on his painstaking, seven-year effort, and we greatly like the methods he has adopted in garnering his massed material . . . the compilation is valuable and well worth possessing, being, as it is, a complete reference table to the distribution of the Vertebrate Fauna of North Wales."

WITHERBY & CO., 326, HIGH HOLBORN, LONDON.

BRITISH BIRDS.

EDITORIAL COMMUNICATIONS should be addressed to the Editors of British Birds at 326, High Holborn.

All manuscript should be clearly written with wide margins, and on one side only of the paper. Photographs intended for reproduction should be silver prints, with the surface as glossy as possible. Manuscripts or photographs which are required to be returned if unused must be accompanied by a stamped and directed envelope, but the Editors cannot hold themselves responsible for accidental loss or damage.

THE ANNUAL SUBSCRIPTION to British Birds is 10s. 6d. post free, payable in advance. All orders should be addressed to the Publishers, **Witherby & Co., 326, High Holborn, London.**

AN ORNITHOLOGIST'S TRAVELS.

THREE VOYAGES OF A NATURALIST

BEING AN ACCOUNT OF

MANY LITTLE-KNOWN ISLANDS IN THREE OCEANS
VISITED BY THE "VALHALLA," R.Y.S.

BY

M. J. NICOLL

M.B.O.U.

WITH AN INTRODUCTION BY

THE RT. HON. THE EARL OF CRAWFORD, K.T., F.R.S.

56 FULL-PAGE ILLUSTRATIONS OF LIFE
AND SCENERY.

DEMY 8vo. CLOTH GILT. 7s. 6d. NET.

The Author was Naturalist on The Earl of Crawford's magnificent Yacht "Valhalla" on three long voyages—round the World, round Africa, to the West Indies. Most of the Islands explored were previously very little known, and others had rarely, if ever, been landed upon.

The Birds met with during the Voyages are very fully dealt with by the Author, who is a well known Ornithologist.

READY MARCH 9th.

LONDON :

WITHERBY & CO., 326, HIGH HOLBORN.

WATKINS & DONCASTER,

Naturalists,

And Manufacturers of CABINETS and APPARATUS for Entomology, Birds' Eggs and Skins, and all Branches of Natural History.

A LARGE STOCK OF INSECTS, and BIRDS' EGGS and SKINS.

Speciality:—Objects for Nature Study, Drawing Classes, &c.

BIRDS, MAMMALS, &c., PRESERVED and MOUNTED by FIRST-CLASS WORKMEN TRUE TO NATURE.

All Books and Publications on Natural History supplied.

36, STRAND, LONDON, W.C. (Five Doors from Charing Cross.)

Catalogue (102 pp.) post free.



DALLMEYER'S Naturalists' Camera,

1907 MODEL,

For Telephoto or Ordinary LENSES.

DALLMEYER'S

Lenses are used
by the most
skilled Bird
Photographers.

*The following are
specially recommended:*

THE STIGMATIC SERIES II. F/6 (Convertible.)

THE SERIES D PATENT PORTRAIT LENSES F 6.

(A Rapid Long Focus Lens at a Moderate Price.)

High or Moderate Power Telephoto Lenses (Original Make).

We are Specialists in Cameras and Apparatus for Photo-Ornithologists.

CATALOGUES AND ADVICE FREE.

J. H. DALLMEYER, LIMITED, DENZIL RD.,
Showrooms: 25, NEWMAN ST., W. NEASDEN, LONDON, N.W.

W. F. H. ROSENBERG,

Naturalist and Importer of Exotic Zoological Collections,
57, HAVERSTOCK HILL, LONDON, N.W.

Dealer in Specimens in all branches of Zoology. Largest stock of Birdskins
in the World.

Price List No. 6—BIRDSKINS—containing over 4300 species, sent post
free on application.

Frequent arrivals direct from the Collectors; periodical Lists of these post free.

Specimens sent on approval. Public and private Museums supplied.

Collections arranged. Large or small typical Collections in any group made up.

PART I. NOW READY.

A MONOGRAPH OF THE PETRELS.

By F. DU CANE GODMAN, D.C.L., F.R.S., President of the British Ornithologists' Union. The Petrels, Shearwaters, and Albatroses will be fully dealt with, and the work will contain over 100 Hand-Coloured Plates, drawn and coloured with the utmost care. Large Royal 4to (10 by 13). Printed on Rag Paper. In Five Quarterly Parts at £2 5s. per part. The complete work, if paid for in advance, £10 10s. The Second Part will be ready in March, 1908. Only 225 copies will be issued. Prospectus on Application.

JUST PUBLISHED.

THE VERTEBRATE FAUNA OF NORTH

WALES: being a History of the Mammals, Birds, Reptiles, Amphibians and Fishes to be found in that part of Wales lying north of the Dovey Estuary. By H. E. FORREST. Illustrated with 28 full-page Plates. Large Demy 8vo ($8\frac{1}{2} \times 6$). Over 600 pages. Limited Edition. 17s. 6d. net.

Country Life.—"Its author must be congratulated on his painstaking, seven-year effort, and we greatly like the methods he has adopted in garnering his massed material . . . the compilation is valuable and well worth possessing, being, as it is, a complete reference table to the distribution of the Vertebrate Fauna of North Wales."

GILBERT WHITE OF SELBORNE. By

W. H. MULLENS, M.A., LL.M. Thirty-two Pages. Seven Plates. 2s. 6d. net. A Concise Description of Gilbert White, his celebrated Book, and the Village of Selborne. Exhaustive Bibliography. Important to Lovers of Selborne.

THE HOME-LIFE OF SOME MARSH-BIRDS.

Photographed and Described by EMMA L. TURNER, F.L.S., and P. H. BAHR, B.A., M.B.O.U. Illustrated with 32 Full-page Plates finely reproduced from First-Class Life-Photographs, forming a Series of Pictures of the Most Intimate Incidents in the Home-Life of some of the Shiest of Birds. 62 Pages of Letterpress descriptive of the points of interest illustrated in the Photographs. Many Text Illustrations from Mr. Bahr's clever sketches. Demy 8vo. Art Linen Covers, 2s. 6d. net. Cloth Boards, 3s. net.

Field.—" . . . beautifully printed . . . the photographic plates remarkably well reproduced."

Westminster Gazette.—"This delightful little publication . . . most of the photographs are unique . . . the short articles accompanying these are written in a simple, popular style."

BRITISH BIRDS

AN ILLUSTRATED MAGAZINE
DEVOTED TO THE BIRDS ON
THE BRITISH ISLTS

APRIL 1,
1908.

Vol. I.
No. II.



MONTHLY ONE SHILLING NET
326 HIGH HOLBORN LONDON
WITHERBY & CO

NOW READY. PARTS 1 to 34.

To be completed in 150 parts, 4to, each containing 2 or 3 Coloured Plates, with letterpress. Price, per part, 1s. 6d. net. Parts are not sold separately. Orders only received for the entire Work.

OOLOGIA UNIVERSALIS PALÆARCTICA.

Edited by **GEORGE KRAUSE.**

English Edition Revised by **OLIVER G. PIKE.**

The beautifully executed Plates, of which there will be about 350, and the accuracy and convenience for reference of the text, will make this publication the **Standard Work on Palæarctic Birds' Eggs**, and will render it indispensable as a work of reference.

Write for full particulars to—

WILLIAMS & NORGATE,

14, Henrietta Street, Covent Garden, London, W.C.

THE NATURALISTS' FIELD GLASS.



GOERZ PRISM BINOCULARS.

HIGH POWER. LARGE FIELD.
LIGHT AND COMPACT.

"For my own special use . . . I have found it absolutely the best I ever looked through."—F. G. AFLALO.

TO BE OBTAINED OF ALL OPTICIANS.

Catalogues Free on Application to

C. P. GOERZ, 1 to 6, Holborn Circus, London, E.C.

(WHOLESALE AND COLONIAL ONLY.)

WANTED.

County, local, and other books on British birds.
State particulars and prices to T., c/o "British
Birds," 326, High Holborn, London.

John L. Campbell

BRITISH BIRDS

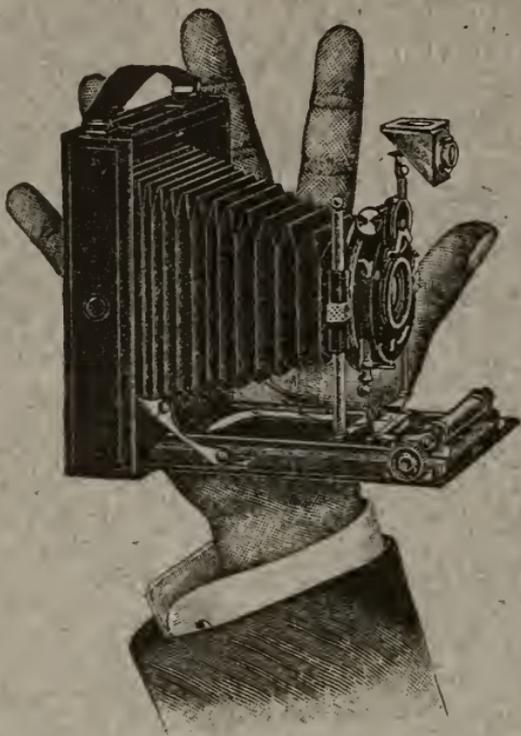
AN ILLUSTRATED MAGAZINE
DEVOTED TO THE BIRDS OF
THE BRITISH ISL

MAY 1,
1908.

Vol. 1.
No. 12.



MONTHLY · ONE · SHILLING · NET
326 HIGH · HOLBORN · LONDON
WITHERBY & CO



GOERZ POCKET "TENAX"

Sizes: $\frac{1}{4}$ Plate, 5×4 ,
and Postcard.

EACH EASILY CARRIED
IN THE POCKET.

For PLATES. For FILMS.

*Press a Button and Camera is
automatically made ready for use.*

List on application to

C. P. GOERZ,
1 to 6, Holborn Circus,
LONDON, W.C.

(Wholesale and Colonial) or

STEREOSCOPIC CO., 106 & 107, Regent Street, W.



DALLMEYER'S Naturalists' Camera,

1907 MODEL,

For Telephoto or Ordinary LENSES.

DALLMEYER'S

Lenses are used
by the most
skilled Bird
Photographers.

*The following are
specially recommended:*

THE STIGMATIC SERIES II. F/6 (Convertible.)

THE SERIES D PATENT PORTRAIT LENSES F 6.

(A Rapid Long Focus Lens at a Moderate Price.)

High or Moderate Power Telephoto Lenses (Original Make).

We are Specialists in Cameras and Apparatus for Photo-Ornithologists.

CATALOGUES AND ADVICE FREE.

J. H. DALLMEYER, LIMITED, DENZIL RD.,
Showrooms: 25, NEWMAN ST., W. NEASDEN, LONDON, N.W.

WATKINS & DONCASTER,

Naturalists,

And Manufacturers of CABINETS and APPARATUS for Entomology, Birds' Eggs and Skins, and all Branches of Natural History.

A LARGE STOCK OF INSECTS, and BIRDS' EGGS and SKINS.

Speciality:—Objects for Nature Study, Drawing Classes, &c.

BIRDS, MAMMALS, &c., PRESERVED and MOUNTED by FIRST-CLASS WORKMEN TRUE TO NATURE.

All Books and Publications on Natural History supplied.

36, STRAND, LONDON, W.C. (Five Doors from Charing Cross.)

Catalogue (102 pp.) post free.

FOR NATURAL HISTORY PHOTOGRAPHERS.

THE BIRDLAND CAMERA.

A thoroughly practical Camera, combining all points essential to taking successful Animal and Bird Pictures.

Made to the Specification of Mr. Oliver G. Pike.

Illustrated Lists on Application.

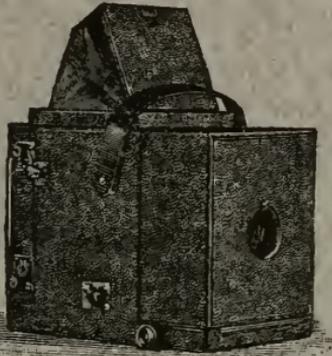
IMPROVED FINDER.

Noiseless Discharge.

**VERY LONG
EXTENSION.**

Inconspicuous.

See Illustrated Nature Book containing 60 Reproductions of direct Photographs taken with the Birdland Camera. 7d., Post free.



Just ready. THE LODGE HIDING TENT.

Sole Makers:

SANDERS & CROWHURST,

71, Shaftesbury Avenue, London, W.

W. F. H. ROSENBERG,

Naturalist and Importer of Exotic Zoological Collections,
57, HAVERSTOCK HILL, LONDON, N.W.

Dealer in Specimens in all branches of Zoology. Largest stock of Birdskins in the World.

Price List No. 6—BIRDSKINS—containing over 4300 species, sent post free on application.

Frequent arrivals direct from the Collectors; periodical Lists of these post free.

Specimens sent on approval. Public and private Museums supplied.

Collections arranged. Large or small typical Collections in any group made up.

AN ORNITHOLOGIST'S TRAVELS.

56 FULL-PAGE ILLUSTRATIONS OF LIFE
AND SCENERY.

THREE VOYAGES OF A NATURALIST

BEING AN ACCOUNT OF

MANY LITTLE-KNOWN ISLANDS IN THREE OCEANS
VISITED BY THE "VALHALLA," R.Y.S.

BY

M. J. NICOLL

M.B.O.U.

WITH AN INTRODUCTION BY

THE RT. HON. THE EARL OF CRAWFORD, K.T., F.R.S.

DEMY 8vo. CLOTH GILT. 7s. 6d. NET.

The Field says: "Not since the appearance of Moseley's 'Naturalist on the Challenger' have we come across a volume so varied in its contents, so full of curious facts about the animals and plants of remote countries and desert islands."

Country Life says: The book is an important contribution to Natural History; but it is more than that, namely, a well-written account of travel in a yacht, and will be just as welcome on the drawing-room table as on a reference-shelf of a library."

Spectator says: "He gives us the impressions of vast watery places, weird islands surrounded by a halo of birds, rocky shores, and stately scenery. The book is lavishly illustrated, and to the naturalist must be of quite unusual interest on account of the many new species described."

Birmingham Post says: "He has been able to visit a score of ornithologists' paradises, and he has proved himself not unworthy of his opportunities."

LONDON:

WITHERBY & CO., 326, HIGH HOLBORN.

WATKINS & DONCASTER,

Naturalists,

And Manufacturers of CABINETS and APPARATUS for Entomology, Birds' Eggs and Skins, and all Branches of Natural History.

A LARGE STOCK OF INSECTS, and BIRDS' EGGS and SKINS.

Speciality:—Objects for Nature Study, Drawing Classes, &c.

BIRDS, MAMMALS, &c., PRESERVED and MOUNTED by FIRST-CLASS WORKMEN TRUE TO NATURE.

All Books and Publications on Natural History supplied.

36, STRAND, LONDON, W.C. (Five Doors from Charing Cross.)

Catalogue (102 pp.) post free.

DALLMEYER'S Naturalists' Camera,

1907 MODEL,

For Telephoto or Ordinary LENSES.



DALLMEYER'S
Lenses are used
by the most
skilled Bird
Photographers.

*The following are
specially recommended:*

THE STIGMATIC SERIES II. F/6 (Convertible.)

THE SERIES D PATENT PORTRAIT LENSES F 6.

(A Rapid Long Focus Lens at a Moderate Price.)

High or Moderate Power Telephoto Lenses (Original Make).

We are Specialists in Cameras and Apparatus for Photo-Ornithologists.

CATALOGUES AND ADVICE FREE.

J. H. DALLMEYER, LIMITED, DENZIL RD.,
Showrooms: 25, NEWMAN ST., W. NEASDEN, LONDON, N.W.

W. F. H. ROSENBERG,

Naturalist and Importer of Exotic Zoological Collections,
57, HAVERSTOCK HILL, LONDON, N.W.

Dealer in Specimens in all branches of Zoology. Largest stock of Birdskins
in the World.

Price List No. 6—BIRDSKINS—containing over 4300 species, sent post
free on application.

Frequent arrivals direct from the Collectors; periodical Lists of these post free.

Specimens sent on approval. Public and private Museums supplied.

Collections arranged. Large or small typical Collections in any group made up.

PART II. JUST PUBLISHED.

A MONOGRAPH

OF THE

PETRELS

(ORDER TUBINARES)

BY

F. DU CANE GODMAN,
D.C.L., F.R.S.

ALL THE KNOWN SPECIES OF PETRELS, SHEARWATERS AND ALBATROSES WILL BE FULLY DEALT WITH, AND THE WORK WILL BE ILLUSTRATED BY MORE THAN

ONE HUNDRED HAND-COLOURED PLATES,

Drawn and Coloured under the most careful supervision.

Large Quarto (10 by 13 inches). Printed on Rag Paper. The Work is to be completed in Five Quarterly Parts.

THE EDITION IS LIMITED TO 225 NUMBERED COPIES.

The Subscription Price of each Part is **£2 5s.**, and the complete work may be paid for in advance at the reduced price of **£10 10s.**

THE PRICE WILL BE RAISED BEFORE COMPLETION OF THE WORK IF ANY COPIES REMAIN UNSUBSCRIBED FOR.

Full Prospectus, with Specimen Plate, on Application.

LONDON :

WITHERBY & CO., 326, HIGH HOLBORN.





100111898

British B

Vol. I,

MAR 26 1927

MAR 23 1940

MAR 27 1940

