

COLOURED FIGURES  
OF THE  
EGGS  
OF  
BRITISH BIRDS,  
WITH DESCRIPTIVE NOTICES,  
BY  
HENRY SEEBOHM,

AUTHOR OF "SIBERIA IN EUROPE," "SIBERIA IN ASIA," "A HISTORY OF BRITISH BIRDS," "CATALOGUE OF BIRDS IN THE BRITISH MUSEUM" (VOL. V.),  
"THE GEOGRAPHICAL DISTRIBUTION OF THE CHARADRIIDÆ,"  
"CLASSIFICATION OF BIRDS,"  
"THE BIRDS OF THE JAPANESE EMPIRE," ETC., ETC.

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EDITED  
(AFTER THE AUTHOR'S DEATH)  
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*Henry Seebohm*

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## PREFACE.

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To EDIT any work on British Birds and their eggs is not an easy task. To edit the work of such a past master on the subject as my late friend Henry Seebohm, would have been difficult indeed, had I not had his volumes on "British Birds" on which to rely. I have done my best to present this work as I believe he would have wished it to be issued. In a very few cases I have altered the names of species, where I believe he would have altered them himself, but in the main I have retained his nomenclature throughout, and have adhered closely to the names employed by him in his great work on British Birds, merely adding a reference to Mr. Howard Saunders' "Manual," and my own "Handbook of British Birds," where the nomenclature of the species differs from that used by Mr. Seebohm.

With the system of classification I have had nothing to do, as before his death he had planned out and settled the order of the plates with his friend Mr. J. A. Brailsford, and this arrangement has consequently been followed.

It is satisfactory to know that, whilst many recent Ornithological illustrations have avowedly been "made in Germany," in this instance all the work in connection with the drawing of the eggs, the lithographing of the plates, the printing of the letterpress, and the binding of the volume has been done in Sheffield, at the works of Messrs. Pawson & Brailsford, who are the publishers of the book.

R. BOWDLER SHARPE.



## MEMOIR.

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HENRY SEEBOHM was born at Bradford, in Yorkshire, in July, 1832, and at the time of his death was but 63 years of age, still full of energy and the elaboration of schemes for the production of even greater works than he had hitherto attempted. An attack of influenza, in the early part of 1895, rendered him so weak that nothing but absolute rest could have restored him to health, and this the activity of his brain prevented him from achieving, so that the malignant anaemia to which he succumbed, had full play, and he expired on the 26th of November, 1895. The energy of Henry Seebohm was a source of admiration to all who knew him, and to none of his many excellent qualities has greater tribute been paid by ornithologists of all countries than to the indomitable zeal with which he followed up his scientific pursuits.

He was educated at the Friends' Schools at York, where he had for a schoolfellow Mr. J. G. Baker, F.R.S., the celebrated botanist of Kew, and at first Seebohm's biological studies seem to have been botanical, for he began by making a collection of British ferns. After much hard work and devotion to business he became a successful steel manufacturer at Sheffield, and was at last able to spend more leisure in pursuit of his favourite study of birds. In his work on "British Birds" are many records of his early experiences in various portions of Yorkshire, the Farne Islands, etc., and finally scarcely a year elapsed that he did not visit some part of Europe, one of his most interesting excursions being made in Greece and Asia Minor, in company with Dr. Krüper. He was the most careful of diary-keepers, as the writer can testify. Every evening the events of the day were chronicled and read over to his companions, any additional notes occurring to the latter being carefully taken down.

When I first visited him at Sheffield, more than 20 years ago, he had already got together a very fine collection of European birds'

eggs, and he was then particularly interested in the *Phylloscopi*, or Willow Warblers, on which group of birds he wrote an elaborate paper in the "Ibis," for 1877 (pp. 66—108). At all times Warblers interested him immensely, and he never left off the study of these puzzling birds.

In 1875 he went with Mr. J. A. Harvie-Brown to explore the Petchora River in North-eastern Russia. The travellers met with considerable difficulties, but came back to England with a rich harvest of skins and eggs, the most interesting being those of *Anthus gustavi* and *Phylloscopus tristis*, of which some nests and eggs were obtained. The great prizes were the eggs of the Grey Plover (*Squatarola helvetica*), and the scarcely less rare eggs of the Little Stint (*Tringa minuta*). With these discoveries the expedition of Henry Seebohm and J. A. Harvie-Brown will be for ever connected. A most interesting account of the journey was published by Seebohm in a separate work, "Siberia in Europe."

In the spring of 1876 he made an expedition to Holland, and spent the month of May at Valkensvaard, and in the autumn of the same year he visited Heligoland, with Mr. Frank Nicholson, and they were kind enough to ask me to accompany them. This expedition to the wonderful island rock (I can scarcely believe that it is twenty years ago since we were there) is one of the pleasantest memories of my life. The interest of meeting with Gätke, the wonderful variety of the birds, the finding one's self face to face with the phenomenon of migration, all combined to make the visit a notable one, and no better account has ever been given of a migration flight than that of Seebohm, in the "Ibis," for 1877 (p. 156), where he describes our experiences in Heligoland. When we left, he hoped to bring out an English edition of Gätke's notes on the ornithology of the island, and at that time he wrote:—"Mr. Gätke's work on the Birds of Heligoland is making fair progress; and he has entrusted to me the task of translating it into English, and editing it in this country; so that it is to be hoped that within the next twelve months the full details of his observations, made during the last five-and-twenty years in this wonderful little island, may be made public." Gätke's work appeared in 1891, and an English translation by Mr. Rudolph Rosenstock in 1895.

In 1877 Seeböhm undertook his celebrated journey to the Yenisei Valley in Siberia, starting with Captain Wiggins, who had left his ship in winter quarters within the entrance of the Koorayika River, a tributary of the Yenisei. As Seeböhm did not meet Captain Wiggins till the 24th of February, and the two travellers left London on the 1st of March, it will be readily admitted that he was not a man to take long to make up his mind. Including a few days spent in St. Petersburg, they were at Nishni Novgorod on the morning of the 10th, a distance of about 2,400 English miles. "At Nishni we bought a sledge," he writes, "and travelled over the snow 3,240 English miles, employing for this purpose about a thousand horses, sixteen dogs, and forty reindeer." The travellers finally reached the "Thames" on the Koorayika, in the afternoon of the 23rd of April. Of his further adventures, including the wreck of the "Thames," and his ornithological discoveries, an interesting account is given in the "Ibis" for 1877-78, and in his work, "Siberia in Asia."

Notwithstanding the important additions to ornithological knowledge which his expedition had achieved, Seeböhm took a very modest view of its results. In his paper in the "Ibis" for 1878 (p. 322), he says: "The following notes on the birds of Siberia are of course extremely fragmentary. It is very seldom that the first expedition to a strange land is successful. The pioneer can do little more than discover the localities where future researches may be successively made. My great mistake was that I wintered too far north," &c. The results of Seeböhm's expedition were, nevertheless, of the first importance. *Podoces hendersoni* in Siberia; *Picoides crissoleucus* probably fully adult *P. tridactyla*; *Sitta cæsia* and *S. europea* compared; *Cuculus himalayanus* in Siberia; *Corvus sharpii* and *C. corone* interbreeding; *Linota linaria* and *L. exilipes* connected by intermediate forms; the nest of *Emberiza pusilla*; specimens of *E. polaris*, *E. aureola*, *E. leucocephala* and *E. rustica*; the nests of *Anthus gustavi* and *A. cervinus*; observations on the Pied Wagtails and Titmice; the nests of *Turdus dubius* and *T. obscurus*, and the hitherto unknown young plumage of the latter bird; the capture of *Nemura cyanura*, *Calliope camchatkensis*, *Sylvia affinis*, the nests of *Phylloscopus borealis*, *P. tristis* and *P. superciliatus*; specimens of *P. fuscatus* and *Locustella certhiola*; the nests of *Accentor montanellus*, *Chelidon lagopus*,

*Lagopus rupestris* and *Charadrius fulvus*; besides numbers of interesting notes on other rare Palaearctic birds. The above are some of the most important of the notes recorded by Seebohm, as a result of his Siberian expedition.

The interest which he felt in Thrushes and Warblers had, in 1879, induced him to accept the offer made by Dr. Günther, the keeper of the Zoological Department of the British Museum, to undertake the fifth volume of our "Catalogue of Birds," dealing with *Turdidae* and *Sylviidae*. By this time Seebohm had left Sheffield and had come to reside in London, and was gradually preparing for the publication of the work he had most at heart, his "History of British Birds."

As regards Seebohm's volume of the "Catalogue," it was splendidly worked out, and is to this day the standard authority on the *Turdidae* and *Sylviidae*. At this date, 1881, he first shewed his proclivity towards trinomial nomenclature, a system which he ultimately adopted in its fullest sense; but his trinomialism was not the trinomialism of the present day, for he only employed it in cases where he believed that two species intermingled. Thus *Monticola cyanus* and *M. solitaria* were species, but interbred, and the hybrids or connecting links were *M. cyanus solitaria* (p. 318).

In 1880, Seebohm paid another visit to Valkensvaard, but he was principally occupied in the preparation of the British Museum 'Catalogue,' and published but one paper on "Corrections of Synonymy in the Family *Sylviidae*" ("Ibis," 1880, pp. 273—279), an essay full of valuable notes and corrections. In 1881 the fifth volume of the "Catalogue of Birds" was published.

It should be mentioned that in 1879 he purchased the Swinhoe collection of Chinese birds, and this acquisition and his travels in Siberia led him to extend his studies into a wider area. The possession of the Swinhoe collection greatly extended his ideas of work, and he conceived the project of writing a history of the "Birds of China," and for this purpose he purchased several collections from China and Japan.

Meanwhile, however, his work, the "History of British Birds," was proceeding apace, and he was continually spending a portion of each year in personally collecting materials on the Continent. In May, 1882, he was in Brunswick and Pomerania, and in this

year he published essays in the "Ibis," on the "Birds of Astrakan" (pp. 204—232), "Further contributions to the Ornithology of Japan" (pp. 368—371), "Notes on the Birds of Archangel" (pp. 371—386), and "Further notes on the Ornithology of Siberia" (pp. 419—428). In the latter paper are remarks on the birds from Krasnoyarsk, collected by a naturalist whom he had interested in ornithology during his expedition to the Yenisei. A further essay ("Ibis," 1882, pp. 546—550) is on the interbreeding of birds, a subject in which the author evinced a great interest, as was shewn by his presentation to the British Museum of the groups of the Crows (*Corone sharpii* × *C. corone*), and the Goldfinches (*Carduelis carduelis* × *C. major*), which stand in the great hall of the Natural History Museum at the present day.

In 1883 Seeböhm published some "Notes on the Birds of the Caucasus" ("Ibis," 1883, pp. 1—37), and in that year he conceived the idea of publishing a "Monograph of the Thrushes," for which group of birds he had never lost his affection since the issue of his fifth volume of the "Catalogue," in 1881. His first paper on the subject, "Remarks on the Thrushes of the Æthiopian Region," was published in the "Ibis" for 1883 (pp. 164—166), and was followed by a small paper on "*Hirundo rufula* and its allies" (pp. 167—169). But the chief event in Seeböhm's life was commenced in this year, viz., the publication of the first volume of his "History of British Birds." In this (intr. p. xiv.) begins his first acknowledgment of the influence of glacial epochs, which played a great part in his subsequent writings.

In 1884 and 1885 Seeböhm wrote some essays on Japanese and Chinese birds in the "Ibis." In the latter year he visited the Upper Engadine. In 1886 he commenced his studies of the Wading Birds, and wrote revisions of the genera *Cursorius*, *Scopopax* and *Himantopus*, in the "Ibis."

The year 1887 saw the publication of some more papers on Palæarctic Ornithology in the "Ibis," viz., "On the Bullfinches of Siberia and Japan," and "On *Phasianus colchicus* and its allies." Pheasants were always a favourite group of birds with Seeböhm, and the collection of these birds which he bequeathed to the British Museum is not only one of the richest in the world, but is almost perfect in the way of species. A note on Horsfield's Woodcock published in the "Ibis," shews also that he

was still busy with the Waders, and in the early part of the year he made a voyage to Natal, principally for the purpose of determining whether Limicoline birds moulted their primaries in spring as well as in autumn, a fact which he incontestably proved. These and many other points of interest are discussed in his paper, "Notes on the Birds of Natal and adjoining parts of Africa" ("Ibis," 1887, pp. 336—351). In the same volume there is another paper on the number of the secondary quills in birds, and in this year he also commenced his first account of the Birds of the Loochoo Islands.

At the end of 1887 appeared his great work on the "Geographical Distribution of the *Charadriidae*, or Plovers, Sandpipers and Snipes," but, curiously enough, there is no date of publication on the title page. On the cloth cover of the book is given the date "1888"; but my own copy contains a letter of presentation dated "Christmas, 1887," so that there were certainly some bound copies in existence before the end of the year 1887.

On the above-mentioned work Seeböhm spent a great deal of labour, and a considerable sum of money. Nearly every point that could be utilised for the discrimination of species is figured, and woodcuts are on nearly every page. Having myself just finished the 24th volume of the "Catalogue of Birds," dealing with the *Limicolæ*, I can state with authority that Seeböhm's work on the *Charadriidae* was of the greatest assistance to me throughout. The migration of birds always interested him intensely, and as the *Charadriidae* afford excellent instances of migration in the class *Aves*, he dealt fully with the subject in his work, believing that the "chief causes of the dispersal of the ancestors of the *Charadriidae* have probably been two glacial epochs."

In 1888, besides writing several papers, principally on Palaeartic Ornithology, Seeböhm began to work at the osteology of birds, with a view to publish an essay on their classification. He had already got together a large collection of skeletons, and in the "Ibis" for that year he wrote his first paper on the subject, "An attempt to diagnose the Sub-orders of the Great Gallino-Gralline group of Birds, by the aid of osteological characters." In the study of these bones of birds he received much assistance and a mass of information from the late Professor T. Kitchen Parker.

In 1889, he was still intent on his classification of birds, and he wrote a paper in the "Ibis," "An attempt to diagnose the Sub-orders of the Ancient Ardeino-Anserine assemblage of Birds, by the aid of osteological characters alone." Then, in 1890, followed more papers in the "Ibis," on the same lines, "An attempt to diagnose the Pico-Passerine group of Birds, and the Sub-orders of which it consists," and "An attempt to diagnose the Sub-class *Coraciiformes*, and the orders, sub-orders and families comprised therein."

In this year he received his first consignment of birds from the Bonin Islands, from Mr. P. A. Holst, whom he had sent out as a collector, with the view of publishing a complete work on the birds of the Japanese Archipelago. He was actuated by the utmost zeal for scientific exploration, but, as I read in his last letter to Seeböhm, "ill-luck and ill-health" had been against him, and hindered his work. When he wrote this, from Formosa, he was dying, and he must have expired within a few days of his generous employer. On the Bonin Islands, Holst obtained a most interesting series of birds, from which, however, were wanting the Grosbeak (*Chaunoproctus ferreirostris*) and the Ground Thrush (*Geocichla terrestris*), to Seeböhm's great disappointment. Afterwards, Holst went to the Volcano Islands, and the description of his collection was published by Seeböhm in the "Ibis" for 1891 (pp. 189—192). In the same year he also described a new *Zosterops*, as *Z. stejnegeri*, from the Seven Islands, Japan ("Ibis," 1891, pp. 273, 274). An important paper on the "Birds of Szechuen, in Western China ("Ibis," 1891, pp. 370—381), was also published by him in 1891.

In 1890, he had issued his "Classification of Birds: an attempt to diagnose the sub-classes, orders, sub-orders and some of the Families of existing Birds." This work, founded on his own individual researches, and the life-long studies of his friend Professor Parker, was undoubtedly an important contribution to ornithological knowledge.

In 1890, Seeböhm also published his book on "The Birds of the Japanese Empire," into which he introduced certain modifications and corrections to his ideas of "Classification." The book is a most useful one, and is based upon the finest collection of Japanese birds in the world. Some slight modifications must

be made, as has been shewn by Dr. Stejneger in the "Auk" for 1891 (pp. 99—101), but otherwise the publication is one of the most interesting of Seeböhm's contributions. In fact the work was soon rendered incomplete through the exertions of his own collector, Holst, who visited the Twin Islands of Japan, Tsu-sima, and obtained some very interesting species of birds (*Ibis*, 1892, pp. 87, 248, 399; 1893, p. 47).

In 1890 he had been negotiating with Herr. Gätke for the purchase of his collection of Heligoland birds, and in the "*Ibis*" for October of that year, the editor was able to announce that the purchase had been completed, and that the collection was expected forthwith to arrive in England. Heligoland had been ceded to Germany shortly before, and it was argued that the latter country ought to retain possession of a collection made on what was now an integral portion of the German Empire. Thus, after some correspondence, Seeböhm was induced to forego his claim, the money was returned to him, and Germany retained the Gätke collection. How it has since been treated is set forth by Dr. Hartlaub in the "*Ornithologische Monatsschrift*" for 1894.

It would have been better for the owner if he had allowed the collection to come to the British Museum, to which Seeböhm meant to present it, and where, as all the birds were mounted, it was intended to have exhibited them in a special case, as an illustration of the avifauna of a great migration centre.

In the "*Ibis*" for 1892, Seeböhm gave a "list of the birds of Heligoland as recorded by Herr Gätke." This was merely a brief epitome of the occurrence of each species. This, with some papers on the Birds of Tsu-sima, appears to have been all that he wrote during the year 1892, but he was busy in other directions. Still working at his "classification," he was anxious to see what characters could be derived from a study of the eggs of birds, and he proposed to the Trustees of the British Museum to arrange the entire collection of eggs in that institution, and offered to present the whole of his own series. Needless to say this generous proposal was gladly accepted, and the arrangement of the eggs was completed; the work of cataloguing, labelling, and placing them in order in the cabinets, being performed by my daughter, Emily Mary Sharpe, under Seeböhm's directions. When completely set in order, the collection was found to contain over

48,000 specimens, and the arrangement of this vast material occupied over three years.

The exhibition of a series of the eggs of British Birds involved the preparation of a series of labels, which were re-published by Seebohm as a pamphlet, with some general remarks, as the "Geographical Distribution of British Birds." In the same year he delivered a Presidential Address to the "Yorkshire Naturalists' Union," at Skipton, on the same subject. This is a particularly interesting essay, and on the lines of this address I have no doubt that he meant to work out the distribution of the Birds of Great Britain for his new edition of the "Eggs of British Birds," of which he was then contemplating the publication.

His contributions to ornithology in 1893 were not many, but he described a new species of Eared Pheasant (*Crossoptilum*) from Thibet, and a *Zosterops* and *Merula* from Java; and he also gave a further account of the Birds of the Loochoo Islands, and a digest of Nicolsky's article on the cause of variation in the shape of eggs of birds. In this year he was President of the Geographical Section of the British Association at Nottingham, the subject of his address being the "Polar Basin." In 1894 his publications were not many, but he wrote a paper in the "Ibis" on the genus *Suthora*.

In 1895 I saw little of Seebohm, as he was busy in preparing his new work on British Birds' Eggs. He was at this time one of the secretaries of the Royal Geographical Society, and the work involved in preparing for the great Geographical Congress greatly tried him. He had a sharp attack of influenza in the spring, and retired to Biarritz for a time to endeavour to shake it off, but he never regained his strength. He brought out a Supplement to his "Classification of Birds," in which he proposed a new arrangement of the class, beginning with the Penguins and ending with the Struthious Birds.

His last public appearance was made at the meeting of the "British Ornithologists' Club," on the 23rd of October, 1895. It was noticed that during the evening he was much excited and interested with the exhibition of the eggs of the Grey Plover and Little Stint which were brought by Mr. Henry Pearson on that occasion ; they recalled to him his former exploits on the Petchora. After the meeting was over, I was told

that he wished me to come to him. He had described a new species of Owl, from the Amur River (*Bubo doerriesi*), and he had brought the specimen for exhibition ; and now would I carry the box for him to his carriage ? We helped him in, as he refused all our proffered remedies, and when next I saw him on his bed, he said to me cheerfully :—" Well, old fellow, you were only just in time to send me home. I was very ill, and have not been out of bed since." Still his talk was of birds only. "I cannot sleep at night for thinking of the classification of birds." "Oh," he said, "I must try to get well, I have so much still to do." And so he gradually sank, brave to the last, and he lies buried at Hitchin, in the Friends' grave-yard, a peaceful and a restful spot. I could not help noticing that as his body was lowered into the grave, a thrush, one of his favourite birds, came into the tree above us and sang lustily, though the month was November.

I have not been able in this brief space to enumerate every paper that my late friend published. I have written mostly a personal reminiscence. That he was much honoured and appreciated in foreign countries has been abundantly proved by the "Obituaries" published in foreign journals. One thing however I can say from personal knowledge, that a more generous man, a better friend to the British Museum, and a more ardent student of Ornithology it would be difficult to find.

R. B. S.

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EGGS  
OF  
BRITISH BIRDS.

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FAMILY FALCONIDÆ,  
OR DIURNAL BIRDS OF PREY.

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Our native Birds of Prey are fourteen in number, all of which still nest in some part or other of the British Islands. Seventeen species are accidental or regular visitors on migration. The Owls are not included, but are considered to be a distinct Family.

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THE GRIFFON VULTURE.

(*Vultur fulvus*).\*

PLATE 1, FIG. 3.

An accidental visitor to Great Britain, of which one example only has been actually obtained.

The Griffon chooses a perpendicular or overhanging limestone cliff, in which hollows or caves, rather than ledges, are found at a considerable height from the ground. The birds build usually a great nest of sticks, very rough on the outside, but more or less carefully smoothed and hollowed out in the middle, and lined with sheep's wool, goats' hair, dry grass, leaves, or anything they can pick up. The egg (there is seldom more than one) is laid from January to March. The texture is coarse, with little or no gloss. Most eggs are white, or nearly so; but some shew a considerable amount of marking, which cannot be explained by any supposition of their being stained. They vary in size from 3·85 to 3·5 inches in length, and from 2·9 to 2·7 inches in breadth.

\* *Gyps fulvus*—Saunders, Manual, p. 301; Sharpe, Handb. Brit. B., II., p. 116.

## THE EGYPTIAN VULTURE.

( *Vultur percnopterus.*) \*

PLATE 1, FIGS. 4, 5.

Two instances of the existence of the Egyptian Vulture in our British area are all that can be authenticated. One bird was shot in Bridgewater Bay, in Somersetshire, in October, 1825, and another at Peldon, in Essex, in September, 1868.

The Egyptian Vulture inhabits the countries of the Mediterranean, eastwards to Central Asia and north-western India, and south, throughout Africa in winter, down to the Cape Colony.

The eggs are to be found in April and May. In Greece I found the number to be normally two, one much more richly coloured than the other. It is said that three are sometimes laid. The eggs of the Egyptian Vulture are buffish or creamy-white in ground-colour, spotted with brownish-red. Sometimes the spots are confluent all over the egg, paler in places. Every intermediate type occurs between this and eggs in which the colouring-matter is distributed in blotches and small and large spots, which only become confluent at the large end, or, in very exceptional cases, at the small end. They vary in length from 2·9 to 2·3 inches, and in breadth from 2·1 to 1·9 inch.

## THE JER-FALCON.

( *Falco gyrfalco.*) †

PLATE 5, FIG. 8.

The Jer-Falcons are divisible into several races or sub-species. In my "History of British Birds" I recognised five well-marked forms. Sharpe in his latest work does the same, the truth being that it is difficult to obtain an adequate series of these rare Falcons for exact comparison at the same time, and consequently much difference of opinion prevails on the subject. On the distinctness of *F. labradorus* from Labrador (*F. obsoletus* of American authors) there can be no question, and we are all agreed on this head. Nor is there any difficulty with respect to the Norwegian *F. gyrfalco*, though whether this species inhabits North America

\* *Neophron percnopterus*—Saunders, Manual p. 303; Sharpe, t. c. p. 120.† *Hierofalco gyrfalco*—Sharpe, Handb. Brit. B., II., p. 197.

as well as Arctic Europe and Asia, is still a moot point. In England, however, this species has certainly occurred on two occasions, an adult bird having been killed in Sussex, and being now in Mr. William Borrer's collection, while a young bird was shot in Suffolk in October, 1867.

In Scandinavia its breeding-season is much earlier than that of its American and Arctic allies, and out of upwards of twenty nests observed by the late John Wolley in West Finmark, the eggs were nearly all taken towards the end of April.

The nest is placed on the ledges of cliffs or on trees.

The eggs of the Jer-Falcon are usually four in number, sometimes only three. The ground-colour is creamy-white ; but usually the markings entirely conceal it from view. They are closely freckled and spotted with reddish-brown and brick-red. Many eggs of this bird closely resemble Hobbys' eggs ; others approximate more nearly to certain varieties of the Peregrine. In a large series in my collection, however, I do not find that the eggs are ever so dark as those of some other British Falcons, and the markings are very evenly dispersed, sometimes becoming confluent, at other times uniformly distributed over the entire surface. Some specimens have the markings smoothly and evenly laid on, giving them the appearance of ground-colour, which is marbled and more intensified here and there. Another beautiful variety is mottled all over with pale rosy-pink shell-markings, intermixed with pale reddish-brown blotches and spots on a creamy-white ground ; whilst others have the spots and blotches mostly confined to the larger end of the egg, leaving the white under-surface exposed to view. Jer-Falcons' eggs are slightly more elongated than Peregrines', have a somewhat rougher shell, and possess little gloss. Axis 2·35—2·2 inches, diam. 1·9—1·75.

### THE ICELAND FALCON.

(*Falco islandicus*.)\*

PLATE I., FIG. 1.

The Iceland Falcon is a race of the true Jer-Falcons, distinguished from the Scandinavian form by its whiter head, streaked

\* *Falco gyrfalco-candicans*—Seebohm, Hist. Brit. B., I., p. 16. *Falco islandus*—Saunders, Manual, p. 333. *Hierofalco islandicus*—Sharpe, Handb. Brit. B., II., p. 194.

with blackish, not uniform as in true *F. gyrfalco*. The throat and chest are white, with a few dark stripes on the latter.

It is a resident bird in Iceland, and only occurs in Great Britain as an accidental visitor, but it has been met with in all three kingdoms. Very little has been recorded of its nidification, but the evidence tends to prove that the species nests on the rocks, building a nest very much like that of a Raven, or probably utilising an old nest of the latter species. The eggs are four in number, similar to those of the Jer-Falcon, as will be seen by the figures in the plates.

### THE GREENLAND JER-FALCON.

(*Falco candicans.*)\*

PLATE 1, FIG. 2.

The Greenland Falcon may always be recognised by its yellow bill, irrespective of its plumage and markings. The true Jer-Falcons have all blue bills, and the markings on their flanks are transverse, not longitudinal. There are several other characters, especially in the markings of the tail, as Sharpe has pointed out.

In Greenland the breeding-season of the Jer-Falcon is in June. The nests are sometimes placed on the loftiest cliffs, either near the sea or further inland, and sometimes on the tops of pines and other trees. It is only an accidental visitor to England, but is perhaps the form of Jer-Falcon which most commonly visits us.

The eggs of all the Jer-Falcons are so similar to each other that any separate description of them is impossible.

### THE PEREGRINE FALCON.

(*Falco peregrinus.*)

PLATE 3, FIG. 1.

The Peregrine Falcon is undoubtedly the commonest of the larger birds of prey now found in the British Islands. It breeds on inland cliffs in many parts of England as well as on the sea-shore, but still more often in Scotland and Ireland. It is found throughout Europe and Asia, and also in North America. Its

\* *Falco candicans*—Saunders, Manual, p. 331 (1889). *Hierofalco candicans*—Sharpe, Handb. Brit. B., II., p. 191 (1895).

migrations carry it to Africa, to India, and through China to the Burmese Provinces and the Malayan Islands.

The breeding-season of the Peregrine commences early in April, the young in down being often found in the beginning of May. Its nesting-sites are various. In some localities the nest is placed in the tallest trees, the most inaccessible rocks, and in some countries, such as Finland and Lapland, the ground alone is oftentimes chosen.

The eggs of the Peregrine Falcon vary from two to four in number. The ground-colour of the egg, when exposed, is a pale yellowish-white, and the markings vary from brick-red and orange-brown to rich reddish-brown. Many of the eggs are often suffused with a beautiful purplish tint, which is seen, but more rarely, on the eggs of the Kestrel. The eggs of the Peregrine Falcon vary considerably in size and form, some being much elongated, others almost globular. They vary in length from 2·15 to 1·95 inch, and in breadth from 1·75 to 1·52 inch.

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### THE HOBBY.

(*Falco subbuteo.*)

PLATE 4, FIGS. 8, 9.

The Hobby has become a rare and local bird in England. It was formerly a regular summer visitor. Its principal breeding-grounds are the forest districts of the north of France, the Netherlands, Germany, Denmark, South Scandinavia, and Russia south of lat. 65°. In other parts of Europe the Hobby is only known as a migrant, and it passes south by the Nile Valley to winter in Africa. At the latter season it is also found in Northern India and in China.

The Hobby still nests in some parts of England. My friend, Mr. Frank Norgate, found it breeding in Foxley Wood, near Norwich, in 1882, and saw three nests of this rare Falcon in the same wood on one day, each containing three eggs. They were all old Common Crow's nests in oak trees.

The eggs of the Hobby vary in length from 1·8 to 1·6 inch, and in breadth from 1·4 to 1·3 inch. They are scarcely distinguishable from those of the Kestrel, but are generally rougher in texture, not of so brilliant a red, nor so boldly spotted.

## THE MERLIN.

*(Falco æsalon.)*

PLATE 4, FIG. 7.

The Merlin breeds throughout the mountainous districts of Great Britain, from the moorlands of Derbyshire northwards to the outer Hebrides and the Shetlands, partly retiring to the lowlands and southern counties in winter, where a few pairs casually remain to breed. It breeds throughout Ireland in the mountain districts ; and numbers seek the lowlands in winter.

This species is confined to the northerly parts of the Old World. It breeds throughout North Europe, Iceland, and the Faroe Islands, and winters in South Europe and North Africa, where a few are said to remain during the summer, retiring to the higher grounds to breed. Eastward it nests throughout Northern Siberia, passing through Mongolia and Turkestan on migration, and wintering in South China, North-Western India, and Sind.

It is a somewhat late breeder, laying its eggs about the middle of May, so that its voracious young may be fed upon young grouse.

The site of the nest, on our moorlands, is chosen on the ground in the tall heather, or in some flat spot amongst the rocks on the steep slopes at the foot of the precipitous ridges so often met with in these localities. In most cases a small hole is made ; whatever roots and dry grass may chance to be upon the spot are scratched into the rudiments of a nest, and the only materials actually selected by the bird appear to be a few slender twigs of "ling" to form the outside of the structure : these are generally broken off from the heather overhanging the nest.

The eggs are usually five in number, sometimes only four, and somewhat rounded in form. In colour they closely resemble those of the Kestrel and the Hobby ; but the colour is a more decided brown, without the brick-red tints so commonly seen on newly-laid eggs of these birds. Like all Falcons' eggs, they differ considerably in size and intensity of colour, some specimens being of a reddish-brown, so richly coloured as to hide all trace of the ground-colour ; others are pale red, with most of the deep brown confined sometimes to the large end and sometimes to the small end. Some specimens are pale cream in ground-colour, evenly

and beautifully marbled with deep purplish red, or finely dusted over the entire surface with minute specks of blackish-brown. The size varies from 1·65 to 1·5 inch in breadth.

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### THE RED-FOOTED FALCON.

(*Falco vespertinus.*)\*

PLATE 4, FIG. 10.

More than twenty occurrences of this Falcon in Great Britain have been recorded. It nests in Hungary and in Southern Russia, eastwards to the Yenisei Valley in Siberia, and winters in South Africa.

The Red-footed Falcon breeds in colonies, occasionally five or six nests being found in one tree. It is said that they rarely, if ever, build a nest, but appropriate the old ones of Crows or Magpies, especially preferring those of Rooks after the latter birds have done with them.

The number of eggs varies from four to six. In shape, size and colour, the eggs of the Red-footed Falcon approach very nearly to those of the Common Kestrel. As the result of a careful comparison of 147 eggs of the former with 289 of the latter, Goebel arrives at the following conclusions, viz., that the eggs of the Kestrel are coarser-grained, have much more lustre, and are, on an average, larger, and not only absolutely, but proportionately heavier. The colour of the Kestrel's eggs is a darker and browner red compared with the yellower red of the eggs of the Red-footed Falcon. The eggs of the latter bird vary in length from 1·6 to 1·25 inch, and in breadth from 1·2 to 1 inch.

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### THE COMMON KESTREL.

(*Falco tinnunculus.*)†

PLATE 4, FIG. 5.

The Kestrel breeds almost everywhere, being equally abundant in well-wooded districts and rocky moors. It likewise nests in nearly every part of Palaearctic regions, and is common up to lat. 60°. Further north it becomes rarer. In Asia it is equally

\* *Cerchneis vespertina*—Sharpe, Handb. Brit. B., II., p. 201 (1895).

† *Cerchneis tinnunculus*—Sharpe, t. c. p. 201.

abundant, and I found it very common in lat.  $58^{\circ}$ . In winter it visits Africa, India, and China, and even extends to the Malay Archipelago.

The Kestrel's pairing season is in April, although the eggs are seldom laid before early in May. It generally breeds in the thickest woods, and rarely in nests built in isolated trees. It also rears its young on the cliffs by the sea-side, and among the rocks on the moors and the cliffs of limestone districts.

Six eggs is the number usually found, although, in some cases, the number has been seven, and in others as few as four or five. They are rich reddish-brown, of various shades, upon a dirty or creamy-white ground. They go through all the types of Falcons' eggs; and in addition some have the colouring matter all massed on the larger end of the egg, others have a ground of dull yellowish chestnut with irregular blotches of intense coffee-brown, whilst others are brick-red with a few minute dots of deep brown. Most eggs of this bird, when newly laid, possess a purplish bloom, which, however, soon fades after exposure to the light. The eggs of the Kestrel vary from 1·7 to 1·45 inch in length, and from 1·35 to 1·12 inch in breadth.

#### THE LESSER KESTREL.

(*Falco cenchris.*)\*

PLATE 4, FIGS. 2, 3.

Three specimens of the Lesser Kestrel have been taken in England and one in Ireland. Its native home is in the countries of the Mediterranean, whence it ranges during the nesting-season to Asia Minor, the Caucasus and Western Turkestan. In winter it migrates to South Africa.

It breeds towards the end of April, and I found several nests containing young birds late in June. The nests are extremely slight, and frequently the eggs are laid in a hollow scratched in rubbish.

Five seems to be the usual number of eggs, but I have clutches of four, and one of seven. The eggs of the Lesser Kestrel are very round, almost globular, with but little difference between the larger and the smaller ends. Their general ground-colour is pale

\* *Cerchneis cenchris*—Sharpe, Handb. Brit. B. II., p. 204.

brick-red, with dark brick-red spots, which are very generally diffused evenly over the whole surface, and very small, occasionally forming large blotches. Others, again, have an almost white ground-colour, with more than usually distinct spots and blotches, resembling very much a similar type of the Common Kestrel. In fact the eggs of the Lesser Kestrel go through the same varieties as the Common Kestrel, but are smaller, and are of a paler and more bricky-red, instead of blood-red. In size they vary from 1·45 to 1·3 inch in length, and from 1·2 to 1·03 inch in breadth.

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### THE OSPREY.

(*Pandion haliaetus.*)

PLATE 3, FIG. 5.

The remote districts of Scotland, the wild solitudes of Highland loch and mountain, were once the favourite home of the Osprey; but now the numbers have greatly decreased, and only a few pairs resort to the central and northern districts of the Highlands for the purpose of rearing their young.

Lonely forests within easy access of freshwater lakes are the favourite breeding places of this bird. The nest is enormously large, from three to four feet in diameter, and occasionally as high, and is generally placed on the summit of a pine-tree, one having a dead top being generally preferred.

Three eggs are the usual number, occasionally two, and still more rarely four. They are deposited by the latter end of April or the first week in May, and vary considerably in colour. Typical specimens are white or yellowish-white in ground-colour, irregularly and very boldly blotched and spotted with rich reddish-brown, which becomes more dense and thickly dispersed over the larger end, sometimes so much so as to hide the ground-colour. Some examples are quite purple; others are entirely suffused with orange-red; whilst a very beautiful variety has all the vacant spaces between the bold brown markings blurred and dashed with violet-grey shell-markings. Other specimens have a large blot of colour here and there over the entire surface, or have the colouring matter in a zone or belt round the middle of the shell. Many examples are marked with smaller spots and streaks of colour, and marbled over the entire surface with violet-grey and

faint orange-red. The eggs of the Osprey are rarely faintly or sparingly marked, and justly claim to rank as some of the handsomest in all the British series. In form they are not so round as those of the true Falcons, and are also far more elongated than those of the typical Eagles, being also somewhat coarse in texture. They vary in length from 2·5 to 2·15 inches, and in breadth from 1·95 to 1·75 inch.

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### THE SWALLOW-TAILED KITE.

(*Elanoides furcatus.*)

PLATE 5, FIGS. 5, 6.

On two occasions at least this American species has been captured in this country. Others have been reported, but two instances only are believed to be genuine.

It is a summer migrant to the Southern States of North America, east of the Rocky Mountains, its breeding range extending somewhat further north, in the valley of the Mississippi, into Southern Wisconsin. It winters in the West Indies and Central America, where a few remain to breed in the mountains, wandering into South America to Ecuador and to Brazil. Mr. W. L. Ralph writes that it nests in Florida, beginning about the first week in April in the more southern portions of its breeding-range, and correspondingly later further north, sometimes not before the first or second week in June. Two eggs are generally laid, occasionally but one, and rarely three or four. The eggs are spotted and blotched with different shades of rich brown and ferruginous, usually irregular in outline, and varying considerably in amount. These markings sometimes form an irregular band running from the centre to the smaller end, and frequently become confluent. Occasionally a specimen is found in which the markings are very few and small in size, scarcely any being larger than a No. 10 shot, and the majority smaller. In a few specimens light lavender-coloured shell-markings, generally of small size, are also visible. There is a great deal of difference in the style and markings of these eggs, if a number be compared, but they can readily be distinguished from the eggs of any of the American Raptore.\*

\* Cf. Bendire: "Life Histories of North American Birds."—pp. 171-173.

## THE BLACK-SHOULDERED KITE.

*(Elanus cæruleus.)*

This tropical species has only occurred once in the British Islands, a specimen having been captured in Co. Meath in Ireland. It is an inhabitant of Northern Africa, visiting sparingly the countries north of the Mediterranean. It is also found throughout Africa and India.

The nest is built in a tree, and is composed of sticks and lined with grass-roots and fibre. The eggs are three or four in number, rarely five. The ground-colour is buffy-white or yellowish-white with chestnut markings, which vary considerably. They range in length from 1·7 to 1·55 inch, and in breadth from 1·25 to 1·2 inch.

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## THE HONEY-BUZZARD.

*(Pernis apivorus.)*

PLATE 3, FIGS. 3, 4.

The Honey-Buzzard was formerly a regular summer visitant to this country, breeding in most of the counties of England and Wales where the woods were large enough to afford it a secure retreat for its nest. As to its occurrence in Scotland and Ireland, the information we have is very meagre; but it appears to have formerly bred in both these countries, where it has now, as well as in England, become a rare summer visitor. On the Continent it breeds in some numbers north of lat. 45° N., up to the Arctic Circle, and occurs as far east as Krasnoiarsk. It winters in Africa.

According to my experiences in Pomerania, the Honey-Buzzard does not build a nest of its own, but selects one of the numerous Buzzards' or Kites' nests which abound in the forest, re-lining them with a profusion of fresh green leaves, or the ends of branches of trees in full leaf: this lining is apparently renewed from time to time.

The eggs of the Honey-Buzzard, two, three or four in number, are very glossy or waxy in appearance, and are very round, the small end being but slightly different from the larger one. They run through the same variation as the eggs of the Common Kestrel or the Peregrine. The ground-colour varies from creamy-

white to pale brick-red, and the spots from brick-red to deep rich purplish blood-red. In some examples the ground-colour is entirely obscured; in others the blotches are almost confluent at one end of the egg; whilst in others they are more evenly distributed over the surface, or shew signs of having been scratched or rubbed off when the colouring-matter was wet. It is usual to find in the same clutch an almost uniformly-marked egg, and one with the markings dispersed in irregular blotches. In size they vary from 2·05 to 1·86 inches in length, and from 1·7 to 1·55 inch in breadth.

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#### THE COMMON KITE.

(*Milvus regalis*).\*

PLATE 3, FIG. 7.

In the present day the Kite must be looked upon as an accidental visitor to England, but it was formerly a common resident, and even at the present day it nests in a few localities in England and Scotland. In Ireland it has always been a rare bird. It may be said to breed in most parts of Europe, to be resident in the central and southern portions, and migratory in the north.

The breeding-season commences early in May. The nest is sometimes a very bulky structure, and is flat, similar to that of the Sparrow-Hawk. Few rapacious birds show such a partiality for collecting rubbish for their nests as does the Kite, and in Germany, where it arrives at the end of February or the beginning of March, I was shewn several nests in May.

The eggs of the Kite are generally three, sometimes only two in number, and most closely resemble those of the Buzzards, but are, as a rule, distinguished from them by their more scratchy and streaky appearance. When newly laid, they are of the palest bluish-green in ground-colour, which soon fades to white or nearly so, sparingly spotted and blotched with dark reddish-brown, with a few shell-markings, ill-defined and of a pale purplish-grey. Some specimens are far more heavily marked than others, being clouded and dashed with colour, similar to the eggs of the Rough-legged Buzzard-Eagle; others are dirty bluish-white in ground-

\* *Milvus ictinus*—Saunders, Manual, p. 325 (1889). *Milvus milvus*—Sharpe, Handb. Brit. B., II., p. 168 (1895).

colour, faintly streaked, in true Bunting style, with wavy pale lilac markings ; and in others these are evenly distributed almost over the entire surface, mixed with scratches and streaks of colour, and sometimes massed thickly together on one end of the egg. They vary in length from 2·4 to 2·1 inches, and are seldom less than 1 $\frac{3}{4}$  inch in breadth, the short eggs being the roundest and bluntest.

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### THE BLACK KITE.

(*Milvus ater.*)\*

PLATE 3, FIG. 6.

This species has only once been captured in Great Britain, and is included in the British list solely on the authenticity of a single example caught in a trap in the Red Deer Park at Alnwick in May, 1866. It breeds in suitable localities throughout Europe south of the Baltic, and eastwards in Asia Minor, Palestine, Persia, and Turkestan. Its winter home extends to Southern Africa.

A nest found by me in Northern Germany was built about 45 feet from the ground, in the fork of one of the main branches of a beech. It was rather shallow, about three feet by two-and-a-half, outside measurement. It was built of sticks and lined with dead moss and a scrap or two of paper. Like that of the Common Kite, the nest of the present species is decorated with rags and other rubbish.

The eggs vary from two to five in number. They closely resemble those of the Common Kite, but are, on an average, perhaps more richly marked. The ground-colour is either dull white, or the faintest of pale blue, more or less boldly spotted and blotched with browns of different shades. Some specimens are far more richly marked than others. A very handsome variety has the smaller end clouded with pale brown, here and there marked with pale brown and faint shell-markings of lilac. Another and rarer variety is streaked in the smaller half with pale brown, similar to a Bunting's egg, the streaks becoming confluent at the small end of the egg. Many Black Kites' eggs

\* *Milvus migrans*—Saunders, Manual, p. 327 (1889); Sharpe, Handb. Brit. B., II., p. 171 (1895).

are almost indistinguishable from Common Buzzard's, and, except that, on an average, they are slightly smaller, they scarcely differ from Common Kite's. They possess little or no gloss, and have the shell somewhat coarse in texture. They vary in length from 2·25 to 2·05 inches, and in breadth from 1·8 to 1·6 inch.

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### THE WHITE-TAILED EAGLE.

(*Haliaëtus albicilla.*)

PLATE 2, FIG. 1.

In the British Islands, Scotland is the home of the White-tailed Eagle, particularly the Hebrides and the Isle of Skye. It is found throughout Europe in localities suited to its habits, and even extends to Greenland.

The nest is large, composed of sticks, and lined with a little grass or turf. It is placed on the ledges of cliffs, or in trees, and has even been found on the ground. The eggs are laid in May. They are two in number, roundish in form, slightly smaller than Golden Eagle's, and rather coarser in texture: the colour is white, but occasionally a few nest-stains on the shell are visible. They vary from 3·3 to 2·75 inches in length, and from 2·4 to 2·1 inches in breadth.

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### THE GOLDEN EAGLE.

(*Aquila chrysaëtus.*)

PLATE 2, FIG. 4.

The Golden Eagle breeds in certain parts of the Highlands of Scotland and in some of the Hebrides. It is found throughout the Palæarctic Region and again in temperate North America.

The nest is a bulky structure of sticks of many sizes, with a rough lining of moss or grass. It is built on a rock, but has on rare occasions been found in a tree.

The eggs are often laid before the snow is off the hill-sides, and they vary much in the amount of their markings, the well-marked egg being the rule, and not the exception. They are from one to three in number, but two is the usual clutch. As a rule, in a nest which contains three eggs, one proves to be addled. Typical eggs of this species are dull white in ground-colour,

with lilac-grey underlying shell-markings, and rich reddish-brown surface-blotches and spots. One of a pair of British specimens resembles the egg of an Iceland Falcon, while the other is boldly blotched and dashed over the entire surface. In size they vary largely, Irish eggs being apparently the smallest. In shape they also vary considerably, and even in the same nest one egg is often much rounder than the other. They range from 3·1 to 2·7 inches in length, and from 2·5 to 2·2 inches in breadth.

### THE SPOTTED EAGLE.

(*Aquila naevia.*)

PLATE 2, FIGS. 2, 3.

Two forms of spotted Eagle occur in Europe, a large one and a small one. Both forms are believed to have been obtained in Great Britain, where about a dozen instances of the occurrence of the species have taken place.

The nest is built in trees, and is very flat, made of sticks, lined with finer twigs, and fresh green leaves. The eggs are laid in the first half of May, and the number in each nest is almost invariably two, though one only and as many as three have been known. They vary considerably in size and colour, and are best described as miniatures of the Golden Eagle. The surface is dull and somewhat rough, and both ends are nearly alike in shape. They vary in size from 2·65 by 2·15 inches to 2·3 by 2·0 inches.

### THE ROUGH-LEGGED BUZZARD.

(*Archibuteo lagopus.*)\*

PLATE 5, FIG. 7.

This species is believed to have bred on two occasions in Great Britain, but further evidence of the fact is necessary. It is an inhabitant of Northern Europe and Asia, and visits us on migration nearly every year. The eggs are laid at the end of May and in June, and the nest is built in a tree or on a fell-ridge. The nest is a large structure of branches of cherry, birch or juniper, lined with wiry grass; but occasionally it is a mere hollow, lined with grass and without any sticks.

\* *Aquila lagopus* (Gm.)—Seebohm, Hist. Brit. B., p. 111. *Buteo lagopus*—Saunders, Manual, p. 313.

The eggs are subject to considerable variation in colour and size, some specimens being poorly marked, whilst others are very richly blotched with dark red, or clouded and mottled with pale brown. In some eggs the colouring is confined to a few large rich blotches of red; others are evenly spotted with colour, just as intense over the entire surface. The handsomest type of egg is the clouded variety. They vary from 2·25 to 2·1 inches in length, and from 1·8 to 1·65 inch in breadth.

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### THE COMMON BUZZARD.

(*Buteo vulgaris.*)\*

PLATE 3, FIG. 2.

The Common Buzzard, though formerly pretty generally distributed throughout Great Britain and Ireland, is now confined to a few of the larger forests, principally of Scotland and Wales, and the sea-coasts where the rocks are lofty and precipitous. Its range extends over the greater part of Europe, as far north as 66° in Scandinavia, and as far east as the Urals up to 59° N. lat.

The foundation of the nest is of large twigs, finished at the top with slender twigs: it is very flat, the hollow in the middle containing the eggs being of about the size and depth of a soup-plate, and it is lined with fresh green leaves, generally beech. Eggs usually three, sometimes only two and not unfrequently four. They vary very much in size and colour, and are rough in texture, and possess little or no gloss. The ground-colour varies from milky-blue to pale reddish-white, blotched, streaked, spotted, or clouded with rich brown surface-spots and pale lilac shell-markings. Some specimens are most richly and handsomely marked, others more sparingly, whilst many are almost devoid of markings. A rather rare variety is finely streaked and scratched over the smaller half of the egg with pale brown, with one or two larger spots. In some the colour is confluent at the larger end, whilst in others the rich brown colouring-matter is covered with a thin coating of lime, giving the egg a beautiful delicate lilac-pink appearance. In form the eggs vary considerably, some specimens being almost round, others strictly oval, some elongated,

\* *Buteo buteo*—Sharpe, Handb. Brit. B., p. 147 (1895).



Iceland Falcon.



Greenbacked Falcon.



Griffon Vulture.



Egyptian Vulture.



Egyptian Vulture.



White-tailed Eagle.



Spotted Eagle.



Spotted Eagle.



Golden Eagle.





Peregrine Falcon.



Common Buzzard



Honey Buzzard.



Osprey.



Black Kite.



Kite.





American Kestrel.



Lesser Kestrel.



Lesser Kestrel.



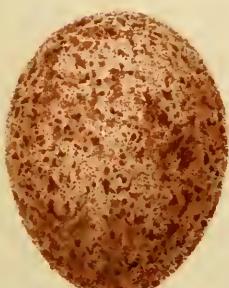
Sparrow Hawk.

Kestrel.



Goshawk

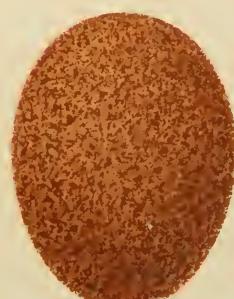
Merlin.



Hobby.



Hobby.



Red-footed Falcon.



and more rarely elliptical. In size they vary from  $2\frac{1}{4}$  to 2 inches in length and from 1·9 to 1·65 inch in breadth.

Three more Buzzards are included in the list of British Birds, viz., *Buteo desertorum* of Africa, and *B. borealis* and *B. lineatus* of North America. Each has been recorded once, but the occurrence of these species is so rare, and in some cases even doubtful, that I feel that there would be no interest in figuring their eggs in a work devoted to British Oology.

### THE MARSH-HARRIER.

(*Circus aeruginosus.*)

PLATE 5, FIG. 4.

The Marsh-Harrier still breeds sparingly in Ireland, but has been exterminated from its former haunts in Great Britain. It is found throughout Europe, as far east as the Valley of the Ob and Turkestan. It visits India and parts of Africa in the winter.

A nest found by me near Brunswick was in a large extent of swampy ground, built in the middle of a bed of reeds. The nest was very large, the outside composed of two-thirds reeds and one-third small branches of trees, and the extreme diameter was at least four feet; but the outside was very loose and straggling. It stood two feet above the surface of the water, and one could see underneath the nest by stooping down. The inside of the nest was neat and compact, measuring less than a foot across, and warmly lined with dry flag-leaves and dry grass. The eggs are from three to six in number, roundish in form and rough in texture, the short eggs being usually the roundest. They are very pale bluish-green (sometimes almost white), very faintly marked with pale brown, or (more often) spotless or covered with nest-stains like the eggs of Grebes. In size they vary from 2·1 to 1·8 inch in length and from 1·6 to 1·45 inch in breadth. The eggs of the Marsh-Harrier are very small proportionately for the size of the bird.

### THE HEN HARRIER.

(*Circus cyaneus.*)

PLATE 5, FIG. 2.

The Hen-Harrier was formerly a much more generally distributed breeding bird in Great Britain, but is now confined to the

Highland Counties of Scotland, the Orkneys, Shetlands, and the Hebrides. In Ireland it still nests sparingly. Its range extends over the greater part of Europe and across Siberia to Corea and Japan. In winter it visits the Mediterranean countries and N.E. Africa, the Indian Peninsula, and China.

The site of the nest usually chosen is a dry moor or amongst the heather, and it has often been found in a cornfield. Mr. J. A. Harvie-Brown describes one, placed on the bare hill-side, as merely consisting of a few loosely-arranged heather-stems, with a shallow depression in the centre, lined with wiry dry grass, broken into small pieces. Another, placed in deep heather, was more than a foot high, and composed of stout rank stems and roots of heather.

The number of eggs is usually five, but four and six are often found. They are bluish-white, and are, on an average, intermediate in size between those of the Marsh and Montagu's Harriers. They vary in length from 1·8 to 1·65 inch, and in breadth from 1·5 to 1·4 inch.

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#### MONTAGU'S HARRIER.

(*Circus cineraceus.*)\*

PLATE 5, FIGS. 1, 3.

Montagu's Harrier still occasionally breeds in Great Britain. On the continent of Europe it inhabits principally the temperate portions, nesting and departing south in winter. It reaches Turkestan and the Yenesei Valley to the eastward, and winters in the Indian Peninsula and in Africa down to the Cape.

In Germany, Montagu's Harrier is a somewhat late breeder. The only time I have taken the nest was on the 23rd of May. There was no hole whatever in the ground; the rye had only been trampled down, and a slight but somewhat neat nest made of corn-stalks, lined with a little dry straw. The nest was rather more than nine inches in diameter, and about two inches and a half deep in the middle.

The number of eggs varies from four to six. They may be readily distinguished from the eggs of the other British Harriers by their decidedly smaller size. The largest egg in my collection

\* *Circus pygargus* (Linn.)—Sharpe, Handb. Brit. B., II., p. 129.

measures 1·75 by 1·3 inch, whilst the smallest is only 1·5 by 1·25 inch. The surface of the eggs is fine-grained, but not glossy, of an unspotted greenish-white.

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### THE SPARROW-HAWK.

(*Accipiter nisus.*)

PLATE 4, FIG. 4.

Throughout the whole of Great Britain and Ireland this is a common species in all well-wooded and cultivated localities. It is found throughout Europe up to the limit of forest growth, about lat. 69° N. In the northern portions of its range it is a migratory species, wintering in South Europe and North-east Africa, the Indian Peninsula and China.

The nest is a large one, but the cavity which contains the eggs is small and very shallow. It is always made of sticks, the majority being dead ones; it contains no lining beyond a few roots, and, in rare cases, a little moss; but in all the nests which I have seen there was much down, sometimes scattered half-way down the tree, probably accidentally rubbed off the bird as she flew on and off the nest.

The eggs are from three to six in number, although five may be said to be an average clutch. They are round in shape, and most richly marked. In ground-colour they are of a delicate bluish-green, with the spots bold and decided, or reddish-brown of various shades and intensity. Some specimens are so richly marbled and clouded as to hide the ground-colour; others have the spots in a zone round the end of the egg, or more rarely round the middle; while yet, again, some are spotless or very faintly marked, thus approaching very closely to certain types of Harrier's eggs, and even in the same nest one egg will be conspicuous by its small size, or the absence of spots. They vary from 1·78 to 1·5 inch in length, and from 1·39 to 1·2 inch in breadth.

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### THE GOS-HAWK.

(*Accipiter palumbarius.*)\*

PLATE 4, FIG. 6.

It is only within the last half-century that the Gos-Hawk has ceased to breed in Scotland, but it now no longer nests in the

\* *Astur palumbarius*—Saunders, Manual, p. 321.

British Islands. The Gos-Hawk is nowhere very common, but is generally, though sparingly, distributed throughout the wooded districts of the whole of Europe, from the Mediterranean up to the limit of forest growth. Eastward it is found, under similar conditions, throughout Siberia, as well as in Turkestan, the Himalayas, Mongolia, and North China. It migrates somewhat in winter from its breeding-haunts to a little further south.

The Gos-Hawk breeds during the second half of April or the first half of May. It generally selects a lofty beech for the situation of its nest, which is usually placed at some considerable elevation from the ground, in one of the main forks. It also breeds in oaks and pine-trees. The nest is sometimes an enormous structure, and is occupied for many years in succession. The Gos-Hawk builds a deeper nest than the Eagles and the Buzzards, and lines it with fine twigs, roots, moss and lichens, but not green leaves.

The usual number of the eggs is four, occasionally three, and sometimes five. They are very pale bluish-green, approaching white, and in very rare instances show decided spots of dirty blood-red. Stains are often to be seen on the eggs, which vary from 2·45 to 2·1 inches in length, and from 1·85 to 1·6 inch in breadth.

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#### THE AMERICAN GOS-HAWK.

(*Accipiter atricapillus.*)\*

Three female birds of this American species have been procured in the British Islands, one in Perthshire and two in Ireland. It is strictly a Nearctic species, breeding in the North American States as far south as Colorado. Two races are recognised by American Ornithologists.

The nest is built in trees, or on the edge of a cliff.

According to Captain Bendire, the number of eggs laid by this Gos-Hawk varies from two to five. They are pale bluish-white and unspotted. An occasional specimen shews slight traces of buffish-brown markings, which are probably old blood-stains. The shells of the eggs are somewhat rough to the touch, deeply pitted, and granulated. They vary in shape from ovate to elliptical ovals.

\* *Astur atricapillus*—Saunders, Manual, p. 322 Sharpe, Handb., II., p. 141.

*FAMILY STRIGIDÆ,  
OR NOCTURNAL BIRDS OF PREY.*

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The Owls on the British List number eleven, of which four are indigenous, and six visitors. One, the Little Owl, originally a migrant, has been introduced, and now nests in the vicinity of its foster-home.

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THE BARN OWL.

( *Strix flammea*. ) \*

PLATE 6, FIG. 3.,

The Barn Owl is a common resident throughout the British Islands, including the Hebrides, but becomes rare towards the north. It is a tropical bird, found throughout the equatorial region of both hemispheres, and not ranging more than 40 degrees north or south of the equator, except in Western Europe.

The Barn Owl is not an early breeder, eggs seldom being found before the end of April or the beginning of May; but it often has two, and sometimes three broods in a season. Mr. Norgate tells me that he has found unfledged young in November; and Waterton found one in December. Occasionally the eggs are laid at intervals. I once climbed up to a Barn-Owl's nest in a hollow oak near Oxford, and took out of the hole two nearly fresh eggs, two young birds recently hatched, and two nearly fledged. This must have been an exceptional case, as out of the numerous nests which Mr. Norgate has taken he has never met with a similar instance. The birds make no nest; but the eggs are often surrounded with pellets. The number of eggs varies from three to seven. They are pure white, not quite so round as Owls' eggs usually are, and have little or no gloss. They vary in length from 1·7 to 1·53 inch, and in breadth from 1·3 to 1·2 inch.

\* *Aluco flammea*—Seebohm, *Hist. Brit. B.*, I., p. 147 (1883). *Strix flammea*—Saunders, *Manual*, p. 281 (1889).

## THE TAWNY OWL.

*(Syrnium aluco.)\**

PLATE 6, FIG. 9.

The Wood or Tawny-Owl is not so common in Great Britain as it used to be, but is still to be found in most wooded districts of England, Scotland, and Ireland. It is found throughout the greater part of Europe, to the Arctic Circle in Scandinavia. In West Russia its range does not extend to Archangel, and in East Russia it is said not to be found north of 58° North Lat. It has not been recorded from Siberia. The southern range of the Wood-Owl extends into North Africa. In Algeria it is a resident, and it has once occurred in Egypt. It is found in Asia Minor and Palestine, and has been obtained in the Caucasus, but not yet in Persia.

The Wood-Owl nests as a rule about the last week of March or the first week in April. The situations chosen by the birds are various; the favourite sites being hollow trees, holes in cliffs, and sometimes rabbit-burrows. No real nest is made, the bird merely scratching a hole in the earth when laying in holes of cliffs or under roots; and when making use of old nests it does not seem to re-line them at all.

The number of eggs are generally three or four, and are much larger than those of the Barn-Owl. They are pure and spotless white, round in form, but the texture of the shell is much smoother than the Barn-Owl's, and far more highly polished. They measure from 1·9 to 1·7 inch in length, and from 1·6 to 1·45 inch in breadth.

## THE LONG-EARED OWL.

*(Asio otus.)†*

PLATE 6, FIG. 4.

The Long-eared Owl is generally distributed throughout the British Islands, being most common in those districts which abound in pine-forests. It has not been met with in Greenland, but is an accidental visitor to Iceland and the Orkney and Shet-

\* *Strix aluco*—Seebohm, Brit. B., I., p. 154 (1883).† *Strix otus*—Seebohm, Brit. B., I., p. 160 (1883).

land Isles. It also breeds in Mull and Skye. It is distributed throughout the Palaeartic Region, and becomes rarer towards the Arctic Circle. It is also found in the Himalayas.

The Long-eared Owl is an early breeder: fresh eggs may be obtained by the second week in March; and the young are hatched by the end of April or beginning of May. It is doubtful if this bird ever builds its own nest. It usually takes possession of a deserted Crow's nest, sometimes a Wood-Pigeon's, and more frequently the deserted "drey" of a squirrel.

The selected nest does not appear to undergo much alteration, although many naturalists have asserted that it is lined with wool and feathers; but pellets are often found in it in great numbers. The eggs of this bird are from four to seven in number, generally five or six; and it appears that, as is the case with many other birds of this family, the eggs are sat on as soon as laid, as young birds and fresh eggs are seen in the same nest. The eggs of the Long-eared Owl are somewhat oval in form, possessing some little gloss, and are pure white in colour. They measure from 1·76 to 1·5 inch in length, and from 1·35 to 1·26 inch in breadth.

### THE SHORT-EARED OWL.

(*Asio brachyotus.*)\*

PLATE 6, FIG. 1.

The Short-eared Owl is generally distributed on moorlands and marshes in the north of England, Scotland, the Western Isles, the Orkneys, and the Shetlands. Outside our islands its range is almost cosmopolitan.

Unlike the other British members of this group of birds that seek a covered site for their nests, the Short-eared Owl always rears its young upon the ground, and, most curiously enough, in an exposed and open nest. Its breeding-grounds are the marshy fens of the low-lying eastern counties, and in the north the broad expanses of heath on which the Harriers and the Grouse rear their young.

This species lays from four to seven eggs; and has been said, on the authority of Hutchins, cited by Richardson in the 'Fur-countries of North America,' to lay as many as ten or twelve.

\* *Strix brachyotus*—Seeböhm, Brit. B., I., p. 167 (1883).

In shape they are scarcely so round as those of the Tawny Owl, but are much smaller, creamy-white in colour, and possess but little gloss. The eggs may easily be confounded with those of the Long-eared Owl; and certain specimens are not easy to distinguish from eggs of the Hawk Owl. They measure from 1·65 to 1·5 inch in length, and from 1·31 to 1·2 inch in breadth.

### T E N G M A L M ' S   O W L .

(*Nyctala tengmalmi*.)\*

PLATE 6, FIG. 2.

Tengmalm's Owl is an accidental visitor to the British Islands. At least a couple of dozen instances of its occurrence have been recorded, three of them in Scotland, but none in Ireland. It is a circumpolar bird, breeding in the pine-forests of Europe and Asia, as well as those of America, south of the Arctic Circle. It is also said to breed in the Alps and the Carpathians. In Lapland it nests up to lat. 68°; in the Ural Mountains it is not found further north than lat. 59°, but Dr. Finsch obtained it on the Ob in lat. 61°. In Northern France, Germany, Southern Scandinavia, and Central Russia it is principally found in winter. In America its range in winter extends to the Northern parts of the United States.

This bird is a very early breeder; even in lat. 67° eggs have been taken between the 2nd and the 13th of May, whilst at Muoniovara, a degree still further north, Wolley obtained eggs between the 8th of May and the 2nd of June, and received them from a little further north between the 1st and the 27th of June. Tengmalm's Owl is said not to build any nest. The eggs are laid in hollow trees, and Wolley obtained some which had been laid in one of the hollowed-out logs which are closed at each end, with a hole cut in the side, to induce the Golden-eye Ducks to breed in them. A favourite nesting-place appears to be in the deserted nest of the Black Woodpecker.

The number of eggs varies from four to seven. They are pure white in colour, smooth, and differ somewhat in shape, some being elongated, others almost round. They vary in length from 1·3 to 1·25 inch, and in breadth from 1·1 to 1·05 inch.

\* *Strix tengmalmi*—Seeböhm, Brit. B. I., p. 184 (1883).

## THE LITTLE OWL.

*(Noctua noctua.)*\*

PLATE 6, FIG. 5.

The Little Owl may normally be considered an accidental visitor to England and Wales, but as many have been turned loose in this country and are known to have bred here, it is possible that before long the species may be considered to be established as an inhabitant of Great Britain.

The Little Owl is a resident throughout the whole of Europe south of Scandinavia. In Northern Africa it is replaced by an allied form, *Noctua glaux*; and west of the Ural Mountains another species, *N. bactriana*, occurs, extending through Central Asia to Northern China.

It is a somewhat early breeder; and fresh eggs may be obtained from the middle of April to the middle of May. The situation of the nest, which is a mere scratch round of whatever rubbish may be accidentally collected on the spot, is varied. Sometimes it is in a hollow tree, sometimes in the cleft of a rock, sometimes in the roof of a house; and I have seen it under the roots of a tree.

The number of eggs varies from four to six. They are pure white in colour, oval in form, and measure from 1·4 to 1·35 inch in length, and from 1·15 to 1·08 inch in breadth.

## THE SNOWY OWL.

*(Surnia nyctea.)*†

PLATE 6, FIG. 7.

The Snowy Owl is an occasional visitor to the British Islands. It is an inhabitant of the Arctic Regions of Europe, Asia, and America. It breeds on the tundras beyond the limit of forest growth, or in similar climates at high elevations in less northerly latitudes, and it only leaves these breeding grounds in consequence of the scarcity of food caused by exceptional cold. It is consequently only a partial migrant.

\* *Athene noctua*—Saunders, Manual, p. 291. *Carine noctua*—Sharpe, Handb. Brit. B., II., p. 91.

† *Nyctea scandiaca*—Saunders, Manual, p. 293. *Nyctea nyctea*—Sharpe, Handb. Brit. B., II., p. 84.

The nest of this Owl is a simple structure, made of a few lichens, mosses, and feathers, sometimes placed in a hole in the ground, at others on some steep bank or cliff, or on some little eminence rising above the surrounding plains, where it is nothing more than a hollow scraped in the reindeer-moss.

The eggs are from six to eight in number, sometimes more, creamy-white in colour, and somewhat rough in texture, with little gloss. They are smaller than the eggs of the Eagle Owl, and, as a rule, a little more elongated. They vary from  $2\frac{1}{4}$  to 2 inches in length, and from 1.8 to 1.6 inch in breadth.

### THE HAWK-OWL.

(*Surnia funerea*.)\*

At least six specimens of Hawk-Owls have been obtained in the British Islands, and some of these have been identified as the American species, *Surnia funerea*, as distinguished from the European form, *S. ulula*. I recognise a third race from Siberia, which should bear the name of *Surnia doliata* (Pallas).

The Hawk-Owl may therefore be considered a circumpolar bird. Its breeding-season appears to commence in the middle of April, and to last till the end of June. It makes no nest; and the eggs are usually laid in the hole of a decayed pine-tree, and rest on the powdered wood alone, as is the case with the eggs of the Woodpeckers.

The eggs are from five to eight in number, white, smooth, and possessed of considerable gloss. They measure from 1.65 to 1.55 inch in length, and from 1.25 to 1.17 inch in breadth. As they cannot be distinguished from those of the Short-eared Owl, I have not considered it necessary to figure them.

### THE EAGLE-OWL.

(*Bubo maximus*).†

PLATE 6, FIG. 8.

The present species has been many times recorded from different portions of the British Islands, but it is probable that many of the

\* *Surnia ulula*—Sharpe, Handb. Brit. B., II., p. 87.

† *Bubo ignavus*—Saunders, Manual, p. 299. *Bubo bubo*, Sharpe, Handb. p. 78.

birds so obtained may have escaped from captivity. It inhabits the forest districts of all the countries of Continental Europe, from Scandinavia, Lapland, and Northern Russia, southward to the shores of the Mediterranean, and is a rare winter straggler to N. E. Africa, though it breeds in the mountains and forests of Algeria.

The Eagle-Owl is an early breeder, and commences to lay in March and early in April. It seldom, if ever, makes a nest of its own, but takes possession of any old nest it can find, rarely choosing one more than thirty feet from the ground. It breeds in a tree or in the cleft of a rock, and the eggs have very often been found in a slight hollow scratched in the ground at the foot of a tree.

The eggs are usually three in number, sometimes only two. They are pure white, very rotund, and the shell is somewhat rough in texture. Their superior size prevents them from being confused with those of any other species of European Owl. They measure from 2·55 to 2·1 inches in length, and from 2·0 to 1·85 inch in breadth.

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### THE SCOPS OWL.

(*Scops scops.*)\*

PLATE 6, FIG. 6.

About twenty specimens of this rare visitor have been recorded in the British Islands. It breeds throughout Europe south of the Baltic, wintering in North-Eastern Africa as far as Abyssinia. Eastward it breeds as far as Asia Minor, Turkestan, and Persia.

The Scops Owl breeds almost universally in hollow trees; but Tristram found its nest in holes of walls, and Krüper describes it as especially common on the island of Naxos, laying its eggs in the scaffold-holes which the indolent Greeks omitted to fill up in the houses. Like all the Owls, the present species makes little or no nest, merely a little hollow being scratched out, and lined with the indigestible portions of the bird's food.

The eggs are from five to six in number, pure white, and varying in length from 1·3 to 1·15 inch, and in breadth from 1·1 to 1·0 inch.

\* *Scops giu*—Saunders, Manual, p. 297.

*FAMILY ANATIDÆ.**SWANS, GEESE, AND DUCKS.*

Of these Birds we have forty-four species in England, of which fourteen may be considered residents, sixteen regular migrants, and fourteen occasional or accidental visitors.

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*THE MUTE SWAN.**(Cygnus olor.)*

PLATE 7, FIG. 2.

The Mute Swan has a very restricted range. It is doubtful whether in a wild state it breeds west of the Rhine; and north of the Baltic it only nests in Denmark and South Sweden, being also an accidental visitor to Norway. It is a summer visitor to South Russia, the valley of the Danube, Transylvania, and Greece; but in the basin of the Mediterranean it is principally known as a winter migrant. It is a summer visitor to the northern shores of the Caspian, to Turkestan, and to Mongolia, occasionally straying into Dauria, where it was observed by Radde.

In the northern portion of its range the Swan is a migratory bird, arriving at its breeding-grounds in March and leaving them again in October. The nest is a large structure, four or five feet across and at least a couple of feet high, composed of old reeds, dead grass, and other herbage.

The number of eggs varies from five to eight. There is often very little difference in the shape of the two ends; the texture is rough, and there is scarcely any gloss. They vary in length from 4·9 to 4·3 inches, and in breadth from 3·1 to 2·8 inches. They may always be distinguished from eggs of the other British Swans by their greenish-white colour.

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*THE WHOOPER OR WILD SWAN.**(Cygnus musicus.)*

PLATE 7, FIG. 1.

The Whooper is a tolerably common winter visitor to the coasts of the British Islands. It appears to be confined to the

Old World, where it breeds principally to the north of the Arctic Circle. It is a common resident in Iceland, and breeds throughout Arctic Europe, wandering southwards in winter to both shores of the Mediterranean and Black Seas, and occasionally appearing on many inland lakes and rivers on migration. Middendorf found it nesting on the Taimur Peninsula, and it probably breeds as far east as Bering Straits, as it passes through Southern Siberia and Mongolia on migration, and is not uncommon during winter in Japan and on the coasts of China.

The eggs of the Whooper agree with those of Bewick's Swan in being creamy-white in colour and having a slight gloss like those of the Mute Swan ; the surface is also granulated, and there is very little difference in the shape of the two ends. They vary in length from 4·7 to 4·2 inches, and in breadth from 2·9 to 2·65 inches. Eggs of the Mute Swan may at once be distinguished by their slightly greenish colour, but those of Bewick's Swan can only be distinguished by their smaller bulk. In length the eggs of the two species overlap, but short eggs of the Whooper are "short and stout," and long eggs of Bewick's Swan are "tall and thin," so that they cannot be confused except in abnormal cases, which may possibly occur. The safest guide in the determination of the eggs of these two species of Swan is that of weight. Eggs of the Whooper weigh considerably more, and those of Bewick's Swan considerably less, than four sovereigns.

#### BEWICK'S SWAN.

(*Cygnus bewickii*.)

PLATE 8, FIG. 2.

Bewick's Swan is by no means an uncommon winter visitor to the coasts of Scotland and England, including the Outer Hebrides, the Orkneys and Shetlands, and possibly the Channel Islands. It is, however, most abundant on the west coast of Ireland.

The first identified eggs of Bewick's Swan were those obtained by Harvie-Brown and myself in the delta of the Petchora. A Russian fisherman took the two eggs and trapped the bird on the nest. The eggs are smaller than those of the Whooper, and are probably the same in number, but I have never seen a larger clutch than three. They do not differ from those of the Whooper

in any other respect, unless, perhaps, they may be slightly less glossy. They vary in length from 4·3 to 3·8 inches. They may be distinguished from eggs of the Whooper by their weight, details of which will be found above.

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### THE SNOW-GOOSE.

(*Anser hyperboreus*).<sup>\*</sup>

PLATE 11, FIG. 3.

The Snow-Goose has accidentally occurred in Great Britain on several occasions. About a dozen examples have been noticed in Ireland, others in Cumberland and Yorkshire. There are two races of Snow-Goose, a large and a small one, and it is the latter which has been met with in the British Islands. The larger race of Snow-Goose is at present only known to breed in Hudson's Bay Territory; but as flocks have been seen on migration and individuals occasionally obtained both in North Europe and in Siberia, it seems probable that it may breed on some of the islands in the Arctic Ocean near those continents. It winters in the United States as far south as Texas, and several examples are recorded from the Bermudas.

The nests found by Mr. MacFarlane on the Anderson River were mere hollows in the sandy soil, plentifully lined with down and probably with dead grass. The colour of the eggs is described as of a uniform dirty chalky-white, and the size as averaging 3·4 inches in length and 2·2 inches in breadth.

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### THE BEAN-GOOSE.

(*Anser segetum*).†

PLATE 8, FIG. 1.

The Bean-Goose is a common visitor to the British Islands on spring and autumn migration, and great numbers remain to winter on our shores. It is a well-known bird on most parts of the English, Scotch, and Irish coasts, but is said to be only a straggler to the Orkney and Shetland Islands, though abundant in the

\* *Chen hyperboreus*—Saunders, Manual, p. 393; Sharpe, Handb. Brit. B., p. 225.

† *Anser fabalis* (Lath.)—Sharpe, Handb. Brit. B., II., p. 232.

Hebrides. There seems to be no evidence that it has ever bred in any part of the British Islands. It is a more northerly species than the Grey Lag-Goose, and in Scandinavia is not known to breed south of Lat. 64°. In North Russia it breeds near Archangel, and in the Valley of the Petchora above the limits of forest growth, as well as in the Valley of the Yenisei.

The Bean-Goose is an early breeder, beginning to make its rude nest almost before the snow is melted, early in June. A slight hollow is scraped in the soil, and lined with dead grass, moss, sometimes a few feathers, and always plenty of the light grey-down of the bird itself. The number of eggs is generally three, but often four. They are creamy-white in colour, with a rough, granular texture, and very little gloss. They are almost always decidedly more rounded at one end than at the other. They vary in length from 3·4 to 3·0 inches, and in breadth from 2·2 to 2·1 inches. The largest eggs of the Bean-Goose are as large or larger than the smallest eggs of the Grey Goose, but they may be distinguished at once by their weight. The smallest egg of the Grey Goose weighs more than two sovereigns; the largest egg of the Bean-Goose scarcely weighs a sovereign and a half. Eggs of the Bean-Goose cannot be distinguished from those of the Pink-footed Goose or from large ones of the White-fronted Goose.

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### THE PINK-FOOTED GOOSE.

(*Anser brachyrhynchus.*)

PLATE 10, FIG. 3.

The present species is a common winter visitor to the coasts of the British Islands, though it has only once been recorded from Ireland. It is less common on the south coast of England, most abundant on the outer Hebrides and the east coast of England, but it does not appear to have been observed in the Shetlands. It certainly breeds in Iceland and Spitsbergen, and probably on Franz-Josef Land. To the British Islands it is only a regular visitor in spring and autumn migration, and in winter it occasionally strays as far as the coasts of Belgium and France.

The nest and eggs do not differ from those of the Bean Goose, but the eggs may be distinguished from small eggs of the Grey Goose by their lighter weight (*vide anteà*).

## THE GREY LAG-GOOSE.

*(Anser cinereus.)*\*

PLATE 8, FIG. 3.

A hundred years ago the Grey Lag-Goose bred in the fens and marshes of the eastern counties of England ; but the reclamation of these extensive wastes has long since driven the birds to seek more congenial quarters. Its only breeding-places in the British Islands are in Ross, Sutherland, and Caithness, and on many of the Hebrides. The breeding-range of the species extends throughout Scandinavia and Denmark, Northern Germany, and North Russia, as far as the Ob, and probably to the Valley of the Yenisei.

The Grey Goose builds a large, slovenly nest of dead reeds, grass, and sedge, with sometimes a stick or two near the foundation. It is often a yard across, and a foot high, and, in cold climates, is generally lined with moss, to which down is added as the eggs are laid. The number of eggs is usually six or eight, but nests have been found containing as many as fourteen. They are dull, creamy-white in colour, and vary in length from 3·7 to 3·2 inches, and in breadth from 2·5 to 2·2 inches. They cannot easily be confused with those of any other British Goose. They are larger than those of the White-fronted Goose, and heavier than those of any other species. ——————

## THE WHITE-FRONTED GOOSE.

*(Anser albifrons.)*

PLATE 10, FIG. 4.

The White-fronted Goose is a winter visitor to the British Islands, but is somewhat local in its distribution and erratic in its appearance.

The White-fronted Goose breeds at a higher latitude than its congener the Bean-Goose, and still more so than its much closer ally, the Grey Goose. Middendorf found it nesting in great abundance on the Taimur peninsula, between lat. 70° and 74°, where the Bean-Goose was comparatively rare. He describes the nest as built on a grassy hillock, a mere hollow on the summit abundantly lined with down. Five to seven appears to be the usual number of eggs. They are creamy-white in colour, and vary in length from 3·1 to 2·8 inches, and in breadth from 2·1 to 1·9 inch.

\* *Anser anser*—Sharpe, Handb., II., p. 227.



Montagu's Harrier.



Hen Harrier.



Montagu's Harrier.



Marsh Harrier.

Swallow-tailed Kite.



Rough-legged Buzzard.



Mer Falcon.





Short eared Owl.



Tengmalm's Owl.



Barn Owl.



Long-eared Owl.



Little Owl.



Snowy Owl.



Scop's Owl.



Tawny Owl.



Eagle Owl.



Whooper Swan.

Mute Swan.





Bean Goose.



Bewicks Swan.



Grey Lag Goose



## THE LESSER WHITE-FRONTED GOOSE.

(Anser *albifrons minutus*.)

PLATE 12, FIG. 3.

This is a small form of *Anser albifrons*, and is usually known by the name of *Anser erythropus* of Linnaeus. Saunders and Sharpe do not recognise its distinctness, but, to my mind, it is a recognisable race, and Salvadori, the first authority of the day on the subject, allows it full specific rank. It is smaller in size than *A. albifrons*, and has a broader white forehead. It inhabits the Palaeartic Region from Lapland to the Yenisei, visiting various parts of Europe on migration as well as Japan and Northern India. The egg is decidedly smaller than that of *A. albifrons*.

## THE BRENT GOOSE.

(Anser *brenta*).\*

PLATE 10, FIG. 1.

The Brent Goose is a circumpolar bird, of which there are two, if not three forms. The Pacific Brent Goose breeds from the valley of the Lena, eastwards across Bering Straits as far as the Rocky Mountains; in the Taimur Peninsula, in Novaya Zemlya, Franz-Josef Land, and Spitsbergen the typical *Anser brenta* breeds; and in Arctic America, from the west coast of Greenland as far west as the Parry Islands, and north of lat.  $73^{\circ}$ , as far as land is known to extend, the white-bellied form of the Brent Goose (*Anser brenta glaucopterus*) breeds; it has the under-parts below the breast almost pure white, and the white on the sides of the neck does not meet in front. Both the latter races and intermediate forms between them occur on our coasts; but the white-bellied form is much the rarer of the two. Count Salvadori finds intermediate specimens between them and unites the two species.

The nests found by Colonel Feilden in lat.  $82\frac{1}{2}^{\circ}$  on the 9th of June were made on the sloping hill-sides between the snow line and the sea; they were placed in slight depressions on the ground,

\* *Bernicla brenta*—Saunders, Manual, p. 399; *Branta bernicla*—Sharpe, Handb. II., p. 239.

with a good foundation of grass, moss and the stems of saxifrages, and plentifully lined with down.

The number of eggs in each nest was four or five. They are creamy-white in colour, finely granulated, and possess a slight gloss. They vary in length from 2·87 to 2·65 inches, and in breadth from 1·95 to 1·75 inch.

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### THE BERNACLE GOOSE.

(*Anser leucopsis*.)\*

PLATE 10, FIG. 2.

The Bernacle Goose is a fairly common winter visitor to the coasts of the British Islands, but is most abundant on the west coasts of Scotland. Saxby only observed it once in Shetland. In Ireland it is locally distributed, being most common in the north and north-west. It sometimes visits inland districts. It has never been found breeding in a wild state, but has been recorded as occurring in summer in Greenland, Iceland, Spitsbergen, and Novaya Zemlya. It is also said to breed on Kolguev. It winters on the coasts of Northern Europe and those of Hudson's Bay.

Collett is of opinion that the Bernacle Goose breeds on one of the Lofoden Islands in lat. 68° 15', from whence the proprietor of this island sent him two eggs of a Goose "with white cheeks, but having the rest of the plumage and the feet dark," and "having a slight resemblance to a Cormorant." A solitary pair are said to have bred on the island for some years past, building a nest composed of moss and straw, sometimes on the narrow ledges of the rocks and sometimes in a sheltered locality, under stones or isolated rocky masses, and laying five eggs.

Eggs laid in confinement are creamy-white, granulated in texture, and without gloss. They vary in length from 2·9 to 2·75 inches, and in breadth from 2·0 to 1·85 inch. The Lofoden Island eggs received by Collett are slightly smaller, measuring 2·6 by 1·8 inch. They are indistinguishable from eggs of the Brent Goose, but may possibly be distinguished from eggs of the White-fronted Goose by their relatively lighter weight.

\* *Bernicla leucopsis*—Saunders, Manual, p. 397. *Branta leucopsis*—Sharpe, Handb., II., p. 236.

## THE RED-BREASTED GOOSE.

*(Anser ruficollis.)*\*

PLATE 11, FIG. 1.

The occurrence of the Red-breasted Goose in our islands is purely accidental; but its breeding-range is situated far enough north for occasional stragglers from the eastern shores of the Kara Sea to mingle with the flocks of Brent and Bernacle Geese which migrate to our shores in autumn from Franz-Josef Land, Novaya-Zemlya, and Spitsbergen. Half a dozen authentic specimens have been obtained in this country. During the breeding-season the Red-fronted Goose is confined to the lower valleys of the Ob and Yenisei above the limit of forest growth. In winter it has occurred in nearly every country in Europe except Spain. It passes through South-western Siberia and Northern Turkestan on migration to winter in the Caspian Sea. Elsewhere its occurrence is only accidental.

Very little is known of the nesting-habits of the Red-breasted Goose, which appears to be a late breeder. Middendorf obtained slightly incubated eggs on the Bogan river on the 6th of July, and the egg which is figured in the present work was obtained on the 1st of July, about two hundred miles due east of that locality. It measures 2·7 inches in length and 1·8 inch in breadth. The colour is creamy-white, with obscure traces of an underlying green shell; the surface is rather smooth but not glossy, and the shell is very fragile. Middendorf's eggs varied in length from 2·8 to 2·7 inches, and in breadth from 1·76 to 1·73 inch.

## THE CANADA GOOSE.

*(Anser canadensis.)* †

PLATE 12, FIG. 2.

The present species is an inhabitant of North America, and is so often kept in confinement, that there can be little doubt that the specimens, which are occasionally shot, have escaped from captivity. The eggs are dull white, and measure 3·65 to 3·35 inches in length, and 2·3 inches in breadth.

\* *Bernicla ruficollis*—Saunders, Manual, p. 395; Sharpe, Handb., II., p. 243.

† *Bernicla canadensis*—Saunders, Manual, p. 400, note. *Branta canadensis*—Salvadori, Cat. B., Brit. Mus., xxvii., p. 112.

## THE EGYPTIAN GOOSE.

*(Anser aegyptiacus.)\**

PLATE 12, FIG. 1.

This African species is sometimes shot wild, but there is no evidence that the examples in question have really migrated to our shores, and it is probable that, in every case, the specimens thus secured have escaped from confinement. The habitat of the species, according to Count Salvadori, is Africa generally to Palestine.

The eggs are dull white, and measure in length from 3·05 to 2·8 inches, and in breadth from 2·05 to 1·95 inch.

## THE COMMON SHELDRAKE.

*(Tadorna cornuta.)†*

PLATE 16, FIG. 6.

The Sheldrake or Shield-duck, is variously known as the Burrow-duck, Shield-drake, Sheld-drake, Bargander and Perennet in different parts of the United Kingdom. It is a resident in Great Britain, and is found in Europe and Northern Asia, from the Atlantic to the Pacific, breeding throughout the greater part of its range, and wandering south in winter.

So far as is known, the Sheldrake never breeds in the open, but always in a burrow, generally in that of a rabbit, though sometimes the birds excavate a burrow for themselves.

The eggs are laid from the end of April to the beginning of June. Seven to twelve is the ordinary number, but occasionally as many as sixteen are laid. They are creamy-white in colour, somewhat smooth in texture, and have very little gloss. They vary in length from 2·75 to 2·5 inches, and in breadth from 2·0 to 1·9 inch.

## THE RUDDY SHELDRAKE.

*(Tadorna rutila.)†*

PLATE 16, FIG. 5.

The present species is generally regarded as a rare visitor to Great Britain, but in the summer of 1892 a considerable immi-

\* *Chenalofex aegyptiaca*—Saunders, Manual, p. 400; Sharpe, Handb., II., p. 257.

† *Tadorna tadorna*—Sharpe, Handb., II., p. 253.

‡ *Tadorna casarca*—Saunders, Manual, p. 409. *Casarca casarca*—Sharpe, Handb., II., p. 263.

gration took place. The European range of the Ruddy Sheldrake does not extend nearly so far north as that of the Common Sheldrake. It is resident in the basins of the Mediterranean and Black Seas, and to the east of the Ural Mountains. It breeds throughout Persia, Turkestan, and Southern Siberia, but not further north than Lake Baikal and the Valley of the Amoor.

The Ruddy Sheldrake sometimes nests in a burrow, frequently in a hollow tree or in a hole in a fallen log. Salvin in Algeria, and Tristram in Palestine, found it nesting in the crevices of the cliffs, and Dybowski took the eggs in Dauria out of deserted nests of Birds of Prey. It is a somewhat early breeder. The eggs, sixteen to eighteen in number, are creamy-white in colour, and are absolutely indistinguishable from those of the Common Sheldrake. They vary in length from 2·78 to 2·6 inches, and in breadth from 2·0 to 1·7 inch.

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### THE GADWALL.

(*Anas strepera*).\*

PLATE 14, FIG. 3.

The Gadwall is a winter visitor to the United Kingdom, but breeds regularly in some parts of Norfolk. It is a circumpolar Duck, but its range does not extend into the Arctic Regions, though a few breed as far north as Iceland. It nests throughout temperate Europe, Asia, and North America, wintering to the southward. The nest is placed under some convenient bush, or beneath the shelter of a tuft of coarse grass or rushes, at no great distance from the water's edge. It is a mere depression in the ground, probably scratched out by the female, and lined with a little dry grass, bits of reed or rush, and, in some cases, with a few dead leaves. The eggs are laid in May, frequently not before the end of the month. They are from eight to twelve in number, smooth in texture, and slightly glossy. They vary in length from 2·15 to 1·95 inch, and in breadth from 1·55 to 1·4 inch. In colour they do not differ from those of the Wigeon, being generally buffish-white or cream-colour, though Naumann says that they are slightly tinged with olive—probably both types occur.

\* *Chaullelasmus streperus*—Sharpe, Handb., II., p. 273.

## THE PINTAIL.

*(Anas acuta.)*\*

PLATE 13, FIG. 3.

The Pintail is best known as a winter visitor to the British Islands, but there can be scarcely any doubt that a few remain to breed. It is a circumpolar bird, breeding in great numbers throughout the Arctic Regions as far north as lat. 70°. South of lat. 60° it breeds much more sparingly, but its eggs are occasionally taken in North Germany, Russia, and Siberia, as far south as lat. 50°, and, it is said, in the Caucasus. It migrates both along the coasts and the great river valleys to Persia, India, and Ceylon. On the American continent it breeds in the same latitudes as in the Old World, and is found in winter throughout the Southern States, Mexico, and Central America.

The nests of the Pintail found by me in the Petchora Valley were placed in the grass among the shrubs in dry places, generally at some distance from the water; they were deep, and well lined with dead grass and sedge, and, when the full clutch was laid, contained plenty of down. I took the first eggs on the 5th of June. In Germany, where a few Pintails remain to breed, eggs may be found early in May. Seven to nine, or sometimes ten, is the full number, but where the first eggs are taken, the second clutch only contains five or six eggs. They are pale, buffish-green in colour, and vary in length from 2·25 to 2·0 inches, and in breadth from 1·6 to 1·5 inch. It is impossible to distinguish them from eggs of the Long-tailed Duck, or from small and exceptionally green eggs of the Mallard.

## THE WIGEON.

*(Anas penelope.)*†

PLATE 13, FIG. 4.

The Wigeon is one of the best known and most plentiful of the Ducks that regularly visit the British Islands in winter. It leaves for the north in April, but a few remain behind to breed,

\* *Dafila acuta*—Saunders, Manual, p. 417; Sharpe, Handb., II., p. 287.

† *Mareca penelope*—Saunders, Manual, p. 425; Sharpe, Handb., II., p. 277.

and have been observed doing so in the shires of Ross and Sutherland, in Cromarty, and in the Orkneys and Shetlands.

The Wigeon is a very common Arctic species of Duck, confined to the Old World during the breeding-season. South of lat.  $60^{\circ}$  it is only found breeding under exceptional circumstances ; but I have taken its eggs in the lower valley of the Danube, and nests have been found in France, Germany, Denmark, Bohemia, and in the Baikal Basin. The nests are well concealed, generally close to the margin of a lake or a pond, and are placed in the long grass and sedge, often under a willow bush. Like those of most Ducks which breed in the Arctic Region, they are very deep, well lined with dead grass and sedge, and, when the full clutch is laid, contain a quantity of down with which the eggs are covered when the female leaves the nest. The down of the Wigeon may very easily be recognised by its sooty-brown colour, and by the distinctness of the white tips—an important point in discriminating the eggs from those of the White-eyed Pochard and Gadwall, which are of about the same size and nearly the same colour, though much less of a creamy-white, and more inclined to dull buffish-white, whilst the down which surrounds them is darker, greyer, and almost without pale tips.

The eggs of the Wigeon vary in number from seven to ten, in rare instances to twelve ; they are buffish-white or cream colour, and never show the slightest trace of olive. They vary in length from 2·3 to 1·9 inch, and in breadth from 1·6 to 1·3 inch.

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### THE AMERICAN WIGEON.

(*Anas americana*.)\*

The American Wigeon belongs to the list of doubtful British birds. There is reasonable ground to suppose that it has been shot more than once in our islands, but it is impossible to prove that the birds had not escaped from confinement. It breeds in Alaska and in British America as far north as lat.  $70^{\circ}$ , and its eggs have occasionally been taken in the extreme north of the United States. It scarcely differs in its habits from its Old World ally, and lays eggs of the same creamy-white colour, which vary in length from 2·25 to 2·1 inches and in breadth from 1·55 to 1·45 inch.

\* *Mareca americana*—Saunders, Manual, p. 427; Sharpe, Handb., II., p. 281.

## THE COMMON TEAL.

*(Anas crecca.)\**

PLATE 16, FIG. 3.

The Teal is a local resident throughout the British Islands, and breeds sparingly in suitable localities in almost every part, but is more common in the northern districts than in the southern. It is an Arctic and semi-Arctic Duck, confined to the Old World, except that it is an accidental visitor on migration to Greenland and the Atlantic coasts of North America. It is a regular summer visitor to Iceland, and passes the Faroes on migration. It breeds in great numbers throughout Northern Europe and Asia as far north as lat. 70°.

The nest resembles that of most other Ducks, and contains from eight to ten buffish-white or cream-coloured eggs, in very rare instances with the faintest possible tinge of green, which vary in length from 1·8 to 1·6 inch, and in breadth from 1·4 to 1·3 inch. As a rule they are slightly smaller than those of the Garganey; but they can only be distinguished with certainty by the down, which is small and without any white tips, and scarcely distinguishable from that of the Long-tailed Duck, except that it is slightly darker and not of so warm a brown.

## THE AMERICAN TEAL.

*(Anas carolinensis.)†*

The American Teal is often called the American Green-winged Teal, to distinguish it from the so-called American Blue-winged Teal, which is not a Teal but a Garganey. It is admitted into the British list because it has occurred twice, and possibly three times, in our islands. The distribution of the American Teal on that continent is very similar to that of the Common Teal in Europe and Asia. Its principal breeding-grounds are in the Arctic Regions from Alaska to Greenland, whence it migrates in autumn to winter in the Southern States, Mexico, Central America, and the West Indies. The habits of the American Teal

\* *Querquedula crecca*—Saunders, Manual, p. 419. *Nettion crecca*—Sharpe, Handb., II., p. 283.

† *Querquedula carolinensis*—Saunders, Manual, p. 421. *Nettion carolinense*—Sharpe, Handb., II., p. 286.

are described as precisely the same as those of our birds. It chooses the same localities, both in its winter quarters and at its breeding-grounds. It is not known that the nest or eggs differ in any way. The latter are creamy-white in colour, and vary in size from 1·85 by 1·35 inch to 1·75 by 1·3 inch.

### THE GARGANEY.

(*Anas circia*).<sup>\*</sup>

PLATE 16, FIG. 4.

The Garganey is a somewhat scarce and very local visitor to the British Islands on migration, breeding sparingly in one or two favoured districts. It is a rare visitor to Scotland and to Ireland ; but it would doubtless breed in the latter country if not molested. It nests regularly in Norfolk, where it is thought to be increasing in numbers, and it formerly bred in the fens of Cambridgeshire and Huntingdonshire, before they were drained. It is not improbable that it may nest in several localities in the southern counties of England, where it is known as a rare spring visitor ; but it breeds in some numbers in Denmark, Sweden, the Baltic Provinces, Finland, and North-west Russia as far as Archangel. In Siberia it appears to be confined to the extreme south. It breeds more or less abundantly throughout Southern Europe, the Caucasus, and Turkestan, and a few are said occasionally to remain to nest in India, Burmah, and China. The first eggs are seldom laid before May. The nest is placed in a variety of positions, hidden under a bush or in thick grass or sedge, far away from water, in the forest, or among the corn—anywhere and everywhere where a hidden retreat can be found. It is made very deep, and is lined with dead grass and leaves, to which is afterwards added plenty of down. The number of eggs varies from eight to twelve, or sometimes fourteen. They are buffish-white or cream-colour. They vary in length from 1·9 to 1·7 inch, and in breadth from 1·4 to 1·3 inch. It is impossible to distinguish eggs of the Garganey from those of the Teal, but, fortunately for the egg-collector, the down of the Garganey cannot easily be mistaken for that of any other British Duck ;

\* *Querquedula circia*—Saunders, Manual, p. 423. *Querquedula querquedula*—Sharpe, Handb., II., p. 291.

it is about the size of that of the Teal, but not of so warm a brown in colour, and its most striking characteristic is the peculiar long white tips, which are much more conspicuous even than those on the down of the Wigeon and Shoveller.

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### THE BLUE-WINGED TEAL.

(*Anas discors*).\*)

Out of four supposed occurrences of this Duck in Great Britain, only one record, from Dumfries, is believed to be authentic. It is an inhabitant of North America, and its eggs do not differ from those of the Garganey.

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### THE SHOVELLER.

(*Anas clypeata*).†

PLATE 13, FIG. 2.

The Shoveller is a well-known winter visitor to the British Islands, many remaining behind in spring to breed in suitable localities. It is a circumpolar bird, breeding in the Arctic Regions of both hemispheres about as far north as lat. 68°; south of lat. 50° it breeds more sparingly, but there are probably few parts of its winter range in which a few do not remain to nest. On the American continent it is rarely found breeding below lat. 50°, and it winters in the Southern States, the West Indies, Mexico, and Central America.

The Shoveller is a somewhat late breeder. Eggs are seldom found in this country before the middle of May, and in high latitudes not until the middle of June. The nest is generally found in the open, well concealed in long grass or heath, and is very skilfully made. The depression in which it is placed, if deep, is only slenderly lined with dead grass or sedge; but if shallow, a considerable amount of material is collected to give the nest the required depth. The eggs are pale buffish-white, almost of the same colour as those of the Garganey, but with the faintest possible trace of olive. They vary in length from 2·2 inches to 1·8 inch, and in breadth from 1·6 to 1·4 inch. The down, like that of nearly all Ducks, has pale centres, but, unlike that of the Long-

\* *Querquedula discors*—Saunders, Manual, p. 422; Sharpe, Handb., II., p. 294.

† *Spatula clypeata*—Saunders, Manual, p. 415; Sharpe, Handb., II., p. 265.

tailed Duck and Mallard, it has very conspicuous white tips, quite as conspicuous as in the down of the Wigeon, more so than in that of the Pintail, but not so much so as in that of the Garganey.

### THE MALLARD.

(*Anas boscas.*)

PLATE 13, FIG. 6.

The Mallard is generally distributed throughout the British Islands, breeding in all suitable localities, including the Hebrides, the Orkneys, Shetlands, and Ireland. It is a circumpolar bird, though it is rarely, if ever, found north of the Arctic Circle. It breeds more or less abundantly throughout the Palaearctic and Nearctic Regions, but in Southern Europe, North Africa, and the Southern States of America, it is principally known as a winter visitor.

The nest is seldom placed close to water, and has even been found in deserted nests of Rooks and Crows. It is occasionally found in hollow tree-stumps, and sometimes on the tops of pollard willows. When on the ground it is a carelessly constructed mass of dead grass and leaves, deep, and carefully concealed amongst long grass or under bushes. The eggs vary in number from eight to twelve, and it is said that as many as sixteen are occasionally found. They vary in colour from greenish-buff to pale buffish-green, in length from 2·5 to 2·2 inches, and in breadth from 1·7 to 1·5 inch. Small examples are very liable to be mistaken for eggs of the Pintail and Long-tailed Duck; but the down is much larger than that of the Long-tailed Duck, and has very inconspicuous white tips, whilst that of the Pintail has the latter conspicuous; it is almost neutral grey in colour, occasionally with a slight tinge of brown.

### THE RED-CRESTED POCHARD.

(*Fuligula rufina.*)\*

PLATE 14, FIG. 6.

About a score of examples have been procured in Great Britain, and perhaps as many more observed. One has been obtained in Scotland, one in Wales, and one in Ireland. The Red-crested

\* *Netta rufina*—Sharpe, Handb., III., p. 2.

Pochard has a very limited range, confined to the south-west portion of the Palaearctic Region. North of about lat.  $50^{\circ}$  it is an accidental visitor to Pomerania and the Baltic Provinces, Poland, Denmark, Belgium, and the north of France. Its principal habitat is in Spain, the basins of the Mediterranean, Black, and Caspian Seas, and Russian Turkestan, migrating southwards to Afghanistan to winter throughout India. Dr. Baldamus found the nests built amongst the rushes and flags on a small island in a pond. The foundation was made of decayed stems of rushes or dead leaves, on which a warm bed of down was placed as the full complement of the eggs are completed. The eggs of the Red-crested Pochard are usually eight or nine in number, and resemble those of the Pochard, but are paler and greener. They vary in length from 2·35 to 2·2 inches, and in breadth from 1·7 to 1·58 inch. They almost resemble in colour pale eggs of the Golden-eye; but there can be no doubt that the down is dark and quite unlike that of the hole-nesting species.

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### THE WHITE-EYED POCHARD.

(*Fuligula nyroca*.)\*

PLATE 14, FIG. 4.

The White-eyed Pochard, or Ferruginous Duck, as it is sometimes called, is a somewhat rare straggler on migration to the British Islands, occurring most frequently in the eastern counties of England. In Europe it is not known to breed north of the Baltic, and only occurs accidentally in Denmark and the Baltic Provinces. In Russia the northern limit of its range appears to be Moscow, Kasan, and Ekaterinburg; but, in the valley of the Ob, Finsch says that he undoubtedly saw it as far north as the Arctic circle. No other traveller has recorded it from Siberia, nor did Prjevalsky meet with it in Mongolia; but since Abbé David records its abundance in winter in North China, and Blakiston and Pryer have sent examples from Japan, there can be no doubt that it must breed either in the valley of the Amoor or in Mongolia. It is a summer visitor to Central Europe south of the Baltic, but is a resident in the basin of the Mediterranean, though it has not been found breeding in Egypt.

\* *Nyroca nyroca*—Sharpe, Handb., III., p. 9.

The nest is generally placed amongst aquatic vegetation, sometimes on the banks, and sometimes floating on the stagnant water, supported by masses of fallen plants. At other times it is placed on a tussock of sedge.

The White-eyed Pochard generally lays ten eggs, but the clutches vary from nine to fourteen. The colour of the eggs is a pale creamy-brown, like that of coffee with plenty of milk in it, and occasionally there is an almost imperceptible shade of green. They vary in length from 2·2 to 1·9 inches, and in breadth from 1·54 to 1·4 inch. The only eggs with which they are likely to be confused are those of the Gadwall, the Wigeon, the Harlequin, and the Smew; but the down of the three latter species is very different, that of the White-eyed Pochard being very dark brown, and having no perceptible white tips. Its eggs may generally be distinguished by the relatively greater weight of the shell. Eggs selected as near as possible of the same dimensions (two inches by an inch and a half) weigh respectively:—of the White-eyed Pochard, 63 grains; Smew, 55 grains; Gadwall, 50 grains; and Wigeon, 45 grains.

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### THE POCHARD.

(*Fuligula ferina*.)\*

PLATE 14, FIG. 5.

The Pochard is one of the most abundant species of Ducks on the coasts of Scotland, including the Orkneys, Shetlands, and the Hebrides, and there can be little doubt that it breeds in that country. In England it is equally well known, and its nest has been taken in many localities; it also nests in certain counties of Ireland. In Russia it breeds as far north as Lake Ladoga and as far south as the Caucasus. This wide range apparently contracts both to the east and to the west, until its boundaries meet in West Europe in England and in West Siberia at Lake Baikal. Its winter range in Asia is very extensive, reaching from Asia Minor through Persia, Afghanistan, India, China, and occasionally to Japan.

The nest of the Pochard is merely a hollow lined with dead grass and sedge, and, after the bird has begun to sit, with down.

\* *Nyroca ferina*—Sharpe, Handb. III., p. 5.

Ten is the usual number of eggs; but seven or eight are often found, and sometimes as many as thirteen. They vary in length from 2·45 to 2·2 inches, and in breadth from 1·75 to 1·65 inch. They scarcely differ in colour from eggs of the Scaup, Tufted Duck, and Pheasant. Small eggs of the Pochard are indistinguishable from large eggs of the Tufted Duck. The down is almost of the same size and colour as that of the Mallard, greyish-brown, without white tips, but with obscure white centres; it is not nearly so black as that of the Tufted Duck.

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### THE SCAUP.

(*Fuligula marila*.)

PLATE 14, FIG. 2.

The Scaup is a regular and common winter visitor to the British Islands, where it is widely distributed on most parts of the coast. It has been observed throughout the summer (especially in the Shetlands), but only one instance of its having nested in this country is on record. It is a circumpolar bird, breeding throughout the Arctic Regions as far north as lat. 70°, and in a similar climate above the limits of forest-growth on the mountains of Southern Scandinavia. On the American continent it is not known to breed south of the Hudson's Bay Territory. The Scaup generally selects some sloping bank, not far from water, but high enough from the edge to be secure from floods, on which to build her nest. It is well concealed, and seldom to be found except by accidentally frightening off the sitting Duck. Sometimes it is placed under the cover of a willow or a juniper bush, but more often in the open, carefully hidden in some hole in the rough ground, surrounded by cranberries or bilberries struggling amidst tufts of sedge or cotton-grass. The hole is lined with dry broken sedge, and, as the eggs are laid, an accumulation of down is formed sufficient to keep them warm when the Duck leaves them to feed.

The eggs of the Scaup are from six to nine in number, pale greenish grey, almost the same colour as the typical egg of the Pheasant. They vary in length from 2·7 to 2·4 inches, and in breadth from 1·75 to 1·65 inch. The down is as large as that of the Mallard, dark brown, without pale tips, but with obscure pale

centres. Small eggs of the Scaup are indistinguishable from large eggs of the Pochard, but the down of the latter bird is of a greyer brown.

### THE TUFTED DUCK.

(*Fuligula cristata*).)\*

PLATE 13, FIG. 5.

The Tufted Duck is most abundant in Sherwood Forest, on the chain of little lakes which lie between Newstead Abbey and Clumber Park, in Nottinghamshire, but breeds in some numbers in the meres of South Norfolk. It has also been recorded as occasionally nesting in Sussex, Hertfordshire, Shropshire, Yorkshire, and Northumberland, as well as in certain counties in Scotland and Ireland. On the continent the range of the Tufted Duck is very extensive, reaching from the Atlantic to the Pacific, but it appears to be confined to the Old World, though it is said to have occurred in Greenland. North of the Arctic Circle it is very rare, but further south it breeds in considerable numbers in most suitable localities as far as lat.  $50^{\circ}$ . In Norway it has been obtained as far north as lat.  $70^{\circ}$ , in the valley of the Yenisei, in lat.  $68^{\circ}$ , and on the Pacific coast in lat.  $62^{\circ}$ .

The Tufted Duck is a late breeder; the eggs are seldom laid before the end of May, or, in late seasons, the beginning of June, but in Norfolk they are at least a fortnight earlier.

The nest is sometimes placed under a bush by the side of a pond, sometimes amongst the rushes, and often in the centre of the tufts, tussocks, or hassocks of sedge, which grow to a height of two or three feet above the water. It is a mere hollow lined with dry sedge or grass, and after the full complement of eggs are laid, and the duck has begun to sit, with down. The number of eggs is usually ten or twelve, but sometimes only eight are laid, and occasionally as many as thirteen. They vary in length from 2·4 to 2·15 inches, and in breadth from 1·65 to 1·55 inch. They scarcely differ in colour from those of the Scaup, Pochard, and Pheasant. The down is greyish-black, with very obscure white centres, but without white tips; it is both smaller and darker than that of the Pochard, an important point of identification, as

\* *Fuligula fuligula*—Sharpe, Handb., III., p. 12.

small eggs of that species are indistinguishable from large eggs of the Tufted Duck.

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### THE BUFFEL-HEADED DUCK.

(*Fuligula albeola*).\*)

The Buffel-headed Duck is only a rare accidental visitor to Great Britain. It breeds throughout Arctic America up to the limit of forest-growth, wintering in the United States, the West Indies, and on the coasts of Mexico. It has once been obtained in Greenland, and occasionally visits the Bermudas, but there is no evidence that it has ever occurred on any part of the continent of Europe.

It breeds in hollow trees, sometimes as high as twenty feet from the ground. Like the Golden-eye it makes no nest, but lays its eggs on the rotten wood, with abundance of down plucked from its own breast.

The eggs of the Buffel-headed Duck are from six to ten in number, pale greenish-grey in colour, and vary in length from 2·05 to 1·95 inch, and in breadth from 1·5 to 1·35 inch. They very closely resemble eggs of the Gadwall, but it is probable that the down is quite different from that of the latter bird. The Buffel-headed Duck, breeding in hollow trees, has doubtless pale grey down like that of the Golden-eye.

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### THE GOLDEN-EYE.

(*Fuligula clangula*).†

PLATE 13, FIG. 1.

The Golden-eye is a common and regular winter visitor to the British Islands. It is a circumpolar bird, breeding in the Arctic and semi-Arctic regions of both continents up to the limits of forest-growth. In Europe the southern limit of its breeding-range appears to be North Germany, Pomerania, and the Caucasus, whilst in Asia it breeds throughout Siberia. It is said to be a resident on Lake Baikal; but most of the Siberian birds migrate to Mongolia, where a few remain to winter, the rest passing on to

\* *Clangula albeola*—Saunders, Manual, p. 440. *Charitonetta albeola*—Sharpe, Handb., III., p. 24.

† *Clangula glaucion*—Saunders, Manual, p. 439. *Clangula clangula*—Sharpe, Handb. III., p. 20.



King Eider.



Steller's Duck.



Eider Duck.



Eider Duck.



Brent Goose.

Barnacle Goose.

Pink-footed Goose.

White-fronted Goose.





Red-breasted Goose.



Flamingo.



Snow Goose.



Egyptian Goose.

Canada Goose.

Lesser White-fronted Goose.



China and Japan. On the American continent it breeds in Alaska and British North America, and winters in the Southern States, Mexico and Cuba.

The most remarkable fact in the history of the Golden-eye is its habit of occasionally perching on the bare branch of some forest tree, and of discovering a hole in the trunk, sometimes quite a small one, but leading to a hollow inside, where it deposits eggs on the rotten chips of wood without any nest, like a Wood-pecker. These breeding-places are sometimes a considerable distance from the ground. Where a hollow tree-trunk cannot be found a hollow branch is often selected, and some parts of Germany are far too well farmed to admit of the existence of hollow trees. The Golden-eye, according to Naumann, breeds on the tops of pollard willows or even amongst the reeds on the ground. The down, like that of the Smew or the Sheldrakes, and other Ducks which breed in hollow trees or holes in the ground where it cannot be seen, is much paler than that of Ducks generally, being a delicate pale lavender-grey with very obscure paler centres. The eggs vary from ten to nineteen, but thirteen is a not unusual number. They are bright greyish-green, smooth in texture and with considerable gloss. They vary in length from 2·4 to 2·1 inches, and in breadth from 1·75 to 1·55 inch. Exceptionally grey eggs of the Golden-eye can scarcely be distinguished from exceptionally green eggs of the Pochard; but the difference in the colour of the down makes confusion between them impossible.

### THE HARLEQUIN DUCK.

(*Fuligula histrionica*.)\*

PLATE 15, FIG. 1.

Several specimens of the Harlequin Duck have been obtained in Britain. It is almost a circumpolar species, and is a resident in Iceland, and a summer visitor to Greenland south of the Arctic Circle; thence its breeding-range extends westward between lat. 45° and 65° across North America. In Eastern Siberia its breeding-range extends from the Stanovoi Mountains, through the Valley of the Amoor as far west as Lake Baikal. The only evidence of

\* *Cosmonetta histrionica*—Saunders, Manual, p. 445; Sharpe, Handb., III., p. 31.

its breeding west of Lake Baikal in the Old World is that of Sabanäeff, who states that it nests in the Ural and in the government of Yaroslav.

The eggs of the Harlequin are from eight to ten in number, creamy-white, smooth in texture, and glossy. They vary in length from 2·4 to 2·1 inches, and in breadth from 1·75 to 1·60 inch. The down of the Harlequin Duck taken from the nest appears to be undescribed, but, to judge from that on the body of the bird, it is a darkish-grey, much paler than that of the Gadwall. The eggs cannot readily be confused with those of any other British bird, as they are always larger and heavier than those of the Wigeon and Smew.

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### THE LONG-TAILED DUCK.

(*Fuligula glacialis*).\*

PLATE 15, FIG. 3.

The Long-tailed Duck is a tolerably common winter visitor to the British Islands, but is most abundant in the northern portions. It appears more or less irregularly off the south and east coast of England, but on the west coast of Scotland and on the Hebrides is much more frequent.

No instance of the breeding of this Duck in our islands has been authenticated, but it has been seen in the Shetland Islands during the summer. It is a circumpolar bird, breeding above the limit of forest-growth in the Arctic Regions of both hemispheres as far north as land extends, as well as in Greenland, Iceland, Spitsbergen, and Novaya Zemlya.

Two empty nests, containing down only, which I found in the Petchora Valley, were mere hollows in the grass, containing no other lining than down, and were both placed amongst the debris left by a recent flood, doubtless the high-water mark of the river when the ice broke up, on the shores of the inland sea where we found the nests of the Little Stint.

The down of the Long-tailed Duck is small, like that of the Teal, and equally devoid of white tips, but it is much browner; its size prevents any confusion with that of the Pintail or

\* *Harelda glacialis*—Saunders, Manual, p. 443; Sharpe, Handb., III., p. 26.

Mallard, though the eggs of these species resemble those of the Long-tailed Duck very closely. The eggs range in colour from pale buffish-green to greenish-buff, and vary in length from 2·2 to 2·0 inches, and in breadth from 1·6 to 1·45 inch.

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### THE BLACK SCOTER.

(*Fuligula nigra*.)\*

PLATE 14, FIG. 1.

A few pairs of the Common or Black Scoter breed in Caithness, Sutherland and North-west Ross-shire, and it has even been supposed to nest as far south as Sussex.

The breeding-range of the European form of the Common Scoter extends from Iceland, through Northern Europe and West Siberia, to the Taimur Peninsula. It is a more northern species than the Velvet Scoter, breeding from lat. 74° down to the Arctic Circle, below which it is rarely found, except at a high elevation. In the valley of the Petchora we never procured the nest on the islands in the delta, but either near a lake on the tundra or on the sloping river-bank, concealed amongst the dwarf birch or willow-scrub. The nest was a mere hollow scraped in the ground, lined with a few broken twigs, dead leaves, and dry grass, but containing plenty of down. The eggs, usually eight, but sometimes nine in number, are pale greyish-buff, considerably darker than those of the Wigeon, smooth in grain, but having little gloss. They vary in length from 2·65 to 2·4 inches, and in breadth from 1·8 to 1·75 inch. The down of the Black Scoter very closely resembles that of the Mallard, but is a trifle greyer; it is somewhat smaller than that of the Velvet Scoter, and in the latter the white centres are not quite so conspicuous. The eggs appear to be always smaller than those of the Velvet Scoter, and generally smaller than those of the Goosander; they are not always absolutely distinguishable from the latter, but in nine cases out of ten they may be identified by their weight. I have never met with blown eggs of the Common Scoter that weighed quite so much as a quarter of an ounce, and of the eggs of the Velvet Scoter and Goosander I have only met with one

\* *Oedemia nigra*—Saunders, Manual, p. 453; Sharpe, Handb., III., p. 43.

example of each which did not weigh more than a quarter of an ounce. The eggs of the Goosander may, however, always be identified by the paleness of the down in the nest.

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### THE VELVET SCOTER.

(*Fuligula fusca.*)\*

PLATE 15, FIG. 5.

The Velvet Scoter is a species which has been said to breed in Scotland, but no absolute proof of the fact has yet been obtained. The breeding range of the species extends from the Atlantic to the Pacific. It has not been recorded from Iceland, but has been known to wander on migration as far as the Faroes and Greenland in the west, and Alaska in the east. It ranges as far north as lat.  $69^{\circ}$  both in Europe and in Asia, and in moorland districts as far south as the Baltic Provinces in Europe, and to lat.  $55^{\circ}$  in South-east Siberia.

The nest is a mere depression in the ground, lined with any suitable material that may be convenient, and provided with abundance of down. The eggs of the Velvet Scoter are usually eight, but sometimes nine in number, and are pale greyish-buff, smooth in grain, but with little gloss. They vary in length from 2·9 to 2·7 inches, and in breadth from 1·95 to 1·85 inch. The down is rather larger than that of the Black Scoter, slightly browner in colour, but the pale centres are not so distinct. The eggs of the Goosander overlap in size, but the colour of the down is always an easy means of distinction.

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### THE SURF-SCOTER.

(*Fuligula perspicillata.*)†

PLATE 15, FIG. 2.

The Surf-Scoter is a rare straggler to the British Islands in winter, but has been obtained as far south as the Scilly Isles. It is a Nearctic species, breeding from the Pacific to the Atlantic, from lat.  $70^{\circ}$  down to about lat.  $50^{\circ}$ , and wintering on the Pacific coast as far south as Lower California, the shores of the Great

\* *Ædemia fusca*—Saunders, Manual, p. 455; Sharpe, Handb., III., p. 46.

† *Ædemia perspicillata*—Saunders, Manual, p. 457; Sharpe, Handb., III., p. 48.

Lakes, and the Atlantic coast as far south as Jamaica. It is a rare visitor to Greenland; and though it has not yet been obtained in Iceland, it has occurred accidentally on the Bermudas, the Faroes, on the coasts of Scandinavia, Heligoland, Germany, France, and in Switzerland.

Audubon, who found the Surf-Scoter breeding in Labrador, gives some particulars of its nesting habits. He discovered a nest in a large freshwater marsh, built in a tuft of grass, and about four inches above the surrounding ground. It was made of dead and decaying weeds, the inner cavity, which was about six inches in diameter, being surrounded with down plucked from the female.

The eggs of the Surf-Scoter are from five to eight in number. They are pale greyish-buff when newly laid, with a slight pinkish tinge, smooth in texture, and with little gloss. The eggs obtained by MacFarlane vary in length from 2·3 to 2·25 inches, and in breadth from 1·75 to 1·6 inch; they are smaller in size than those of the Black Scoter and the Velvet Scoter, but otherwise closely resemble them. The down of the Surf-Scoter does not appear to have been exactly described.

### STELLER'S EIDER DUCK.

(*Somateria stelleri*.)\*

PLATE 9, FIG. 2.

Steller's Eider (the Western Duck of Pennant) has very slender claims to be regarded as a British bird; but a stray individual occasionally wanders westward from Russian Lapland as far as our shores, and two such occurrences are on record, one in 1830 and the second in 1845. This bird has a limited range, being only known to breed on the shores of the Arctic Ocean in North Russia and Siberia, and on the islands in Bering Sea.

The nests found by Middendorff were very deep in moss, and contained from seven to nine fresh eggs and abundance of down. The eggs obtained by the same traveller are pale buffish-green, and vary in length from 2·5 to 2·2 inches, and in breadth from 1·6 to 1·5 inch. Small eggs of Steller's Eider are indistinguishable from large eggs of the Pintail.

\* *Henicorhina stelleri*—Sharpe, Handb., III., p. 34.

## THE COMMON EIDER DUCK.

*(Somateria mollissima.)*

PLATE 9, FIGS. 3, 4.

The Eider breeds on the Farne Islands, very sparingly in the Firth of Forth, in the Orkneys and Shetlands, and in suitable localities throughout the islands off the west coast of Scotland, extending to those of the St. Kilda group. The Eider appears to be an Atlantic species, breeding as far as the shores of the Kara Sea, and as far west as the Coppermine River, as far south as Labrador and Newfoundland, and on the coasts of Greenland up to lat.  $81\frac{1}{2}^{\circ}$ . It is specially abundant in Iceland, the Faroes, Spitsbergen, and Franz-Josef Land, and breeds in various suitable localities on the islands off the coast of Norway and Denmark.

The nest of the Eider is often a rather substantial structure, made of dry grass, heather, bits of seaweed, and stalks of campion and other marine herbage. The lining of down is gradually added when the full complement of eggs is almost completed. Nests that I examined on the Farne Islands were made principally of dead and living stalks of the sea-campion and a little grass, lined with the down from the female. Sometimes the nest is very slight, being little more than a hollow in the ground or amongst the rocks, lined with a profusion of down and a few feathers.

The eggs of the Common Eider are from five to eight in number, and vary in colour from creamy-grey to greyish-green. They range in length from 3·3 to 2·8 inches, and in breadth from 2·05 to 1·9 inch. The down varies from greyish-brown to brownish-grey, with obscure pale centres. The eggs of the King-Eider may readily be distinguished by their smaller size.

## THE KING-EIDER.

*(Somateria spectabilis.)*

PLATE 9, FIG. 1.

Although it is possible that the King-Eider may breed on one or two islands off the British coast, in the absence of conclusive evidence that such is the case, it can only be regarded as a rare and accidental straggler to our shores. It is circumpolar in its

range, nesting probably as far as land extends. It appears to breed on all the coasts of Greenland, Spitsbergen, Franz-Josef Land, and Novaya Zemlya, and the islands off the north coast of Siberia. On the American continent it breeds throughout the coasts of the Arctic Ocean, occasionally straying in winter to Labrador, New Jersey, the Great Lakes, and California.

In its mode of nesting the King-Eider closely resembles the Common Eider. Middendorff says that he found a nest containing fresh eggs on the 7th of July; and early in August he saw many females swimming down the river with their young broods. Colonel Feilden found these Ducks common at Floeberg Beach in lat.  $82\frac{1}{2}^{\circ}$ ; they arrived in flocks at the end of June, most of which were killed by the hunters, but the survivors began to nest in suitable localities on the coast, and fresh eggs were obtained from the ninth to the middle of July. Mr. MacFarlane found the King-Eider breeding on the Arctic coast near Franklin Bay, and he describes the nest as a mere depression in the ground fifty yards from the beach, lined only with down.

The eggs of the King-Eider are usually six in number, and vary much less in colour than those of the Common Eider, being pale greenish-grey. They vary in length from 2·6 to 2·45 inches, and in breadth from 1·85 to 1·7 inch. They can very easily be confused with those of the Red-breasted Merganser, but may be detected by their greener colour. The down of the King-Eider very closely resembles that of the Common Eider.

### THE GOOSANDER.

(*Mergus merganser*.)\*

PLATE 15, FIG. 6.

The Goosander is a tolerably common winter visitor to the British Islands. A few pairs remain to breed in the Highlands, and Mr. Harvie-Brown has had the eggs and down sent to him from North Perthshire, obtained from a hollow tree; and other evidence, not quite so conclusive, is to be found in Booth's "Rough Notes" and elsewhere.

The Goosander is a resident in Iceland, but is an accidental straggler to the Faroes. It breeds throughout Scandinavia,

\* *Merganser merganser*—Sharpe, Handb., III., p. 58.

but is only a summer visitor north of the Arctic Circle. Further to the east it is a summer visitor to Pomerania, and across Russia and Siberia as far as the Arctic Circle, and as far south as lat. 50°.

The pale grey down of the Goosander points it out at once as one of the few species of Ducks which breed in holes, those which breed in the open having always dark coloured down. The favourite nesting-place of the Goosander is in a hollow tree-trunk ; but in localities where such sites are not plentiful it shows considerable fertility of resource and capability of adaptation to circumstances in choosing the best substitute. The Goosander is an early breeder: in Denmark, Mr. Benzon says that the eggs are laid late in April or early in May; and even in Finland, Palmén states that they are laid from the middle of May to the middle of June.

The eggs of the Goosander are from eight to twelve in number, and are creamy-white in colour, somewhat smooth in grain, and rather glossy. They vary in length from 2·9 to 2·5 inches, and in breadth from 1·9 to 1·8 inch. The down is a nearly uniform greyish-white, which prevents any confusion between the eggs of the Goosander and those of the Velvet and Black Scoters. Large eggs closely resemble those of the former, and small eggs those of the latter, but are slightly yellower.

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#### THE RED-BREASTED MERGANSER.

(*Mergus serrator*).\*

PLATE 16, FIG. 2.

The Red-breasted Merganser is only a winter visitor to England, where it is generally distributed both inland and on the coast; but in Scotland north of the Clyde it is a resident, as it is also in parts of Ireland. It is a circumpolar bird, having almost precisely the same distribution as its congener the Goosander, but it is not known to breed in Turkestan or the Himalayas. Its breeding-range extends from about lat. 50° to the Arctic Circle, but in Scandinavia it reaches to the North Cape.

It prefers to make its nest under shelter of some kind, sometimes under a large rock. Saxby says that it uses rabbit-burrows

\* *Merganser serrator*—Sharpe, Handb., III., p. 61.

and the crevices in walls ; he also states that a favourite situation is in a hollow at the foot of a dry bank where the herbage overhangs and completely conceals it. Sometimes the nest is made amongst long grass or heath, and in most cases is very slight, usually a small hollow in the ground, lined with green and dry grass, sprays of heather, and dead leaves.

The eggs of the Red-breasted Merganser are usually from six to nine in number, but occasionally as many as twelve are laid. They are of a more or less olive-grey colour, sometimes as dark as a pale egg of the Pheasant, but never quite reaching the cream-colour of the eggs of the Goosander ; they are somewhat smooth in grain, rather glossy, and they vary in length from 2·8 to 2·4 inches, and in breadth from 1·85 to 1·6 inch. The down is about the same size as that of the Mallard, but is pale brownish-grey, with obscure pale tips and somewhat indistinct pale centres. The pale colour of the down prevents any confusion between these eggs and those of the Pochard and the Scaup, although the former are generally smaller and greener, whilst the latter, though not differing much in size, are usually darker.

### THE HOODED MERGANSER.

(*Mergus cucullatus*).\*

PLATE 16, FIG. 1.

A few examples of this American species have been obtained in the British Islands. The geographical distribution of the Hooded Merganser on the American continent is almost exactly the same as that of its congeners. It breeds from the Atlantic to the Pacific, from about lat. 45° to the Arctic Circle, wintering in the United States, Mexico, and the West Indies.

Like its allies, the Goosander and the Smew, the Hooded Merganser always breeds in holes. It chooses some hole in a standing tree, or even a hollow in a fallen log, which it is said to line with dry grass and leaves ; a plentiful supply of down is added as the full clutch of eggs is laid and the female begins to sit.

The eggs of the Hooded Merganser are from five to eight in number, smooth in texture, and remarkable for their roundness.

\* *Lophodytes cucullatus*—Sharpe, Handb., III., p. 56.

They are pure white, varying in length from 2·1 to 2·0 inches, and in breadth from 1·75 to 1·65 inch. The down with which the nest is lined, like that of the Smew and other Ducks breeding in holes, is very pale grey.

T H E S M E W.

(*Mergus albellus.*)

PLATE 15, FIG. 4.

The Smew is a rare straggler in winter to the coasts and inland waters of the British Islands, being most frequent in its occurrence on the eastern coast line of England and Scotland.

The geographical range of the Smew appears to extend from the Pacific, across Siberia and North Russia as far west as the Baltic, and as far north as the Arctic Circle. It is not known to visit Iceland or the Faroes, and is only an accidental wanderer on migration to the coasts of Scandinavia. In West Russia there is no evidence of its breeding south of the Gulf of Finland; but in East Russia, Bogdanow found it nesting in the valleys of the Kama and Lower Volga, whilst Henke states that it breeds in the delta of the latter river. In N.E. Russia we did not succeed in taking the nest of the Smew; but having commissioned some of the villagers to bring us eggs and down of Ducks, we were delighted to receive a clutch of eggs which looked like Wigeon's eggs, but accompanied by pale grey down. The man who brought it knew the bird well, and told us that he had taken the eggs from a hollow tree. On our return home we were able to verify the eggs by weighing them. The eggs of the Smew are on an average smaller than those of the Wigeon, but they are proportionately heavier. All my eggs of the Smew weigh more than two scruples and a half; a few of my largest eggs of the Wigeon just balance that weight, whilst one only, an abnormally rough egg, turns the scale.

The eggs of the Smew are from seven to eight in number, creamy-white, fine-grained, and slightly glossy, indistinguishable from those of the Wigeon except by weight. They vary in length from 2·05 to 1·9 inch, and in breadth from 1·52 to 1·42 inch. No Wigeon's egg as large would weigh two and a half scruples. The down is greyish-white, scarcely distinguishable from that of the Golden-eye.

FAMILY PHÆNICOPTERIDÆ,  
OR FLAMINGOES.

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This family contains only one genus, of which the European representative is—

THE COMMON FLAMINGO.

(*Phænicopterus roseus.*)

PLATE 11, FIG. 2.

Three instances of the capture of this bird in a wild state have been recorded, and one was seen by Captain Shelley near New Romney, in Kent. The first was shot in Staffordshire, the second in Hampshire, and the third in Kent.

The nest of the Flamingo is a large structure of mud, and the birds build in company on the open salt-marshes of Southern Europe, eastwards to India. The eggs are chalky in texture, pure white, and measure 3·7 to 3·55 inches in length, and about 1·15 inch in breadth.

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FAMILY ARDEIDÆ,  
OR HERONS AND STORKS.

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Of the fourteen species of Herons included in the British List one only is resident, the others being occasional or rare visitors.

THE COMMON HERON.

(*Ardea cinerea.*)

PLATE 17, FIG. 1.

The Common Heron is a somewhat local resident throughout the British Islands, but it does not appear to breed in the Outer Hebrides, and rarely does so in the Orkney and Shetland Islands. It has a very extensive range, breeding in most parts of Europe, Asia and Africa. In Scandinavia it nests up to lat. 65°, and

occasionally wanders as far north as lat.  $68^{\circ}$ . In Russia it is not known to breed further north than lat.  $57^{\circ}$ , but sometimes occurs in West Russia up to lat.  $60^{\circ}$ . In West Siberia it is occasionally seen in lat.  $55^{\circ}$ , and breeds near Lake Baikal and throughout the valley of the Amoor. The nest is a large structure, usually built on a tree, and composed of sticks and lined with fine twigs; it is very flat, and sometimes contains turf and moss. The old nest is usually repaired year after year, and, by the time the young are able to fly, it is whitewashed with the droppings of the birds. Several nests are generally built in one tree.

The Heron lays from three to five eggs. They are greenish-blue in colour, dull, and chalky in texture. The shell is often full of minute pits, or covered with small white excrescences. Some eggs are much bluer-green than others. They vary in length from 2·65 to 2·3 inches, and in breadth from 1·79 to 1·5 inch.

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#### THE PURPLE HERON.

(*Ardea purpurea*.)\*

PLATE 17, FIG. 3.

The Purple Heron must be regarded as a somewhat rare straggler, principally to the eastern and southern counties of England, though it has been twice obtained in Scotland and once in Ireland.

The range of the Purple Heron is almost as great as that of the Common Heron, except that it does not extend so far north. It is said to be a resident in most parts of Africa, including Madagascar; its numbers in those countries being increased during winter. Eastwards it breeds in Persia and Turkestan.

The nest is a large structure, two feet or more in diameter, and is very flat. It is generally built on reeds.

The eggs are from three to five in number, and vary considerably both in size and shape, some being much more rounded than others. They vary in length from 2·45 to 1·95 inch, and in breadth from 1·75 to 1·45 inch. They are greenish-blue, and do not differ in colour or texture from those of the Common Heron, from which it is impossible to distinguish them, though on an average they are slightly smaller.

\* *Phoxus purpurea*—Sharpe, Handb., III., p. 66.

## THE GREAT WHITE EGRET.

(Ardea alba.)\*

PLATE 17, FIG. 8.

The Great White Egret is only an accidental straggler to the British Islands; but about twenty instances of its occurrence have been recorded, principally in the eastern counties of England and Scotland. It is not known to breed regularly in any part of Europe except in South Russia and the valley of the Lower Danube. In Europe the breeding-season of the Great White Egret takes place in May, and eggs may be obtained from the middle of that month till the middle of June. In India the eastern form of this species is said invariably to make its nest in trees. Both forms appear often to take up their residence with other Herons, and generally make their nests in the same tree as Ibises, Pigmy Cormorants, Night-Herons, and Little Egrets.

The nest is a moderately large structure, almost exclusively made of sticks, the larger and coarser ones forming the outside and the finer twigs the lining; but when it is placed in swamps, it is made of dead reeds and portions of aquatic vegetation suitable for the purpose. The nest is broad and quite flat, and, by the time the young are able to fly, is so trodden about as only to resemble a mere heap of sticks. It appears that the old nests are repaired and enlarged in many cases, in a similar manner to those of the Rook. The eggs are generally three or four in number, sometimes five; they are greenish-blue, rough in texture, and possess no gloss. They vary from 2·7 to 2·35 inches in length, and from 1·77 to 1·7 inch in breadth. They vary somewhat in shape, some specimens being much more pointed than others. It is impossible to distinguish the eggs of this species from those of the Common Heron or the Purple Heron.

## THE LITTLE EGRET.

(Ardea garzetta.)†

PLATE 17, FIG. 7.

The Little Egret is a very rare accidental visitor to the British Islands. The range of this species is not such a northern one as

\* *Herodias alba*—Sharpe, Handb., III., p. 74.† *Garzetta garzetta*—Sharpe, Handb., III., p. 77.

that of the Great White Egret. It is resident and breeds in suitable localities throughout the whole of Africa and the Cape Verd Islands, occasionally visiting the Canaries and the Azores. To Europe it is only a summer migrant, breeding in Spain, the delta of the Rhone, Sardinia, Sicily, the valley of the Danube, and South Russia. It is a resident in India, Ceylon, Burmah, and the main island of Japan, as well as in South China.

In the Lower Danube the nests of these birds were generally placed in a fork of a side branch of the pollard willows, and were made on quite a different model to that adopted by most birds : they were entirely composed of slender twigs, on some of which the leaves were still remaining ; but the peculiarity of their structure was that nearly all the twigs radiated from the centre. The nests were rather deep, but the sides were so thin that the eggs could be seen from the level. It is difficult to give exact measurements of nests formed on this plan, but the thick part of the nest was about ten inches across.

The eggs of the Little Egret are from three to six in number and uniform bluish in colour. They vary in length from 1·9 to 1·65 inch, and in breadth from 1·4 to 1·25 inch. On an average they are smaller than eggs of the Night Heron ; but small eggs of the latter species are indistinguishable from large eggs of the Little Egret. The eggs of the Squacco Heron are much smaller.

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#### THE SQUACCO HERON.

(*Ardea comata*.)\*

PLATE 17, FIG. 2.

The Squacco Heron must be regarded as a very rare straggler to the British Islands, principally on spring migration. It is confined to Africa and the basin of the Mediterranean and Black Seas, and is a straggler to the Canary Islands ; it is a resident in all suitable localities in Africa, breeding in Algeria, Egypt, Damara Land, the Transvaal, &c. In the Spanish Peninsula it is only

\* *Ardea ralloides*—Saunders, Manual, p. 65. *Ardeola ralloides*—Sharpe, Handb., III., p. 83.

known as a summer visitor, and to the east it breeds in the valley of the Danube, South Russia, the basin of the Caspian, and Palestine.

On the Lower Danube the nests of the Squacco Heron were built on the same model as those of the Little Egret and Night Heron, the twigs of which they were composed being arranged from the centre, thus forming radii, whilst those of the Common Heron and the Pigmy Cormorants were arranged, as usual, round the centre, forming arcs. The Squacco Heron builds a very slight nest, somewhat deep, though the sides permit the eggs to be seen through the sticks, the more solid part of the nest not exceeding six inches across.

The eggs are from six in number, and are greenish-blue in colour; they vary in length from 1·6 to 1·5 inch, and in breadth from 1·2 to 1·06 inch.

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#### THE BUFF-BACKED HERON.

(*Ardea bubulcus.*)\*

PLATE 17, FIG. 5.

The Buff-backed Heron has scarcely any claim to be regarded as a British bird, having only been obtained in this country three times. It is an African bird, resident throughout that continent, breeding in all suitable localities from Algeria and Egypt in the north to Cape Colony and Madagascar in the south. This species is an accidental visitor to Madeira and to various parts of South Europe, and is also an accidental straggler to the South of France, Italy, Sicily, Greece, and South Russia, but is not known to have occurred in Northern Europe.

The nest is composed of sticks, and probably does not differ much from that of the Squacco Heron; but we have no reliable information on the subject. The number of eggs varies from three to five. They are almost white in colour, but are slightly shaded with bluish-green, and, after they are blown, the dark-green of the inner shell is visible through the hole when held up to the light. They vary in length from 1·9 to 1·7 inch, and in breadth from 1·32 to 1·28 inch.

\* *Bubulcus lucidus* (Rafin.)—Sharpe, Handb., III., p. 86.

## THE NIGHT HERON.

(Nycticorax nycticorax).\*

PLATE 17, FIG. 4.

The Night Heron has been obtained in our Islands at least fifty times. Most of these occurrences were in the southern and eastern counties; but it has been found in most parts of England, three or four times in Scotland, and as many times in Ireland. The species has appeared chiefly in spring, but there does not seem to be any evidence that this bird has ever bred in our islands.

The Night Heron, subject to some slight variation in size, is found both in Europe, Asia, Africa, and America. It is a regular summer visitor to the Spanish Peninsula, the South of France, North Italy, the valley of the Danube, Transylvania, South Russia, and the Caucasus. It breeds in all suitable localities throughout Africa down to the Cape Colony, in Palestine, Asia Minor, Persia, West Turkestan, throughout India and Ceylon, the Burmese Peninsula, China, and South Japan, and has been found in many of the islands of the Malay Archipelago. On the continent of America, it is found throughout the United States, extending northwards as far as New Brunswick, and southwards into Mexico, Central America, and Ecuador.

The nest of the Night Heron is built of sticks like that of the Squacco, and forms a cradle-like structure in a tree. Eggs, from three to five in number, bluish-green in colour. They vary in length from 2·18 to 1·8 inch, and in breadth from 1·5 to 1·3 inch. Some specimens are slightly paler than others. It is impossible to distinguish small eggs of this species from large examples of those of the Little Egret; but on an average the eggs of the Night Heron are larger. The eggs of the Buff-backed Heron, although similar in size, are distinguished by their much paler colour.

## THE COMMON BITTERN.

(Botaurus stellaris.)

PLATE 17, FIG. 10.

The Common Bittern must now be regarded as an accidental straggler on migration. It was probably at one time a common resident in this country. The species breeds in suitable locali-

\* *Nycticorax griseus* (Linn.)—Saunders, Manual, p. 367.



Golden Eye.



Shoveller.



Pintail.



Wigeon.



Tufted Duck.



Mallard.





Black Scoter.



Scaup.



Gadwall.



White-eyed Pochard.



Pochard.



Red-crested Pochard.





Harlequin Duck.

Surf Scoter.

Long-tailed Duck.

Smeew.

Velvet Scoter.

Goosander.





Hooded Merganser.



Red-breasted Merganser.



Teal.



Garganey.



Ruddy Sheldrake.



Common Sheldrake.



ties from the Atlantic to the Pacific, but its range does not extend very far north.

The nest is built on the mud, and is composed of dead reeds and flags carelessly placed together so as to form a platform with a slight depression in the centre. The number of eggs varies from three to five. They are uniform buffish-grey in colour; the shell is smooth and not very glossy, but does not partake of the chalky character of that of the true Herons. They vary in length from 2·15 to 1·97 inch, and in breadth from 1·55 to 1·45 inch. The eggs of the Common Bittern, when held up to the light, are not green inside, like those of the Herons, but yellowish-brown, and vary somewhat in shape, some specimens being pointed almost as much at each end as those of a Grebe.

### THE AMERICAN BITTERN.

(*Botaurus lentiginosus.*)

It is not known that the American Bittern has ever occurred on the continent of Europe, but it is an occasional visitor to Great Britain. It is found throughout the continent of North America south of Alaska and Greenland, being a resident in the southern States, but further north it is only a summer visitor, and further south only a winter visitor.

Some observers say that the nest is built in trees and low bushes, and made of coarse grasses, twigs, and leaves; whilst others assert that the eggs are laid on the bare ground, on a tuft of grass, or at the foot of a bush. The eggs of this bird are similar in colour to those of the Common Bittern, being greyish-buff, sometimes with an olive or brownish tinge. They are from three to five in number, and vary from 2·1 to 1·9 inch in length, and from 1·65 to 1·4 inch in breadth.

### THE LITTLE BITTERN.

(*Botaurus minutus.*)\*

PLATE 17, FIG. 9.

The Little Bittern is a very rare summer visitor to this country, but there is no reliable instance of its eggs ever having

\* *Ardetta minuta*—Saunders, Manual, p. 369; Sharpe, Handb., III., p. 88.

been obtained in our islands. It is a summer migrant to Europe south of the Baltic, and is a resident in the Azores, Madeira, Algeria, and to a limited extent in Egypt, wintering in small numbers in Africa. It is a summer visitor to Palestine, Asia Minor, Persia, Baluchistan, Cashmere, and North-west Turkestan.

The nest of the Little Bittern is generally placed amongst the dense vegetation of its marshy haunts. Sometimes it is built amongst reeds a few inches above the water, and is often at a considerable distance from the shore. The nest is very large for the size of the bird, loosely put together, and made of pieces of aquatic vegetation, sometimes a few twigs, and lined with finer material, such as grass or dead leaves of the reed.

The eggs are from four to five in number, and pure white in colour. They soon become stained by contact with the bird's feet and the damp materials of the nest. Their small size and colour is a sufficient distinction from the eggs of all the other Herons. They vary in length from 1·45 to 1·29 inch, and in breadth from 1·05 to 0·98 inch. They are oval in shape; the shell is fine, but closely pitted with small pores.

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### THE SPOONBILL.

(*Platalea leucorodia.*)

PLATE 18, FIGS. 2, 3.

The Spoonbill was formerly a regular summer visitor to England, and bred in the marshes of Norfolk, Suffolk and other counties, but it appears to have been exterminated at the close of the 17th century. This bird, like most of its Herodian allies, has a most extensive range, reaching from the Atlantic to the Pacific; but owing to the rapid increase of population its breeding-colonies are now few and far between.

Most of the nests which I visited in Holland were built on grassy tussocks, but a few of them were in the alder trees three or four feet above the ground. The greater part of the nests were built upon a foundation of a few sticks, the principal structure being of dead reeds lined with dry grass.

The eggs of the Spoonbill are four or five in number, and vary much in size, shape, and colour; some are long and narrow, with

the small end almost as blunt as the large end ; they scarcely vary in shape from typical eggs of the Cormorant, whilst others are so round that they might easily be passed off by unprincipled dealers as eggs of the Kite. They are dull chalky-white in ground-colour, sparingly spotted and blotched with small spots or short streaks, and occasionally large smudged blotches, principally at the large end, of reddish-brown. Occasionally a few grey underlying spots are observable ; and sometimes the surface-markings form a zone round the large end of the egg. They vary in length from 2·9 to 2·2 inches, and in breadth from 1·9 to 1·7 inch.

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### THE GLOSSY IBIS.

(*Ibis falcinellus*.)\*

PLATE 17, FIG. 6.

The Glossy Ibis is an accidental visitor, principally on autumn migration, to our islands, especially to the southern and eastern counties of England. The geographical distribution of this species is very similar to that of the Spoonbill, but its breeding-colonies are more isolated, and it extends further south to the Malay Archipelago, the Moluccas and Australia. It also occurs in the Eastern United States.

The nests are made of sticks and reeds ; but whether they are built on the radius model of the Egret, or on the arc model of the Cormorant, I cannot say. The eggs are said to be three, and occasionally four, in number. They are dark greenish-blue in colour, rather rough in texture, and the shell is finely pitted with small pores. They vary in length from 2·2 to 2·0 inches, and in breadth from 1·55 to 1·38 inch. The eggs of the Ibis cannot well be confused with those of any other European bird ; they are readily distinguished from those of the Herons by their much darker blue colour and less chalky appearance.

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### THE WHITE STORK.

(*Ciconia alba*).†

PLATE 18, FIG. 4.

It is not known that the White Stork has ever bred in the British Islands, but it occasionally visits them, either singly or

\* *Plegadis falcinellus*—Saunders, Manual, p. 379; Sharpe, Handb., III., p. 104.

† *Ciconia ciconia* (Linn.)—Sharpe, Handb., III., p. 97.

in small parties, during the spring and autumn migration. The range of the White Stork, like that of so many other birds, extends from the Atlantic to Central Asia. It is a summer visitor to the western Palæarctic region, wintering in West Africa and from South Africa as far north as the Soudan.

The Stork has attached itself to human habitation almost as much as the House-martin and the Sparrow. If possible, it builds its nest on the roof of a house, and in civilized countries a platform of some kind, an old cart-wheel or some such structure, is provided for its accommodation. Occasionally several nests are built upon the same roof, and a house in the middle of a village is quite as eligible as one in the outskirts. The old nest is used year after year, a slight addition being made to it every season, so that after the lapse of years, if it happens to be in a situation protected from the wind, it sometimes attains to a great height.

The nest is a very large structure, four or five feet in diameter, and is built of sticks, many of them of considerable thickness, mixed with lumps of earth and masses of decayed reeds; it is very shallow, and is lined with softer materials of all kinds—dry grass, moss, hair, feathers, rags, bits of paper, wool, or anything it can pick up.

The eggs of the Stork are from three to five in number, dull white in colour, rough in texture, and with little gloss. They vary from 3·0 to 2·72 inches in length, and from 2·2 to 2·05 inches in breadth. The eggs of this bird very closely resemble those of the Black Stork, but are on an average larger, and, when held up to the light, are yellowish-white inside, those of the Black Stork being green.

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#### THE BLACK STORK.

(*Ciconia nigra.*)

PLATE 18, FIG. 1.

The Black Stork must be regarded as an accidental straggler to England during spring and autumn migration. It has a much wider range than the White Stork, being found from the Atlantic to the Pacific. It is a summer visitor to Europe, breeding in the principal forest-districts south of lat. 55°.

The nest is very large, at least four-and-a-half feet across, and with scarcely any depression in the centre, the top being covered all over with green moss.

The eggs of the Black Stork are from three to five in number; dull white in colour, coarse in texture, full of small pores, and with very little gloss. They vary in length from 2·8 to 2·45 inches, and in breadth from 2·05 to 1·85 inch. On an average the eggs of this bird are smaller than those of the White Stork, but large eggs equal in size small eggs of the latter. They vary considerably in shape, some specimens being much rounder than others; they are, however, readily distinguished by the green colour of the inside of the shell when held up to the light.

FAMILY PELECANIDÆ,  
OR PELICANS.

In this family are included all the Cormorants, Gannets, Tropic-Birds, Frigate-Birds and Pelicans. Of the latter the following species has been included in the British List:—

THE WHITE PELICAN.

(*Pelecanus onocrotalus.*)

PLATE 19, FIG. 3.

Only one specimen of this bird has been said to have been killed in England, and then it was believed to have been an escaped bird. This event happened as long ago as 1663, so that the claims of the Pelican to be considered British are of the most slender character. The egg is white and chalky, like those of the other members of the family.

THE GANNET.

(*Sula bassana*)\*

PLATE 19, FIG. 4.

The Gannet is a resident in the British Islands, but is confined to a few breeding colonies. It is an oceanic species, and is only known to nest on some of the islands in the North Atlantic Ocean, colonies being found in the Faroes, Iceland, and the rocks in the Bay of Fundy and the Gulf of St. Lawrence in North America.

\* *Dysporus bassanus*—Sharpe, Handb., II., p. 218.

The nests are generally slight, often trodden out of all shape, and smell most offensively. They are made of seaweed picked up from the waves below, bunches of turf pulled up from the summit of the cliffs, and a few straws. They are very shallow, and, as the materials of which they are composed wear away, they are constantly added to. The eggs of the Gannet, seen through the hole when held up to the light, are emerald-green inside, and occasionally traces of this colour can be seen on the outside ; but usually the surface is thickly coated over with a layer of white, which in some places appears to be very clumsily laid on. They are nearly uniform ovals, and vary in length from 3·4 to 2·8 inches, and in breadth from 2·15 to 1·85 inch.

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#### THE CORMORANT.

(*Phalacrocorax carbo.*)

PLATE 19, FIG. 2.

A common resident in the British Islands, breeding in all suitable districts from the Shetlands to Cornwall, and from St. Kilda to the south of Ireland ; some of its breeding stations are also found inland. The Cormorant inhabits the entire Palaearctic region, and breeds as far south as the Mediterranean countries, and eastwards in Central Asia, N. W. India, and the Burmese Provinces.

The nest is a large structure of sticks and sea-weed, those examined by me on the Farne Islands being one or two feet high and composed entirely of sea-weed ; they were generally lined with the fresh green leaves of the sea-parsley and other maritime plants. Those I saw on the Horster Meer, in Holland, were piles of sticks and reeds from one to four feet high, and were lined with a little green grass. It appears that a new nest is built every year on the ruins of the old one.

The eggs, when held up to the light, are emerald-green, like those of the Gannet, and the white coating is sometimes as thick as in the eggs of the latter bird, but the green can always be more or less seen through it in patches. They differ very slightly from eggs of the Gannet, but are smaller in size and slightly more elongated in shape, varying in length from 2·9 to 2·4 inches, and in breadth from 1·75 to 1·5 inch.

## THE SHAG.

(Phalacrocorax graculus.)

PLATE 19, FIG. 1.

The Shag is a well-known and common resident in the British Islands. It is confined during the breeding seasons to the rocky coasts of Europe, from Iceland, the Faroes, and the entire coastline of Norway, to the French, Spanish, and Portuguese coasts.

The present species always prefers a cave, if it can obtain one, for nesting purposes. In some districts where suitable caves are not to be found, the Shags build their nests on the ledges of cliffs. The nests are bulky structures, made principally of sea-weed, masses of turf, sprays of heather, and perhaps a few straws and bits of dead grass.

The eggs of the Shag, from three to four, sometimes more, in number, do not differ from those of the Cormorant, except that they are slightly smaller. They vary in length from 2·6 to 2·3 inches, and in breadth from 1·6 to 1·4 inch.

## FAMILY PROCELLARIIDÆ,

OR PETRELS.

Of the species of Petrel enumerated in the British List, four breed in Great Britain, but the others are rare visitors, and the following have only been recorded once:—*Pelagodroma marina*, *Ostrelata brevipes*, *O. hæsitata* *Daption capensis*, and *Diomedea melanophrys*, the latter species of Albatros having been obtained near Peterhead, in 1894.

## THE GREAT SHEARWATER.

(Puffinus major.)\*

PLATE 20, FIG. 6.

This Petrel is a tolerably frequent visitor to the British coasts, principally to the extreme south-west of England. It seems

\* *Puffinus gravis* (O'Reilly)—Salvin, Cat. B, Brit. Mus., XXV., p. 373.

possible that the breeding home of the species may be in Southern Greenland, but the identification of the eggs obtained there is not at all satisfactory, and Mr. Howard Saunders considers that the nesting-place of the Great Shearwater is still unknown.

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### THE MANX SHEARWATER.

(*Puffinus anglorum.*)

PLATE 20, FIG. 1.

The Manx Shearwater is *par excellence* the Shearwater of the British Islands, where it is widely distributed, breeding in many localities. It is exclusively an Atlantic species, breeding only on the European coasts. The principal colonies are in Iceland, the Faroes, St. Kilda, and the islands off the coast of Brittany, and south to the Azores. In the Mediterranean it is represented by *P. yelkouanus*, which sometimes strays north to the coasts of Devonshire and Cornwall.\*

The nest is merely a little bunch of dry grass, according to Dixon, and the holes in which they are placed are sometimes very long and under masses of rock, where it is impossible to reach the eggs. The burrows in St. Kilda were found by him to be four or five feet in length, and are made by the birds themselves. The single egg is laid between the early part of May and the middle of June. It is pure white, much smoother in texture, and more glossy, than that of the Fulmar. It varies in length from 2·5 to 2·3 inches, and in breadth from 1·75 to 1·55 inch.

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### THE DUSKY SHEARWATER.

(*Puffinus obscurus.*)

PLATE 20, FIG. 2.

Two specimens of the Dusky Shearwater have been captured in Great Britain. It is a tropical and sub-tropical species, breeding both in the Atlantic and the Pacific.

The breeding-habits of the species are similar to those of the Manx Shearwater. It lays a single pure white egg, which varies in length from 1·45 to 1·3 inch.

\* Cf. Salvin, Cat. B., Brit. Mus., XXV., p. 379.

## THE SOOTY SHEARWATER.

( *Puffinus griseus.* )

Many specimens of this Shearwater have been recorded as taken in Great Britain, but some of them may have been *P. major*. The distribution of the species extends nearly all over the seas of the world, but the accounts of it are meagre. Dr. Crowfoot says that on Norfolk Island the holes inhabited by these birds are always isolated, and the burrow deep. One egg is laid, and there is no nest.

The eggs, which are pure white, vary from 2·75 inches to 2·5 inches in length, and from 1·75 to 1·5 inch in breadth.

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## BULWER'S PETREL.

( *Bulweria columbina.* )\*

PLATE 20, FIG. 3.

One specimen of Bulwer's Petrel has been procured near Tanfield, in Yorkshire, in May, 1857. It is an inhabitant of the temperate North Atlantic and temperate North Pacific Oceans, according to Mr. Salvin, and breeds on the Desertas Islands. Eggs procured by Mr. Ogilvie-Grant in the latter locality were pure white, almost pyriform in shape, and distinctly pointed towards the smaller end. They measure 1·81 to 1·59 inch in length, and 1·28 to 1·12 inch in breadth.

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## THE FULMAR PETREL.

( *Fulmarus glacialis.* )

PLATE 20, FIG. 5.

The best known breeding-place of the Fulmar in the British Islands is on St. Kilda and the adjoining Islets and Stacks—a group of rocky islands about forty miles west of the Hebrides. One or two solitary pairs are said to breed on the west coast of Skye, and it also nests on Foula, in the Shetlands.

The Fulmar is a bird of the North Atlantic Ocean. There are enormous colonies in Iceland, St. Kilda, the Faroes, Spitsbergen, Bear Island, and Novaya Zemlya.

\* *Bulweria bulweri* (Jard. & Selby)—Salvin, Cat. B., Brit. Mus., XXV., p. 420.

On St. Kilda, according to Dixon, the Fulmar begins to lay about the middle of May. The nest is less concealed than is usual with the Petrels, and consists of a little dry grass; or is made entirely of small bits of rock, a neat hollow being formed in which one single egg is laid. The nests are always very slight, and in a great number of instances are dispensed with altogether. Dixon says that it very rarely burrows deep enough in the ground to conceal itself, whilst in a great many instances, it is content to lay its eggs under some projecting tuft, or even on the bare and exposed ledge of a cliff, in a similar place to that so often selected by the Guillemot.

The Fulmar lays only one egg, which is rough and chalky in texture, with little or no gloss, and pure white, though it soon becomes considerably stained by contact with the peaty soil. The eggs vary in length from 3·2 to 2·6 inches, and in breadth from 2·1 to 1·85 inch.

#### THE STORMY PETREL.

(*Procellaria pelagica.*)

PLATE 20, FIG. 4.

The Stormy Petrel has many breeding places in the British Islands, but is not known to nest anywhere on the east coast of England or Scotland. On the west, however, from the Scilly Islands and along the coasts of Wales and Western Scotland, there are many nesting places, as there are also on the islands of the Irish coasts. It breeds on the Faroes, but has not yet been found nesting on the coasts of North America.

The nests which I found on one of the Blasquet Islands seldom consisted of more than a dozen blades of dead grass, and were placed in holes in the rocks, or in the rough walls put up to protect the little potato-patches from the sheep. On another island they were placed in old rabbit-burrows.

One egg only is laid, white, rough in texture, and without any gloss. The eggs are almost always thinly sprinkled with minute reddish-brown specks, and not unfrequently there is an obscure zone of specks round the larger end, occasionally round the small end of the egg. They are scarcely more pointed at one end than the other, and vary in length from 1·2 to 1·0 inch, and in breadth from 0·86 to 0·8 inch.

## THE WHITE-BREASTED PETREL.

*(Pelagodroma marina.)*

An example of this southern species was picked up dead on Walney Island in November, 1890. It is an inhabitant of the Australian Seas, but appears to frequent the Atlantic Ocean also as far north as the Canary and the Salvage Islands. On the latter Mr. Ogilvie-Grant procured several eggs in 1895. These are white, more or less finely spotted, and often zoned towards the larger end, with dark red and purplish dots. Some few are equally spotted all over the shell, while one is almost devoid of markings. Axis, 1·48 to 1·35 inch; diam., 1·08 to 1·0 inch.

## THE FORK-TAILED PETREL.

*(Oceanodroma leucorrhœa.)\**

PLATE 20, FIG. 7.

The Fork-tailed Petrel breeds on St. Kilda and on other islands of the outer Hebrides, also on the Blasquet Islands, off Co. Kerry, where the eggs have been found by my friend Mr. R. J. Ussher. Besides these British localities, the species is found nesting on the islands of the Bay of Fundy, and again in the Kurile and Aleutian Islands.

In St. Kilda, Dixon says, the nesting holes are made in the soft peaty soil, and it is very easy to unearth the bird. Sometimes the hole has two entrances. The nest is made of dry grass, both round stalks and flat blades, a scrap or two of moss, and a few bits of lichen and roots. Many nests are placed close together (an underground colony in fact), and he found half-a-dozen nests within a radius of eight or nine yards.

The Fork-tailed Petrel lays only one egg, which is pure white, with a more or less distinct zone of very minute specks round the large end. The overlying spots are reddish-brown, and the underlying ones slightly greyer. Sometimes a few indistinct streaks or dashes of colour, often darker than the spots, occur on the large end of the egg, which varies in length from 1·35 to 1·25 inch, and in breadth from 1·0 to 0·92 inch.

\* *Procellaria leachi*—Seebohm, Brit. B., III., p. 448.

## THE CANARIAN FORK-TAILED PETREL.

( *Oceanodroma cryptoleucura.* )

This species was originally described from the Sandwich Islands, but it has recently been discovered in the Salvage Islands, the Canaries, and on St. Helena in the Atlantic. A specimen, now in the collection of Mr. Boyd Alexander, was picked up dead on the beach at Littlestone in Kent, on the 5th of December, 1895.

Mr. Ogilvie-Grant describes the egg as exactly like that of Leach's Petrel, and measuring 1·3 by 0·96 inch. It has, therefore, not been thought necessary to figure it.

---

## WILSON'S PETREL.

( *Oceanites oceanica.* )

This is a southern species, which breeds on Kerguelen Island, and probably on other islands of the South Atlantic Ocean. It wanders north, and has many times been obtained off the shores of Great Britain.

The Rev. A. E. Eaton says that in Kerguelen Island these Petrels love to make their colonies on the slopes of shattered rocks, wherever there are suitable chinks and crevices, or dry places under stones and large boulders, either close to the sea, just above high-tide mark, or on the sides and summits of high hills. He obtained eggs in January and February. They are white, with a more or less obscure zone of minute reddish-brown spots, generally round the larger end. They are of about the same size as those of the Fork-tailed Petrel, and consequently cannot be distinguished from them, averaging about 1·3 inch in length, and 0·9 inch in breadth.

FAMILY *COLYMBIDÆ*,

## OR DIVERS.

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Of the four species of Diver on the British List, two species, and probably three, nest within our limits, the White-billed Diver being only an occasional visitor.

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## THE GREAT NORTHERN DIVER.

(*Colymbus glacialis*.)

PLATE 21, FIG. 3.

The Great Northern Diver may possibly breed in some of the wild secluded lochs of the West of Scotland, the Outer Hebrides, the Orkneys, and the Shetlands, and little doubt is now entertained as to its having nested in the latter group. It breeds in Iceland and in Southern Greenland, as well as in the Fur countries of North America, below the Arctic circle.

The nest is very clumsily made and often very slight : it is composed of dead grass and decayed water-plants. Two is the usual number of eggs, and it is doubtful if any more are laid. They vary in colour from olive-brown to russet-brown, and are somewhat sparingly spotted with black. The spots vary in size from that of a pea downwards, and are generally most numerous round the large end. The underlying spots are paler and are not very numerous. The eggs vary in length from 3·8 to 3·4 inches, and in breadth from 2·4 to 2·1 inches.

---

## THE WHITE-BILLED DIVER.

(*Colymbus adamsi*.)

The present species extends from Scandinavia throughout the Arctic regions to Bering Sea and Alaska, as far as the Great Slave Lake in North America. It has twice been noticed in Great Britain, and doubtless other examples have occurred, but have been confounded with the preceding species.

## THE BLACK-THROATED DIVER.

*(Colymbus arcticus.)*

PLATE 21, FIG. 1.

The Black-throated Diver is known to breed in the north of Scotland, and in some of the lochs in the Outer Hebrides. Its breeding-range extends from Scandinavia, as far east as Kamtschatka, and throughout North America from Alaska to Hudson's Bay. The nests found by my son in North Uist were substantial structures, about a foot in diameter, and two or three inches high. The foundation was composed of dead stalks and roots, upon which was a lining of fresh green grass and herbs, the whole forming a *bona-fide* nest, as different as possible from the slovenly debris on which its Red-throated cousin lays its eggs. Two is the usual number of eggs, but sometimes one only is laid. The ground-colour is dark or light russet-brown, sometimes with a slight shade of olive. The spots are nearly black, sparingly distributed over the surface, rather more profusely at the larger end, and seldom as big as a pea. The underlying spots are few and indistinct. The eggs vary in length from 3·5 to 2·9 inches, and in breadth from 2·2 to 1·9 inch.

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## THE RED-THROATED DIVER.

*(Colymbus septentrionalis.)*

PLATE 21, FIG. 2.

The present species nests commonly in the Hebrides, as well as in many localities in the west and north of Scotland, from Argyleshire northward, and in the Orkneys and Shetland Isles. It also nests in the lakes of Donegal, in Ireland. Its breeding-range elsewhere is circumpolar.

The Red-throated Diver very rarely makes a nest. The eggs are often laid on the bare turf, often in a depression in the grass or moss, but a scanty lining of weeds or sedge is frequently found. The eggs are somewhat more variable in colour than those of its allies, being more commonly of a brownish-olive than of a russet-brown ground-colour. The spotting is also occasionally somewhat bolder. They vary in length from 3·1 to 2·5 inches, and in breadth from 1·9 to 1·7 inch.

FAMILY PODICIPITIDÆ,  
OR GREBES.

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Of the five species of Grebes found in Great Britain two are resident and three are spring and autumn visitors on migration.

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THE GREAT CRESTED GREBE.

(*Podiceps cristatus.*)

PLATE 22, FIG. 10.

The Great Crested Grebe is a somewhat local resident in the British Islands, and it has only recently been discovered breeding in Scotland, Mr. Robert Read having taken eggs near the Clyde. Though rare on the west coast of the latter country in the winter, it has been known to stray as far north as the Shetlands; it is, however, more frequent on the east coast. It breeds in Ireland on several of the large sheets of fresh-water.

The range of the Great Crested Grebe extends over the whole of the Palaearctic region, as well as India, and it is also found in Australia. It does not inhabit North America, and the African species appears to be different.

The nests are formed of weeds and rushes, and are always damp. Those which I found in Pomerania contained three or four eggs. They were warm and covered with damp moss; but in the nests containing only one or two eggs, the latter were uncovered and cold. The natural inference is that the eggs are not covered until the female begins to sit, and that the object of covering them is not protective, at least in the technical sense in which that word is now used. The Grebes cover their eggs, not to conceal them from enemies, but to protect them from cold.

The eggs of the Great Crested Grebe are green, as may be seen by looking through the hole against the light; but this ground-colour is almost entirely obscured by an irregular and often rough layer of chalky white. The large end is seldom much more rounded than the small end. They vary in length from 2·4 to 2·0 inches, and in breadth from 1·6 to 1·3 inch. Small eggs occasionally measure less in one of their dimensions than large

eggs of the Red-necked Grebe; but in that case the other dimensions always exceed the maximum of the latter species, so that the eggs of the two birds cannot easily be confused.

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### THE RED-NECKED GREBE.

(*Podiceps rubricollis.*)\*

PLATE 22, FIG. 12.

The Red-necked Grebe is a regular winter visitor to the British Islands, being most numerous in severe seasons. It is almost a circumpolar bird; but the American ornithologists regard the birds inhabiting their continent and East Siberia as specifically distinct from those inhabiting Europe and West Siberia. In Scandinavia it is a resident south of the Arctic circle, and is a common summer visitor to Archangel, but it has not been recorded from the lower valleys of the Petchora or the Ob. It breeds in South-west Siberia, Turkestan, and the basins of the Caspian and Black Seas. It does not appear to breed south of the valley of the Danube, nor west of the valley of the Rhine, occurring only on migration or in winter beyond these limits.

The nests are sometimes placed in the recesses of the thick reed-beds, but quite as often they can be seen at a considerable distance, in localities where the reeds are only half-grown and thinly sprinkled over the water. The nest is always floating, so that it can rise or fall with the water, and is considerably less than that of the Coot. It is somewhat carelessly made of reeds and decayed water-plants, and near each nest is a sort of sham nest or foundation of a nest, merely a few reeds laid together, which is used as a roosting-place for the parent which, for the time being, is not occupied with the incubation of the eggs.

Fresh eggs may be obtained during the first half of May. The number of eggs is usually three, often four, and they vary in length from 2·1 to 1·9 inch, and in breadth from 1·4 to 1·25 inch. The ground-colour is green, but this is so coated over with chalky-white, of a more or less irregular and rough texture, that it can only be seen here and there. They are smaller than eggs of the Great Crested Grebe, though both dimensions over-

\* *Podiceps griseigena* (Bodd.)—Saunders, Manual, p. 703.



Squacco Heron.



Common Heron.



Purple Heron.



Night Heron.



Buff-backed Heron.



Ibis



Little Egret.



Great White Egret.



Common Bittern.

Little Bittern.



Black Stork.



Spoonbill.



Spoonbill.

White Stork.







Shag.

Cormorant.



Gannet.

White Pelican.



A large, pale seabird with dark wings and a long, deeply forked tail. It is shown from a slightly elevated angle, facing towards the right.

Manx Shearwater.

A smaller, darker seabird with a rounded body and a short, square-tipped tail. It is shown from a side-on perspective, facing towards the left.

Dusky Shearwater.

A small, dark seabird with a slender body and a long, deeply forked tail. It is shown from a side-on perspective, facing towards the right.

Bulwer's Petrel.

A small, dark seabird with a rounded body and a short, square-tipped tail. It is shown from a side-on perspective, facing towards the left.

Stormy Petrel.

A large, dark seabird with a thick neck and a short, square-tipped tail. It is shown from a side-on perspective, facing towards the right.

Fulmar.

A small, dark seabird with a long, deeply forked tail. It is shown from a side-on perspective, facing towards the right.

Fork-tailed Petrel.  
Wilson's Petrel.

A large, pale seabird with dark wings and a long, deeply forked tail. It is shown from a slightly elevated angle, facing towards the right.

Great Shearwater.



lap, but never in the same egg. This is also the case with the eggs of the Black-necked and Sclavonian Grebes, which are always smaller.

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### THE SCLAVONIAN GREBE.

(*Podicipes cornutus.*)\*

PLATE 22, FIG. 8.

The Sclavonian or Horned Grebe is a semi-Arctic species, and is only a winter visitor to the British Islands. It is a circumpolar bird, but does not breed north of the Arctic circle, except in Norway. In Europe it is only found on migration, or in winter south of the Baltic. It breeds in Greenland and Iceland, Scandinavia, Russia, and less frequently in Denmark. In Asia it is extremely abundant in South-west Siberia, the basin of Lake Baikal, and in Dauria, but appears to be rarer on the Lower Amoor. On the American Continent it breeds in Alaska and throughout British North America south of the Arctic circle.

It makes a nest near the banks of lakes, which, like those of its allies, is generally a floating structure composed of decayed water plants, amongst which it is placed. Krüper occasionally found it on a tussock of grass in the water, and once on a stone. The number of eggs never exceeds five. They are of precisely the same shape and colour as those of the allied species. They vary in length from 1·9 to 1·6 inch, and in breadth from 1·2 to 1·1 inch. They are smaller than eggs of the Red-necked Grebe and larger than those of the Little Grebe, but are indistinguishable from eggs of the Black-necked Grebe.

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### THE BLACK-NECKED GREBE.

(*Podicipes nigricollis.*)

PLATE 22, FIG. 11.

The Black-necked or Eared Grebe is chiefly known in our islands as a rare visitor on spring and autumn migration, though a few have been obtained during winter, and it is believed to have bred in Norfolk. The Black-necked Grebe has a somewhat similar range to that of the Little Grebe. It is a resident in the

\* *Podicipes auritus* (Linn.)—Saunders, Manual, p. 705.

basin of the Mediterranean, but is a summer visitor to Central Europe and Southern Russia, as far north as the Baltic and Moscow.

The nest is concealed amongst reeds or sedge, and is generally a floating mass, like those of the allied species of Grebe; but it is occasionally placed on a tussock of grass or on fallen sedge. It is a small compact structure, not more than 9 inches across, and is composed of dead sedge, mixed with grass and water plants. When the nest is left, the eggs are carefully covered with wet moss and rotten grass.

The eggs are laid late in May. The number is usually four, but five are sometimes found. Like those of other Grebes, they are creamy-white in colour, but when held up to the light the green colour of the inside may be seen through the hole, and is sometimes traceable on the surface. They are considerably tapered at both ends, rough and irregular in texture, and vary in length from 1·9 to 1·7 inch, and in breadth from 1·25 to 1·1 inch. They cannot be distinguished from the eggs of the Slavonian Grebe, but they are always larger than eggs of the Little Grebe, and smaller than those of the Red-necked Grebe.

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#### THE LITTLE GREBE.

(*Podicipes minor.*)\*

PLATE 22, FIG. 5.

The Little Grebe is by far the commonest British species of this genus. It is a resident in all districts suited to its habits, both in England, Wales, Scotland, and Ireland, extending to the Outer Hebrides and the Orkneys. The Little Grebe is confined to the Old World, where it is a resident south of about lat. 42° in the sub-tropical portion of the northern hemisphere, from the Antarctic to the Pacific; but Dr. Sharpe has pointed out that the African and Indian Little Grebes belong to distinct species.

The nests are generally floating structures of weeds moored near an island, in some reedy sheet of water; they are seldom hidden in the reeds, and frequently quite in the open.

The number of eggs varies from three to six, but four or five is the usual clutch. They are somewhat rough in texture, without

\* *Podicipes fluviatilis* (Tunst.)—Saunders, Manual, p. 709.

much gloss, and frequently tapered at both ends. When fresh laid they are dull white, but soon become stained a dirty buff; they always look green through the hole when held up to the light. They vary in length from 1·55 to 1·3 inch, and in breadth from 1·1 to 0.9 inch.

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### FAMILY RALLIDÆ,

#### OR RAILS.

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The Water-rail, Water-hen, and Coot are residents in Great Britain. The Crakes are either regular visitors in spring or of accidental occurrence.

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#### THE CORN-CRAKE.

(*Crex pratensis.*)

PLATE 22, FIG. 9.

The Corn-crake, or Land-rail, breeds in all suitable localities throughout Great Britain. It is found in summer all over Europe, and as far east as the valley of the Yenisei, and breeds as far north as the Arctic circle, wintering in Africa.

The nest is a much better structure than is usually supposed. The materials used are coarse dry grasses and other herbage, and very often a few withered leaves, whilst the inside is lined with fine grass, very similar to that used by the Missel-Thrush. It is very carefully made, the materials being well interwoven, and is quite as elaborate a structure as the nest of a Pipit or a Skylark. It is generally built in a little hollow in the ground, either a natural one or one made by the birds.

The eggs are from eight to twelve in number, nine being an average clutch. They vary from pale buff to creamy-white or bluish-white in ground-colour, spotted and blotched with surface spots of reddish-brown, and underlying ones of pale lilac. The markings are seldom so numerous as to cover much of the ground-colour, and are generally distributed over most of the surface. Sometimes one egg in a clutch is much paler than the rest, and the markings much smaller. They vary in length from 1·5 to 1·36 inch, and in breadth from 1·1 to 1·02 inch.

## THE SPOTTED CRAKE.

*(Crex porzana.)*\*

PLATE 22, FIG. 1.

Although generally distributed through the British Islands in summer, this Crake is more local than the others, and is nowhere abundant, breeding in a few districts only. It is a summer visitor to Scandinavia up to lat. 65°, and in West Russia up to lat. 64°. In the Ural Mountains it is not known to have occurred farther north than lat. 58°, or than lat. 55° in West Siberia. It also visits Turkestan in summer.

The nests found by me in Holland were large for the size of the bird, built in clumps of rushes or among reeds; they stood nearly a foot above the level of the water, and were composed of flat leaves of the reed, sedge, and other water-plants, and generally, when built in the reeds, had a foundation of dead broken reed.

The number of eggs is from eight to twelve: they are usually laid in May or early in June. They vary in ground-colour from buff to very pale greenish-white, boldly spotted and speckled with pale and dark brown, and with underlying markings of violet-grey. The spots vary in size from that of a small pea to a mere speck. Most eggs are finely dusted over the entire surface with these small specks, amongst which the larger markings are somewhat evenly dispersed. On some specimens most of the markings are at the large end, where they sometimes form broad irregular streaks joining the larger blotches together. On many eggs the underlying spots are as numerous as the surface ones, sometimes more so, sometimes less. The eggs vary in length from 1·4 to 1·2 inch, and in breadth from 1·0 to 0·9 inch.

## BAILLON'S CRAKE.

*(Crex bailloni)*.†

PLATE 22, FIG. 4.

Baillon's Crake has occurred in various parts of the United Kingdom, and nests have been found in Cambridgeshire and on the Norfolk Broads. To Central Europe it is a summer migrant,

\* *Porzana marquettii*—Saunders, Manual, p. 495.† *Porzana bailloni*—Saunders, Manual, p. 499.

but its range does not extend north of the Baltic, and its occurrence in the Baltic Provinces appears to be doubtful. In Eastern Russia it breeds as far north as lat. 56°.

The breeding-season of Baillon's Crake commences late in May or early in June. The nest is generally placed amongst the aquatic vegetation on the banks of a pool or stream, and is made of sedge, dry leaves, and grasses: it is rather large, loosely put together, but not badly made.

The eggs of Baillon's Crake are from five to eight in number, six being the average clutch. They are oval in form, and rather glossy: in ground-colour they vary from pale olive to rich buff, profusely but indistinctly spotted, blotched, freckled, and mottled, with olive-brown and dull violet-grey. On some eggs the markings are more confluent than on others, and mostly to be seen at the larger end. They vary from 1·2 to 1·1 inch in length, and from 0·9 to 0·8 inch in breadth. It is almost impossible to distinguish with certainty the eggs of this species from those of the Little Crake, but, as a rule, they are slightly smaller.

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#### THE LITTLE CRAKE.

(*Crex parva*.)\*

PLATE 22, FIG. 6.

The Little Crake is a rare visitor to our islands on spring and autumn migration. It is not impossible that some remain to breed, but no evidence of the fact is as yet forthcoming. It is locally distributed in Central and Southern Europe, and is found as far to the eastward as Turkestan and Afghanistan.

The nest is generally very carefully concealed among the reeds and rushes that grow in the bird's swampy haunts. Sometimes it is built on a large mass of decaying reeds which have been laid by the wind, and is placed at a height of a few inches to a foot or more above the surface of the water. It is rather large for the size of the bird, very flat, and somewhat loosely put together. It is generally made of bits of flags, leaves of the common reed, coarse grass, and scraps of other aquatic vegetation.

The eggs of the Little Crake are seven or eight in number, pale yellowish-brown in ground-colour, indistinctly but evenly marbled

\* *Porzana parva*—Saunders, Manual, p. 497.

and blotched over the entire surface with darker brown, and occasionally a few small very dark brown specks. Some specimens have the markings more numerous at the large end, where they form an ill-defined mass. They vary from 1·3 to 1·2 inch in length, and from 0·9 to 0·85 inch in breadth. Eggs of this species closely resemble those of Baillon's Crake, but are larger—the character of the markings is also very similar.

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### THE WATER-RAIL.

(*Rallus aquaticus.*)

PLATE 22, FIG. 3.

The Water-rail is found throughout Great Britain in localities suited to its skulking habits. It is a partial migrant, being most common in summer in some districts, in others in winter.

It is generally distributed throughout Europe and is resident in most countries, extending eastward as far as Turkestan, the northern limit of its breeding range being 63° in Scandinavia, and the latitude of Riga in Russia.

The nesting-season commences early, and eggs have been found in the first week in April. A nest which I found in the Norfolk Broads was admirably concealed, and was placed about a foot from the ground, but it had a solid foundation under it, formed by the roots of the clump of rushes in the midst of which it was built. It was carefully made of flat sedge and the flat leaves of the reed, lined with dry broken pieces of round slender roots.

The number of eggs laid by the Water-rail varies from five to eleven, but from five to seven appears to be the usual number. They are very smooth, but do not exhibit much gloss, and are pale buff or buffy-white in ground-colour, sparingly spotted and speckled with reddish-brown surface-markings and violet-grey underlying ones. The spots are seldom larger than No. 6 shot, and are most abundant on the large end of the egg, where they sometimes congregate into a confluent mass. The underlying spots are as numerous as the surface ones, and on some eggs predominate, while in exceptional specimens a few of the spots are as large as peas. The length varies from 1·5 to 1·28 inch, and the breadth from 1·09 to 0·98 inch.

## THE WATER-HEN.

*(Gallinula chloropus.)*

PLATE 22, FIG. 7.

This species is a very common resident throughout the British Islands, and is distributed over the greater part of the Old World, excepting the Australian region.

The nest of the Moor-hen, as the species is generally called, is a mass of reeds, sometimes intermixed with flags and coarse grass; it is loosely put together, but the materials, being moist, soon settle down into a tolerably firm mass. The middle of the nest is more carefully finished than the other parts, and the materials are finer, sometimes dry leaves being used.

The eggs are from four to ten in number, seven or eight being an average clutch. They are buffish-white or pale reddish-buff in ground-colour, spotted or speckled with reddish-brown and dark grey. The markings are never so numerous as to hide much of the ground-colour, and they generally vary in size from that of a No. 6 shot to that of a speck, but sometimes many of them are as large as a pea. They vary in length from 1·9 to 1·55 inch, and in breadth from 1·3 to 1·15 inch. An abnormally large egg in my collection measures 2·19 inches in length, and 1·45 inch in breadth.

## THE COMMON COOT.

*(Fulica atra.)*

PLATE 22, FIG. 2.

The Coot, though not so universally distributed as the Water-hen, and rather more local, is to be found in the neighbourhood of slow-running streams, lakes, and ponds, throughout the British Isles. It is found generally throughout the Palaeartic region from Scandinavia to Northern China, wintering somewhat to the southward in India and Burmah.

The nest is a large bulky structure, sometimes as much as two feet in height, varying according to the depth of the water. In some cases it is a floating structure, anchored safely to the surrounding reeds, or built on a large mass of rushes that have

been broken by the wind and lie on the surface of the water. The outside is generally made of coarse flags, reeds, dead leaves, and portions of aquatic plants; and as it approaches completion finer materials are used, and the lining generally consists of dry reed leaves.

The eggs are from six to twelve in number, seven or eight being an average clutch. They are buffish-white or stone-colour, spotted and speckled evenly over the entire surface with blackish-brown. The markings are seldom very large, generally varying from about the size of No. 10 shot to mere specks. On some eggs many of the spots are underlying and violet-grey. They are not subject to much variation in colour, but differ considerably in size. They vary in length from 2·2 to 2·08 inches, and in breadth from 1·55 to 1·05 inch.

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## FAMILY OTIDIÆ,

### OR BUSTARDS.

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#### THE GREAT BUSTARD.

(*Otis tarda.*)

PLATE 23, FIG. 4.

The Great Bustard formerly bred in several parts of Great Britain, but is now completely extinct. It nests on all the steppes and large open plains throughout the southern portion of the Palæarctic region. It is found on the plains of Northern and Central Germany, Spain, Italy, the steppes of the Danube, South Russia, and Turkey, and eastwards into Palestine and throughout Turkestan.

A nest found by me in Northern Germany was a slight hollow in the midst of the wheat, not more than an inch depressed even in the centre, and occupying a space about 18 by 13 inches. A handful of dry grass was all the lining below the eggs, which were warm and slightly incubated.

The eggs of the Great Bustard are generally only two in number, but sometimes three are laid. They vary from olive-green to pale buff and olive-brown in ground-colour, and are spotted and blotched with reddish-brown, and with numerous underlying markings of greyish-pink. The markings are generally obscurely defined, and somewhat evenly distributed over the entire surface. On some eggs the blotches are very irregular, and are intermingled with small rich dark brown streaks and scratches. The surface is slightly rough, full of small pores, and possesses a little gloss, but some specimens are much smoother than others. They vary in length from 3·2 to 2·7 inches, and in breadth from 2·4 to 2·15 inches. They differ considerably in shape, some being elongated at both ends, whilst others are nearly round.

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### THE LITTLE BUSTARD.

(*Otis tetraz.*)\*

PLATE 23, FIG. 2.

The Little Bustard occurs in Great Britain nearly every other year, and has been many times recorded, principally from the eastern countries. It has a more restricted range than its larger congener, and its home is from Southern Europe to Central Asia, reaching to about 55° in Russia.

In a nest found by me in the Danubian Steppes the hollow was deeper than that of the Great Bustard, and there was a distinct nest of dry grass and weeds, though very slight; it was about 7 inches across, and well concealed by tufts of a kind of lucerne.

The eggs of the Little Bustard are usually four in number, but three are often found, and, it is said, sometimes five. They vary in ground-colour from buffish-brown to dark olive-brown and olive-green, indistinctly mottled and spotted with pale reddish-brown. Most of the markings are congregated on the large end of the egg, sometimes on the small end, and form an indistinct confluent mass. The surface is highly polished, rather smooth, and the pits and pores are not very conspicuous. The eggs vary in length from 2·15 to 1·93 inches, and in breadth from 1·6 to 1·5 inch.

\* *Tetraz tetraz*—Sharpe, Handb., III., p. 120.

## MACQUEEN'S BUSTARD.

(Otis macqueeni.)\*

PLATE 23, FIG. 1.

Two specimens of Macqueen's Bustard have been obtained in England. The breeding range of the species appears to be confined, so far as is known, to Turkestan, from Yarkand to the eastern shores of the Caspian, extending northwards into the extreme south-west of Siberia, as far east as Lake Saisan, and southwards into Persia and Afghanistan.

Whether it builds a nest, or merely lays its eggs in a hollow on the bare plain, those naturalists who have been on its breeding-grounds omit to say. Doubtless in its nidification it resembles its close ally the African Houbara, whose nest is only a depression in the ground, with no lining. I have an egg of this species in my collection which was obtained by Tancré's collectors on the Altai Mountains. It is buffish-brown or rich stone-colour, sparingly blotched and spotted with surface-markings of dark brown, and with paler underlying blotches of the same colour and dull grey; the spots are evenly distributed over the entire surface, but none of them are very bold or decided. This specimen measures 2·55 inches in length and 1·85 inch in breadth. It will be noticed that the egg of the present species is of a very distinct type from either of the other British Bustards, and more closely approaches that of the Plovers.

## THE THICK-KNEE.

(Edicnemus crepitans.)†

PLATE 23, FIG. 3.

The distribution in England of the Thick-knee, or, as it is frequently called, the Stone-curlew, or Norfolk Plover, is very similar to the former distribution of the Great Bustard in our islands.

On the Continent the Stone-curlew does not breed north of the Baltic. It is a resident throughout the basin of the Mediterranean; but to France, Holland, Belgium, Germany, and South

\* *Houbara macqueenii*—Sharpe, Handb., III., p. 123.† *Edicnemus scolopax*—Saunders, Manual, p. 515. *Æ. aedicnemus*—Sharpe, Handb., III., p. 127.

Russia it is a summer migrant. Its northern range in South Russia has not been accurately determined ; but it is common at Sarepta, and may range up to lat. 50°.

The bird makes no attempt at a nest, a slight hollow being made in the ground.

The eggs of the Stone-curlew, two in number, vary from pale buffish or creamy-white to rich clay-buff in ground-colour, spotted, blotched, and streaked with light and dark brown, and with underlying markings of lilac or grey. Some specimens are very boldly spotted and blotched, chiefly at the large end ; others are evenly marked with spots and blotches, many of the latter being connected by streaky lines of paler brown. On some eggs most of the markings are underlying ones ; on others very few of these are to be seen. The intensity of the brown colour also varies considerably, some of it being almost black. The eggs vary in length from 2·2 to 2·0 inches, and in breadth from 1·6 to 1·49 inch. The only eggs with which they are at all likely to be confused are those of the Oyster-catcher, but the eggs of the latter bird are larger and the markings are darker and much bolder and more decided.

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FAMILY ALCIDÆ,  
OR AUKS.

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Of the seven species of Auks enumerated below, four are resident in some portion or other of the British Islands, the Great Auk is now extinct, and two are winter visitants.

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THE GREAT AUK.

(*Alca impennis.*)

PLATES 27, 28.

Two hundred years ago the Gare Fowl or Great Auk was known as a regular summer visitor to St. Kilda.

It was always a semi-Arctic Atlantic species, breeding on the islands off the coasts of Newfoundland, Labrador, South Greenland, Iceland, the Faroes, and probably on some of the islands

on the coast of Norway. It doubtless made no nest and laid only one egg, which is said to have been deposited during the first half of June. As in the allied species, the egg is large in proportion to the size of the bird, varying from 5·1 to 4·7 inches in length, and from 3·1 to 2·8 inches in breadth. The ground-colour is a creamy-white, with black or dark brown surface-markings and grey underlying spots. Most of the eggs still remaining in collections resemble the common type of eggs of the Razor-bill, and are somewhat sparingly spotted, the markings being largest and most irregular in shape round the large end. The specimens figured are in the Museum of the Royal College of Surgeons, and I have to acknowledge the kindness of Professor Stewart in allowing them to be drawn, as illustrations of these eggs have not been given before. Mr. E. Bidwell, who drew my attention to this fact, considers them to be exceptionally good types of the variation shewn in eggs of this species.

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### THE RAZOR-BILL.

(*Alca torda.*)

PLATE 24, FIG. 1—4.

The Razor-bill is a very common bird on almost all parts of the British coasts that are sufficiently rocky to afford it a suitable place for its nesting-colonies. It is found breeding more or less abundantly on all sea-rocks from Cornwall to Shetland, round the Irish coast, the Channel Islands, and St. Kilda.

The Razor-bill is probably an exclusively North Atlantic species. It breeds on the coasts of Nova Scotia, Newfoundland, and Labrador, but does not enter Hudson's Bay or Davis Straits. Its range extends eastwards along the coast of Greenland as far north as lat. 70°, to Iceland, the Faroes, the British Islands, and the north coast of France. Thence its breeding-grounds are to be found wherever the coast is rocky on the shores of the North Sea and the Baltic, the coasts of Norway and the White Sea, where it was found breeding by Henke on the island of Onega.

If the locality be well suited to them, great numbers of birds breed together on the same range of cliffs, but in less eligible districts the pairs are scattered. The great attraction is the presence of suitable crannies amongst the cliffs where the bird

can lay its eggs ; ledges are shunned. The Razor-bill must have a hole, if one can possibly be obtained. The eggs are deposited on the cliffs at various heights from the water, but seldom very close to the sea, and generally near the summit.

The eggs of the Razor-bill vary very much, but the range of variation, both in the colour and shape of the spots, is not nearly so great as in those of the Guillemot. A remarkable difference between the eggs of these two birds is to be found in the fact that whereas those of the latter species, when viewed through the hole against the light, sometimes appear cream-coloured and sometimes green, the eggs of the Razor-bill, when examined in the same way, always look green, though on the surface they never show more than the faintest tint of that colour. The ground-colour of the eggs of the Razor-bill varies from pure white to pale reddish-brown. The colour of the overlying spots is dark reddish-brown, sometimes approaching black, and that of the underlying spots pale greyish-brown ; they vary in size from large blotches, often confluent round the large end, to the minutest speck. In rare instances a few streaks are mixed with the spots, and in still rarer instances most of the markings are streaks. The normal eggs vary in length from 3·1 to 2·7 inches, and in breadth from 2·25 to 2·2 inches.

### THE COMMON GUILLEMOT.

(*Alca troile*.)\*

PLATE 25, FIGS. 1—6.

The Guillemot breeds in all suitable localities from the Isle of Wight in the south, up to the north of Scotland, as well as in the islands off the coasts. It nests also in Western Europe from the coasts of Portugal and France to Heligoland and the Baltic and along the coasts of Norway. It also breeds in North America from New England to lat. 64° N.

The Guillemot lays but a single egg, on the bare rock. The variation in the colour and marks of the eggs is so pronounced that no description can convey an adequate idea of them, and I have figured a few of the most remarkable forms. They vary in

\* *Uria troile*—Saunders, Manual, p. 683.

length from 3·5 to 3·0 inches, and in breadth from 2·0 to 1·85 inch. Abnormally large eggs and very small varieties are sometimes met with.

The Ringed Guillemot (*Alca ringvia*) I consider to be merely a variety of the Common species.

### BRÜNNICH'S GUILLEMOT.

(*Alca brünnichi*).\*

PLATE 26, FIGS. 5, 6.

This species is a rare winter visitor to the British coasts. It breeds in Greenland above lat. 64°, and on the coasts of North America, as well as in vast numbers on Spitsbergen, Jan Mayen, Franz-Josef Land, and Novaya Zemlya.

The eggs of this species resemble, as might be expected, those of the Common Guillemot, and Mr. H. J. Pearson, who took a number of eggs on Novaya Zemlya, says that they pass from pure white to the browns of the Razor-bill, and every variety of yellow and blue-greens, some being very handsomely blotched with black.

### THE BLACK GUILLEMOT.

(*Alca grylle*).†

PLATE 26, FIG. 4.

The stronghold of the Black Guillemot in Great Britain is the west coast of Scotland, including the Hebrides, Orkneys, and Shetland. It is not known to breed with certainty on the east coast of Scotland south of Sutherland. In Ireland it has deserted some of its former breeding-places, but still has colonies on the north coast.

The Black Guillemot breeds in the Bay of Fundy, on the coasts of Newfoundland, Labrador, South Greenland, Iceland, the Faroes, Ireland, Scotland, Denmark and the Baltic, on the Norwegian coasts, and eastwards as far as the White Sea.

It is a rather late breeder, its eggs being seldom deposited in Scotland before the end of May or the first week in June, and fresh eggs may be obtained all through the latter month.

\* *Uria brünnichi*—Saunders, Manual, p. 685.

† *Uria grylle*—Saunders, Manual, p. 686.

It makes no nest, but deposits its eggs either in a crevice of the cliff, it may be hundreds of feet above a boiling sea, or amongst the debris under the fallen rock-fragments at the foot of the cliffs. Sometimes they are laid under the large blocks of rock on the beach, and less frequently at considerable distances inland.

The eggs are almost invariably two in number. Macgillivray says that they are frequently three, and Audubon states that the latter number is the usual clutch. They are subject to but little variation, ranging in ground-colour from very pale buff or creamy-white to very pale bluish-green. The overlying markings are rich deep brown, some of them almost black, and they vary in size from large irregular blotches to minute specks; many of the blotches are confluent, and form in some instances an irregular zone round the large end. The underlying markings, which are often large and generally very conspicuous, are inky-grey. They vary in length from 2·5 to 2·2 inches, and in breadth from 1·7 to 1·5 inch.

### THE LITTLE AUK.

(*Alca alle*.)\*

PLATE 26, FIG. 3.

The Little Auk, or "Rotche," is only a winter visitor to the British Islands, and is most common in the extreme northern portions, especially in the Orkneys and Shetlands. It is an Atlantic species, but only breeds north of the Arctic circle. It is most abundant on the coasts of Spitsbergen, where it is said to breed in countless thousands, and ranges eastwards as far as Franz-Josef Land and Novaya Zemlya, and westwards to Grimsey Island, North Iceland, and to both shores of Greenland north of lat. 68°.

It rarely breeds at any high elevation, but lays its single egg in some crevice, or under the loose stones that have fallen from the cliffs, occasionally at some distance from the coast.

The egg is pale greenish-blue, occasionally indistinctly streaked round the large end with yellowish-brown, and varies in length from 1·9 to 1·8 inch, and in breadth from 1·35 to 1·2 inch.

\* *Mergulus alle*—Saunders, Manual, p. 689.

## THE PUFFIN.

*(Fratercula arctica.)*

PLATE 26, FIGS. 1, 2.

The Puffin, or "Sea Parrot," is one of the best-known of British sea-birds, and is found in all suitable localities along the entire coast-line of our islands during summer. In rocky districts it is much more numerous than on low-lying coasts, and it is especially abundant at Lundy Island, Priestholme off the coast of Anglesey, the Isle of Man, the Hebrides (especially St. Kilda), the Orkneys, Shetlands, and the Farne Islands. It is equally common on the Irish coasts. It also nests on the coasts of North America.

Puffins breed in colonies, sometimes only composed of a score or so of birds, but very often of twenty thousand or more. Low flat islands covered with turf, rocky islets (as the Bass and Ailsa Craig), or bold headlands (as those of Flamborough), are the places usually selected. Sometimes, however, it takes up its quarters in a rabbit-warren, breeding in the deserted burrows; and at others it rears its young amongst the clefts and crannies of the cliffs, or under the thickly-strewn rock fragments.

When first laid, the eggs of the Puffin are pale bluish-white in ground-colour, very indistinctly spotted and blotched with pale brown and violet-grey. Some eggs are much more finely marked than others, having both kinds of spots large and distinct, sometimes confluent and forming an irregular zone round the large end, or elongated into fine scratchy streaks. Most of the markings are underlying ones. The eggs vary in length from 2·6 to 2·2 inches, and in breadth from 1·75 to 1·6 inch.

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*FAMILY LARIDÆ,**OR GULLS AND TERNS.*

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These may be divided into three sub-families, viz., the Terns (*Sterninæ*), of which five nest with us, and eight are migrants



Black-throated Diver.



Red-throated Diver.



Great Northern Diver.





Spotted Crake.



Coot.



Water Rail.



Baillon's Crake.



Little Crake.



Water Hen.



Little Grebe.



Corn Crake.

Sclayonian Grebe



Great Crested Grebe.



Black-necked Grebe.



Red-necked Grebe.





Macqueonis Bustard.



Little Bustard.



Thicknee.



Great Bustard.





Razorbill.



Razorbill.



Razorbill.



Razorbill.



or rare visitors; the Skuas (*Stercorariinae*), of which two are resident, and two are visitors; and the Gulls (*Larinæ*), of which six breed in Great Britain, while nine species are more or less rare visitors to our coasts.

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### THE BLACK TERN.

(*Sterna nigra*).\*

PLATE 31, FIGS. 1, 3.

The pretty little Black Tern is now, alas, only a visitor to the British Islands during spring and autumn migration. Half a century ago it bred every season in considerable numbers in Romney Marsh in Kent, on many of the Norfolk Broads, and in some of the Lincolnshire Fens, but it is not known to have remained to nest in this country for the last five-and-twenty years.

It breeds, however, in enormous numbers in various parts of the Continent, from Estonia on the southern shores of the Gulf of Finland to Western Turkestan and the Altai Mountains in the east. It also nests in suitable localities throughout the basin of the Mediterranean, except in Egypt.

The Black Tern is a late breeder, and it is useless to look for eggs in Denmark before the first week of June, or, on the Danube, before the last week of May.

The nests are built on floating weed, and can very rarely be reached without a boat; they are placed in somewhat scattered colonies, and each nest is a substantial structure of cotton reeds, dead horse-tails, or decaying pond-weed or other water-plants.

There is a full clutch of eggs. They vary in ground-colour from greyish-buff to buffish-brown, and are thickly spotted and blotched with rich reddish-brown and very dark blackish-brown, with underlying markings of greyish-brown and inky-grey. Few eggs are more boldly marked than those of the Black Tern. On most of the eggs the large blotches are confluent, often forming broad irregular bands round the widest part of the shell or round the large end. The eggs vary in length from 1·46 to 1·3 inch, and in breadth from 1·05 to 0·9 inch.

\* *Hydrochelidon nigra*—Saunders, Manual, p. 617.

## THE WHITE-WINGED BLACK TERN.

*(Sturna leucoptera.)\**

PLATE 29, FIGS. 4, 6.

The White-winged Black Tern is an accidental visitor to the British Islands. It breeds in South Russia, Hungary, and probably in the delta of the Rhone, but it only visits Spain on migration. It is said to breed in Algeria and in some of the islands of the Mediterranean. Further east it nests in the plains of Poland and the Caucasus, and probably in Turkestan, as it is a regular summer visitor to the rivers, lakes and marshes throughout the extreme south of Siberia, Mongolia, and North China.

The nest resembles that of the Black Tern, and if not built amongst a colony of that species, is placed in a precisely similar locality, but in a colony apart.

The eggs of the White-winged Black Tern are usually three in number, but it is said that four are occasionally laid. They are precisely similar to those of the Black Tern, and exhibit the same variations, ranging from greyish-buff to buffish-brown in ground-colour, more or less heavily spotted and blotched with reddish-brown and blackish-brown. The underlying markings are pale grey. The eggs vary in length from 1·4 to 1·34 inch, and in breadth from 1·01 to 0·95 inch.

## THE WHISKERED TERN.

*(Sturna hybrida.)†*

PLATE 29, FIGS. 8, 10.

The Whiskered Tern is an inland species confined to the tropical and semi-tropical regions of the Old World. It has only occurred in the British Islands on a few occasions, and its principal breeding-places in Europe are the Spanish swamps, the delta of the Rhone, and the marshes of the Upper Danube in Hungary, and of the Dnieper and South-west Russia.

In North Africa it breeds more abundantly; and small colonies are to be found in Greece and Palestine. Further east it breeds on the plains of the Caucasus, in Turkestan, Cashmere, and

\* *Hydrochlidon leucoptera*—Saunders, Manual, p. 619.† *Hydrochelidon hybrida*—Saunders, t.c., p. 621.

Northern India; and Prjevalsky found it nesting in the valley of the Hoang-ho in South-east Mongolia. Canon Tristram found it breeding in Algeria, in nests of the Eared Grebe which the young had left; but in India, Anderson saw it building floating nests of its own, some of which were more than a foot in diameter and four inches high.

The eggs of the Whiskered Tern are readily distinguished from those of the Black and White-winged Black Terns by their larger size, smaller markings, and paler and greener ground-colour. The eggs vary in length from 1·65 to 1·4 inch, and in breadth from 1·16 to 1·05 inch.

#### THE GULL-BILLED TERN.

(*Sterna anglica*.)\*

PLATE 31, FIGS. 6, 8.

About half-a-dozen specimens have been obtained in Great Britain. The species nests in the temperate and sub-tropical portions of both hemispheres. The nests which I found in the salt-islands off the coast of Asia Minor were not very close to each other, but they were all in one part of the island. The eggs were on the sand, never on the black mud; some were lying in slight natural hollows between the patches of vegetation on the bare sand, without any attempt at a nest, but generally a slight hollow was scratched in the earth or sand, and a few bits of seaweed or dead grass frequently formed an apology for a nest.

The most common number of eggs in each nest was two; three were not uncommon, but I never found four in one clutch. The eggs of the Gull-billed Tern vary in ground-colour from buffish-white to buffish-brown, with occasionally a very slight tinge of olive. The spots are never very large, rarely as big as a pea; the surface-markings are brown, and the underlying ones, which are always very conspicuous, are grey. Occasionally the spots are most numerous round the larger end of the egg, but they are generally evenly and sparingly distributed over the whole surface. The eggs vary in length from 2·1 to 1·8 inch, and in breadth from 1·5 to 1·3 inch. Small eggs of the Sandwich Tern might sometimes be mistaken for eggs of the Gull-billed Tern; but the latter are almost always much duller in colour.

\* *Gelochelidon anglica*—Saunders, Cat. B., Brit. Mus., XXV., p. 25.

## THE CASPIAN TERN.

*(Sterna caspia.)*

PLATE 31, FIG. 2.

The Caspian Tern appears in Great Britain as a rare straggler on migration. In Europe it breeds on the shores of the Mediterranean and Black Seas, on the Spanish coast, on the island of Sylt, and in various localities in the basin of the Baltic. It frequents the entire coasts of Africa, breeding in the deltas of the Nile and the Zambesi. It also breeds on the islands in the Persian Gulf and the Caspian Sea, and in the salt lakes of Turkestan. It is also found in North America on both sides of the Continent, from the Arctic circle to Florida on the east; and to California on the west.

The nests are mere depressions in the sand, with occasionally a little seaweed or dead grass placed round the edge.

It is not known that the Caspian Tern ever lays more than three eggs. They vary in ground-colour from buffish-white to buffish-brown; the surface-markings, never very large, are brown, and the underlying markings, always very conspicuous, are grey. Occasionally most of the spots are round the large end of the egg, but generally they are distributed over the whole surface. The eggs vary in length from 2·7 to 2·4 inches, and in breadth from 1·8 to 1·7 inch. They resemble very closely in colour those of the Gull-billed Tern, but are always much larger.

## THE SANDWICH TERN.

*(Sterna cantiaca.)*

PLATE 30, FIGS. 1—3.

The Sandwich Tern is a regular summer visitor to many parts of the British Islands. It no longer breeds on the coast of Essex or Kent, but it is still found in some numbers on the Farne Islands off the Northumberland coast, and there is a small colony on the coast of Cumberland. A few pairs breed on Walney Island in Lancashire and on the Scilly Islands. The species must be regarded as an Atlantic one, being found both on the shores of the Palaearctic and Eastern Nearctic regions.

The Sandwich Tern arrives at the Farne Islands about the middle of April. The nests found by me were merely slight

hollows in the bare sand, in diameter and depth of the dimensions of a cheese-plate, and they and their contents were difficult to distinguish from the sand and fine gravel.

The eggs of the Sandwich Tern are remarkably handsome, and are unrivalled in the boldness of the markings which they occasionally display. The ground-colour varies from pure white to brownish-buff. The commonest colour is creamy-white; and the rarest white with a slight tinge of olive. The colour of the surface-spots is dark brown, frequently approaching black, whilst the underlying markings, which are generally very conspicuous, are pale slate-grey. The size, shape, and distribution of the spots present almost endless variations. In some of the handsomest eggs a fantastically-shaped spot covers a third of the visible surface, and occasionally eggs are met with in which the spots are delicate though short streaks. They vary in length from 2·3 to 1·9 inch, and in breadth from 1·5 to 1·3 inch.

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#### THE ROSEATE TERN.

(*Sterna dougalli.*)

PLATE 29, FIGS. 7, 9.

It is doubtful whether the Roseate Tern nests in any part of the British Islands at the present time; it was formerly found breeding on several islands off the Scotch and Irish coasts, on Foulney and Walney Islands off the coast of Lancashire, on the Farne Islands, and on the Scilly Islands.

The Roseate Tern may be regarded as an inhabitant of the Atlantic and the Indian Oceans, being found even in Australia and the Chinese Seas. It is also an inhabitant of the shores of Eastern North America, as far south as the West Indies. Like its congeners, it makes no nest, but lays its eggs in a slight depression in the sand, sometimes placing a few roots or bits of dead grass round them.

The eggs of the Roseate Tern are two or three in number, and are similar in colour to those of the Common Tern. They vary in length from 1·75 to 1·55 inch, and in breadth from 1·25 to 1·1 inch. It is impossible to give any characters by which the eggs of this species can be distinguished from those of the Common and Arctic Terns.

## THE COMMON TERN.

(Stern *hirundo*.)

PLATE 29, FIGS. 1, 3.

Next to the Arctic Tern, the Common Tern is perhaps the best known British species, although it is, especially in the north, much less abundant. Like the Arctic Tern, it is an Atlantic Ocean bird, but does not range as far north as the latter species.

The Common Tern often lays its eggs within a few feet of the water, and in many cases dispenses with a nest altogether. It generally establishes its colony on a bare shingly portion of the beach, or amongst the scant herbage of an ocean rock.

The eggs are two or three in number, never more. They vary in ground-colour from pale greyish-buff to brownish-buff, occasionally with a tinge of green. The overlying spots are dark brown, sometimes almost black, and the underlying spots are grey. The spots are generally small, less than the size of a pea, and are distributed somewhat sparingly over the whole surface, but sometimes in a band near the large end of the egg. Occasionally a few of the spots are confluent and form a large blotch, and in very rare instances streaks are to be found. They vary in length from 1·8 to 1·5 inch, and in breadth from 1·3 to 1·15 inch. They cannot with certainty be distinguished from eggs of the Arctic Tern or Roseate Tern.

## THE ARCTIC TERN.

(Stern *arctica*).\*

PLATE 29, FIGS. 10, 12.

This is the Tern *par excellence* of the British coasts, and especially north of the Tweed. It breeds in the Shetlands (where it replaces the Common Tern), in the Orkneys, throughout the Hebrides, and in all suitable places on the entire coast-line of Scotland, but always prefers an island to the mainland. On the east coast of England its great stronghold is on the Farne Islands; while on the west it breeds on the shores of Cumberland, on Walney Island, and in a few localities on the Welsh coast. On

\* Stern *macrura*—Saunders, Manual, p. 633.

the south coast it certainly breeds on the Scilly Islands, but is rarer than the Common Tern. In Ireland it breeds in many localities, principally on the west coast. It is a circumpolar species, breeding, according to Saunders, from 82° N. lat. down to about 50° N. lat. in Europe, and 42° in America.

The breeding-season commences at the Farne Islands in the first half of June. The eggs are generally laid quite close to the sea on the coarse pebbles, sand, and shingle, sometimes amongst drifted seaweed. A nest is very seldom constructed, and, if such a provision is made, it is of the slightest description—a little hollow lined with a few scraps of dry grass or stalks of marine herbage.

The eggs of the Arctic Tern are two or three in number, never four, and very closely resemble those of the Common Tern, but are on an average slightly smaller, generally more boldly blotched, and the ground-colour is much more often tinged with olive, and very frequently is a buffish-brown, much darker than the brownish-buff of the Common Tern. They vary in length from 1·6 to 1·45 inch, and in breadth from 1·2 to 1·1 inch.

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### THE LESSER TERN.

(*Sterna minuta*.)

PLATE 29, FIGS. 2, 5.

The Lesser Tern breeds in scattered colonies as far north as Aberdeenshire on the east, and the Solway Firth on the west, as well as in Ireland. Below the line of the Baltic it is found nesting in many parts of Europe, eastwards to North-western India. There are few places where this bird breeds in greater abundance than on some of the islands in the lagoon of Missolonghi, in Greece. There it makes no nest, but generally scratches a slight hollow in the sand, or in the long line of broken reeds, bits of cork, dead grass, seaweed, or similar rubbish, which marks the limit of the wavelets produced on the lagoon by the storms of winter.

Three is the usual number of eggs, but now and then four are found in one nest, possibly the produce of two females. In their ground-colour the eggs of the Lesser Tern vary precisely to the same extent as those of the Common Tern, from pale greyish-buff

to dark buff, occasionally with a slight shade of olive, but in the boldness of their spotting they very frequently equal the eggs of the Arctic Tern; otherwise they may be regarded as miniature eggs of these two allied species. They vary in length from 1·3 to 1·2 inch, and in breadth from 1·0 to 0·9 inch. Some of them very closely resemble eggs of the Kentish Plover; but the latter may generally be recognized by their more pyriform shape, and by most of the markings being streaks rather than spots.

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### THE SOOTY TERN.

(*Sterna fuliginosa.*)

PLATE 30, FIGS. 4—6.

The Sooty Tern is a bird of the tropics, but on two occasions it appears to have strayed as far as our islands. It is known to wander to the continent of Europe occasionally, but it is mainly an inhabitant of the tropical seas.

Ascension Island, the great breeding-place of the Sooty Tern, is situated a little south of the line, about a thousand miles from Africa, and rather more from South America. It is said that the birds only sit on a single egg; but this is, no doubt, the result of the constant robbery of the eggs, which is continued until the power of producing them is almost exhausted. Hume, who found this bird breeding on the Laccadive Islands, says that three is the full clutch.

The eggs of the Sooty Tern vary in ground-colour from white to pale buff; the surface-spots are reddish-brown, and the underlying spots are pale brown. The markings are generally evenly distributed over the surface of the egg, occasionally somewhat sparsely so, and not unfrequently displaying a tendency to form a zone round the larger end. The spots are generally small, ranging from the size of buck-shot downwards. The eggs vary in length from 2·1 to 1·8 inch, and in breadth from 1·5 to 1·35 inch. They approach nearest to certain varieties of the Sandwich Tern; but although the spots on some examples of the eggs of the Sandwich Tern may be no larger in size, they are always darker in colour.

## THE SMALLER SOOTY TERN.

( *Sterna anesthetia.* )

PLATE 31, FIG. 6.

An example of this species was obtained on one of the lightships at the mouth of the Thames in September, 1875; it is now in the collection of Mr. Edward Bidwell.

The eggs of this species resemble those of the preceding, but are smaller.

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## THE NODDY TERN.

( *Sterna stolidia.* )

PLATE 31, FIGS. 4, 5.

Two specimens of this Tern were obtained off the coast of Wexford, about the year 1830. It is an inhabitant of the seas in the tropics, and has much the same distribution as the Sooty Tern.

It builds a nest of grass or bits of seaweed and twigs, which is placed on a branch of a tree or on a mangrove-bough, or even on rocks.

Only one egg is laid, and the markings vary considerably, as is the case with the eggs of other Terns. Two types are figured on the plate.

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## SABINE'S GULL.

( *Larus sabini.* )\*

PLATE 36, FIG. 8.

This bird may fairly claim to be regarded as a rare straggler to our islands on autumn migration. Sabine's Gull is a circumpolar bird, breeding on the shores of the Arctic Ocean. It is not uncommon in various localities in Arctic America, from Alaska to Greenland. In the Old World it has been found on the Siberian side of Bering Straits; Middendorff found it breeding in considerable numbers on the Taimur Peninsula; and it has occurred in Spitsbergen and Jan Mayen.

The nests, according to Middendorff, were mere depressions in the moss, lined with a few dead grass-stalks.

\* *Xema sabini.* —Saunders, Manual, p. 641.

The eggs of Sabine's Gull vary in ground-colour from pale brown to dark brown, occasionally approaching olive-brown. The spots are small, varying from the size of a pea downwards, and are generally somewhat indistinct and sparingly but evenly distributed. The surface-spots are darkish brown, and the underlying spots are greyish-brown, but very indistinct. Occasionally one or two almost black spots or streaks are found, principally at the large end of the egg. They vary in length from 1·8 to 1·7 inch, and in breadth from 1·3 to 1·2 inch. In colour the eggs of this bird most resemble Skuas' eggs, but are much too small to be confused with any of them.

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### ROSS'S GULL.

(*Larus rossi.*)\*

PLATE 36, FIG. 6.

The claim of Ross's Gull to a place in the British list rests upon a single example, and the occurrence is surrounded with some doubt. The range of the species is circumpolar, as it breeds in the high north beyond the Arctic circle in both the Old and New Worlds.

The egg figured was sent from Christianshaab, on the south shore of Disco Bay, in Greenland, about 69° N. lat. The old bird which accompanied it was shot on the nest. The egg is of exactly the same character as that of Sabine's Gull, but is rather larger, measuring 1·9 by 1·3 inch.

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### BONAPARTE'S GULL.

(*Larus philadelphia.*)

PLATE 36, FIG. 7.

Bonaparte's Gull is another American species which accidentally visits the British Islands. It is an inland species, and breeds in the semi-Arctic portions of North America, from Alaska to Labrador.

Kennicott found the nests of Bonaparte's Gulls near Fort Yukon. One was built on the branch of a green spruce, near a lake, about twenty feet from the ground, and others were in

\* *Rhodostethia rosca*—Saunders, Manual, p. 643.

similar positions, but on smaller trees. Richardson found this bird breeding in colonies in similar situations, some trees containing seven or eight nests, which were made of sticks.

The eggs of the Bonaparte's Gull vary in ground-colour from pale brown to dark brown and olive-brown, but the range of variation is not very great. The spots are generally evenly distributed over the surface of the egg, but occasionally they form a zone round the larger end; they vary in size from that of a small pea down to mere specks. The surface-spots are dark brown, and the underlying spots on those eggs where the ground-colour is pale, are brownish-grey and distinct, but where the ground-colour is darker, they are greyish-brown and indistinct. The eggs vary in length from 2·05 to 1·9 inch, and in breadth from 1·45 to 1·35 inch. Small eggs of the Black-headed Gull may easily be confused with large eggs of Bonaparte's Gull; but in a series the difference in size between the eggs of the two species is very conspicuous.

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### THE LITTLE GULL.

(*Larus minutus.*)

PLATE 36, FIGS. 1, 2.

The Little Gull has been found to be a somewhat irregular visitor to our shores on migration, and in winter. The breeding-range of the Little Gull extends from the lakes of Ladoga and Onega, through Southern Siberia, to the Stanovoi Mountains and the southern shores of the Sea of Ochotsk.

The nests are built of sedge, dead reeds, and grass, the finer portions being reserved for the lining. The usual number of eggs is three, but two are occasionally found; and both Meves and Russov state that sometimes four eggs are laid in one nest. They vary in ground-colour from greyish-buff to buffish-brown and olive-brown. The surface-spots are dark brown, sometimes approaching black, and the underlying spots, which are generally very distinct (except on the eggs having a dark ground-colour), are grey. The size of the spots varies from that of a pea downwards; occasionally two or three of them are confluent and form an irregular blotch, and in some instances streaks are intermingled. They vary in length from 1·75 to 1·5 inch, and in breadth from 1·22 to 1·18 inch.

## THE BLACK-HEADED GULL.

*(Larus ridibundus.)*

PLATE 34, FIGS. 1, 2.

The Black-headed Gull is one of our commonest species. Its colonies are not so large as those of the Kittiwake, but they are much more numerous. It is a resident in the British Islands, frequenting the coasts during winter, but retiring inland in summer to breed in colonies in swamps. It is an inland species, breeding throughout the temperate portions of the Palæarctic region.

The nests are very slight structures, mere depressions in the spongy ground. Occasionally the eggs are laid on the bare ground, but there is generally a lining of dead grass, sedge, or other weed.

Very few birds are subject to greater variation in the colour of their eggs than the Black-headed Gull. The eggs vary in number from two to three, and four are occasionally found. Sometimes the eggs in one clutch are very much alike; but occasionally one of the eggs is quite different from the rest, both in the ground-colour and in the style of spotting. Probably in the latter cases the odd egg has been laid by a different bird. The eggs vary in ground-colour from pale bluish-green to greyish-buff and brown, spotted, blotched, and streaked, in almost every conceivable variety, with surface-markings of dark brown, and with underlying markings of greyish-brown. On some eggs the spots are much darker than on others, and occasionally, but apparently only where the ground-colour is pale bluish-green, they are absent or nearly so. They differ greatly in shape and size, varying from 2·45 to 1·95 inch in length, and from 1·55 to 1·35 inch in breadth.

## THE ADRIATIC BLACK-HEADED GULL.

*(Larus melanocephalus.)*

PLATE 34, FIGS. 3, 4.

Two specimens of this Gull have been obtained in England. One was shot on Breydon Broads in Norfolk in December, 1886, and another was obtained near Barking Creek in January, 1866,

and is now in the British Museum. The species inhabits the Mediterranean and Black Seas, and nests in marshes or among sand banks.

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### THE GREAT BLACK-HEADED GULL.

(*Larus ichthyaetus.*)

PLATE 35, FIGS. 3, 4.

An adult bird, in full breeding plumage, was shot in the spring of 1859 in the estuary of the Exe, in Devonshire. This specimen is now in the Exeter Museum. It is an eastern species, breeding from the basin of the Caspian eastwards to Mongolia.

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### THE COMMON GULL.

(*Larus canus.*)

PLATE 34, FIGS. 5, 6.

The Common Gull breeds in various parts of Scotland and Ireland, both on the coasts and inland, extending to the Orkneys, the Shetlands, and the Outer Hebrides. It nests only in the northern portion of the Palearctic region, from the Atlantic to the Pacific. In Europe it is not known to breed south of the Baltic.

The nest is carelessly constructed of dead grass and other weeds, and is generally placed on the ground, either in a rocky niche, on dry sandy earth, or in swampy grass or moss, and a clump of sedge or a bunch of heath are often chosen. Newly laid eggs may be obtained during the last half of May in Scotland; but north of the Arctic circle I have taken fresh eggs in the middle of June both in Norway and in Siberia. Three is the usual number. They are subject to very little variation. The ground-colour varies from olive-brown to buffish-brown. The spots are seldom larger than a pea, but occasionally very irregular in shape, and sometimes elongated into streaks; they are generally most abundant on the large end, but occasionally evenly distributed over the egg. The surface-spots are dark brown, sometimes approaching black, and the underlying spots, which are seldom very distinct, are brownish-grey. The eggs vary in length from 2·35 to 2·1 inches, and in breadth from 1·7 to 1·6 inch. They are not very easily confused with those of any other British gull.

## THE HERRING GULL.

*(Larus argentatus.)*

PLATE 33, FIGS. 1, 2.

The Herring Gull is commonly distributed round the British coasts, and breeds in more or less abundance in suitable localities. It is an Atlantic species, in the New World breeding in British North America as far north as the Arctic circle. In the Old World its range is comparatively restricted, being confined to North-west Europe. It breeds on both coasts of Scandinavia as far east as the Varanger Fjord, and in many places on the shores of the North Sea and the English Channel.

The nests are often large bulky structures, made of tufts of half-dry grass and masses of seaweed, and lined with fine grass and a few straws or stalks of the sea-campion. Sometimes they are very slight—mere hollows, scantily lined with dry grass. The eggs of the Herring Gull are usually three in number, but sometimes only two. The typical eggs of this Gull are indistinguishable in colour from eggs of the Common and Great Black-backed Gulls, but many other varieties are found which do not occur in either of those species. Some eggs are pale bluish-green with only a few small brown specks upon them, whilst others, in which the ground-colour is dark buffish-brown, are not very uncommon. Occasionally the surface-spots are as large as a sixpence. The eggs vary in length from 3·0 to 2·7 inches, and in breadth from 2·1 to 1·9 inch. The eggs of this Gull should be very carefully authenticated, otherwise they are of no value.

## THE LESSER BLACK-BACKED GULL.

*(Larus fuscus.)*

PLATE 33, FIGS. 4, 5.

The Lesser Black-backed Gull is a resident in the British Islands. During the breeding-season the distribution of the adult birds is very local south of the Tyne. There are no breeding-places on the east coast south of the Farne Islands, and none on the south coast east of Devonshire. On the west coast this Gull breeds in various localities in Wales, Devonshire, and Cornwall. In Ireland very few breeding-places are known. The

species has a very restricted range, being confined to the shores of Western Europe and North Africa.

The nests are placed in various situations. In the Farne Islands, wherever a suitable niche in the bare rocks occurs, a large slatternly nest is placed in it, composed of dry grass and the dead leaves of the various marine plants which grow on the neighbouring islands, frequently mixed with a bunch or two of seaweed. On other islands the nests are built on the grass, and occasionally almost hidden in the masses of bladder campion, which grows in great profusion in many places.

Three is the usual number of eggs in each nest. They vary much in size, shape, and tint. The colour ranges from pale bluish-green to almost white, and from greyish-buff through pale brown to dark brown. The surface-spots are rich dark brown, sometimes approaching black, and the underlying spots are brownish-grey. On some eggs the spots are very small and evenly distributed over the entire surface; on others they are large blotches and very few in number: they are usually largest and most numerous at the large end, where they often form a semi-confluent zone. In rare instances the spots assume the form of fantastically-shaped streaks and blotches. The eggs vary in length from 2·8 to 2·4 inches, and in breadth from 2·0 to 1·7 inch. It is very important that eggs of this species should be carefully identified, as many of them are indistinguishable from those of the Herring Gull.

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#### THE GREAT BLACK-BACKED GULL.

(*Larus marinus.*)

PLATE 35, FIGS. 1, 2.

The Great Black-backed Gull is a resident in the British Islands, but in the breeding-season it is principally confined to the vicinity of rocky coasts or mountain lakes. It is consequently much more common in Scotland than in England.

On the European coast its most southern breeding locality is North-western France; thence it breeds further north on the shores of the German Ocean and the Baltic Sea, as far north as the North Cape, and as far east as the delta of the Petchora. It nests on the Faroes, in Iceland, and in Greenland as far north

as lat 68°. On the American continent it breeds in Labrador, and possibly on the islands of some of the great lakes south of the Arctic circle and east of the Rocky Mountains, as it has occurred in Alaska.

Like those of all other Gulls, the nests of this bird are carelessly made, and are little more than a depression in the grass or heath, or even a niche in the bare rock, roughly lined with dead grass, seaweed, and occasionally ornamented with a twig or two round the edge, or a few feathers or sheep's wool in the middle. North of the Arctic circle I have taken fresh eggs during the first half of June, but in Scotland the first eggs are laid a month or more earlier.

A full clutch of eggs is three, but two are not unfrequently found. They vary very slightly, and are usually greyish-brown in ground-colour, sometimes very slightly tinged with olive, and occasionally pale brown. The spots are seldom much larger than a pea, often very irregular in shape, sometimes elongated into streaks, and, as a rule, evenly but sparingly distributed over the surface, though it is not uncommon to find eggs where they are more abundant on the large end. The surface-spots are dark brown, and the underlying spots brownish-grey. The eggs vary in length from 3·2 to 3·0 inches, and in breadth from 2·2 to 2·0 inches.

The eggs of the Great Black-backed Gull are on an average larger than those of any other British Gull; but small examples are indistinguishable from those of the Glaucous Gull, and from large examples of the Herring Gull.

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#### THE GLAUCOUS GULL.

(*Larus glaucus.*)

PLATE 32, FIGS. 4, 5.

The Glaucous Gull is only a winter visitor to the British Islands, appearing somewhat irregularly. It is a circumpolar bird, breeding in the Arctic Ocean on the shores of both Continents. Although at Vardö the Glaucous Gull breeds on the precipitous cliffs, Harvie-Brown and I afterwards found its nest on one of the low flat islands which separate the lagoon of the Petchora from the Arctic Ocean.



Guillemot.



Guillemot.



Guillemot.





Puffin.



Puffin.



Little Auk.



Black Guillemot.



Brunnich's Guillemot.





Great Auk.





Great Auk.



The nest is a very careless structure, generally composed of dead grass and seaweed, and three appears to be the full complement of eggs, which are usually laid during the first half of June. They vary in ground-colour from pale brown to pale olive-brown and pale bluish-green. The surface-spots are dark brown, occasionally approaching black, and the underlying spots are brownish-grey. The spots vary in many eggs from the size of a pea downwards, and are nearly evenly distributed over the surface; but occasionally they are large bold blotches, principally collected round the large end of the egg, and often confluent. A very handsome variety, presumed to be of this species, is obtained at Vardö. The ground-colour is pale brick-red, and the underlying spots are violet-grey. Occasionally the spots are well-defined, but generally they are obscure and distributed over the surface. The eggs vary in length from 3·3 to 2·8 inches, and in breadth from 2·1 to 1·9 inch.

Eggs of the Glaucous Gull are indistinguishable from those of the Great Black-backed Gull, and small examples resemble large eggs of the Herring and Lesser Black-backed Gull.

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### THE ICELAND GULL.

(*Larus leucopterus.*)

PLATE 33, FIG. 3.

This species is only a winter visitor to our shores, and one which appears with great irregularity. It is only a winter visitor to Iceland, but is found breeding in Greenland and on Jan Mayen Island. The remarks published on the nest and eggs of this species in my "History of British Birds" refer to *Larus glaucus*, as Mr. Howard Saunders has shown that the Gull from Alaska is that species, and not true *L. leucopterus*.

The eggs appear to be three in number when the full clutch is laid, and they vary in colour from pale greyish-buff to buffish-brown and pale olive. The surface-markings, varying in size from a large pea to a speck, are rich brown or pale brown in colour, and are pretty evenly distributed over the entire surface of the egg. The underlying markings are large, numerous, and conspicuous, and are violet-grey. Some eggs are much more

boldly marked than others, the spots being often confluent and forming an irregular zone round the larger end. They vary in length from 2·85 to 2·5 inches, and in breadth from 1·93 to 1·8 inch. It is impossible to distinguish the eggs of the Iceland Gull from those of the Lesser Black-backed Gull and the Siberian Herring-Gull (*L. affinis*). Eggs of the Common Herring-Gull resemble them closely, but are, on an average, slightly larger and richer in colour.

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### T H E K I T T I W A K E.

(*Larus tridactylus*).\*

PLATE 32, FIGS. 1, 2.

The Kittiwake is one of the most abundant of the British Gulls, but as it is exclusively a rock bird, its colonies are confined to certain districts. It is a circumpolar bird, breeding on the coasts of the Arctic Ocean, and on Iceland, the Faroes, Spitsbergen, and Novaya Zemlya. In the Atlantic its breeding range extends along the coast of Norway as far south as lat. 62°, south of which there appears to be no breeding stations except those on the British Islands and on the rocky coasts of Brittany. In Asia it breeds as far south as the Kurile Islands, and on the west coast of the Pacific as far south as the Aleutian Islands. On the west coast of the Atlantic it is not known to breed further south than Labrador.

The Kittiwake's nest is better made than is usual with the Gulls. In some districts the foundation is made of turf, with the soil adhering, which the salt spray and wet feet of the birds soon turn into a kind of mortar. This foundation is finished off into a nest made of seaweed, pieces of marine vegetation, and finally lined with dry grass and sometimes a few feathers.

The eggs are two or three in number, but in some cases four are laid; they vary in ground-colour from pale greenish-blue and olive-brown to pale buff and buffish-brown, spotted and blotched with rich reddish-brown and with underlying markings of pale brown and grey. On some eggs the spots are small and evenly distributed over the whole surface, but on others the blotches are large and confluent, and form an irregular zone round the large

\* *Rissa tridactyla*—Saunders, Manual, p. 667.

end. Some specimens are very sparingly marked with a few large blotches here and there. The underlying markings are numerous, large, and very conspicuous, and on some eggs are the preponderating ones, the surface-spots being only represented by a few indistinct blotches or dark brown streaks. The eggs vary in length from 2·25 to 2·0 inches, and in breadth from 1·68 to 1·5 inch. The eggs of the Kittiwake are not easily confused with those of any other British species.

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### THE IVORY GULL.

(*Larus eburneus.*)\*

PLATE 32, FIG. 3.

The Ivory Gull is one of the very few birds which are residents in the Arctic regions, and is only a rare straggler to the British Islands. Except perhaps on the icy shores of Greenland, it does not probably breed more than a thousand miles from the North Pole. Within this limit, wherever land has been found, the Ivory Gull has been observed during the breeding-season—in Spitsbergen, Franz-Josef Land, Novaya Zemlya, Bennett Island, Herald Island, the Parry Islands, and Grinnell Land. It generally breeds in colonies on inaccessible cliffs. Dr. Malmgren obtained its eggs in Spitsbergen on the 7th of July, 1861, where it was breeding on the side of a steep limestone precipice several hundred feet high, in company with the Kittiwake and the Glaucous Gull.

The nests were shallow depressions in the soil, carelessly lined with dead grass, moss, other weeds, and a few feathers.

The Ivory Gull never lays more than two eggs. The specimen in the Dublin Museum measures 2·45 inches in length, and 1·7 inch in breadth; the ground-colour is buffish-olive, and the surface-markings, which are distributed over the entire shell, are dark brown and pale brown, and the underlying markings, which are very large and conspicuous, are violet-grey. The eggs appear to resemble those of the Kittiwake in colour, but those of the Common Gull in size.

\* *Pagophila eburnea*—Saunders, Manual, p. 669.

## THE POMATORHINE SKUA.

( *Stercorarius pomatorhinus.* )

PLATE 37, FIG. 6.

This Skua is a more or less common winter visitor to the British Islands, occurring more abundantly on the east than on the west side. It is a circumpolar species, breeding beyond the Arctic circle on the shores and tundras of both hemispheres. Middendorff, who found this species breeding near the Taimur Lake in lat. 74° N., obtained eggs on the 19th of July.

No nest was made beyond a depression in the moss on the tundra.

The number of eggs seems to be never more than two, but on the Yalmal Peninsula Finsch never found more than one nestling with the parents. The eggs vary in ground-colour from dark russet-olive to pale olive; the surface-spots are often blurred, and are generally most abundant round the large end, where they are sometimes confluent, and are very irregular in shape, varying in size from that of a large pea downwards, and are of a dull reddish-brown in colour; the underlying spots are dull greyish-brown. They vary in length from 2·4 to 2·25 inches, and in breadth from 1·7 to 1·6 inch. They are indistinguishable from certain varieties of the eggs of Richardson's Skua and the Common Gull.

## RICHARDSON'S SKUA.

( *Stercorarius richardsoni.* )\*

PLATE 37, FIGS. 1, 2.

Richardson's Skua is by far the most common species of the genus which visits the British Islands, but its best known breeding-places are on the Outer Hebrides, principally North and South Uist, and on the Orkney and Shetland Islands. Booth found it nesting on the moors in Caithness, and it is said to breed regularly in Sutherlandshire. It is a circumpolar bird, breeding in the Arctic and Sub-arctic regions of both hemispheres, including the Faroe Islands, Iceland, Spitsbergen, and Novaya Zemlya.

\* *Stercorarius crepidatus*—Saunders, Manual, p. 675.

The nest is a mere depression in the ground, scantily lined with a little dry grass and occasionally a few dead leaves.

Two is the normal number of eggs, but sometimes birds have been found sitting on a solitary egg, and in rare instances three eggs have been found in the same nest. Few eggs vary more in shape than those of Richardson's Skua, some being very long and pointed, others almost round. They vary in ground-colour from russet-brown to pale olive ; the overlying spots are dark brown, sometimes almost black, generally evenly though somewhat sparingly distributed over the entire surface, but occasionally most of them are collected in a ring round the larger end, where they are sometimes confluent ; the shape of the spot is very fantastic, many of them are prolonged into streaks, and they vary in size from that of a large pea downwards ; the underlying spots are few, very inconspicuous, and pale greyish-brown in colour. The eggs vary in length from 2·55 to 2·0 inches, and in breadth from 1·7 to 1·55 inch. It is almost impossible to give any character by which the eggs of this bird may be distinguished from certain varieties of those of the Common Gull, Black-headed Gull, and Pomatorhine Skua.

### BUFFON'S SKUA.

(*Stercorarius buffoni*.)\*

PLATE 37, FIG. 5.

Buffon's Skua, or the Long-tailed Skua, as it is sometimes called, is a somewhat rare visitor on migration to the British Islands. The range of the species is, during the breeding-season, more northerly than that of Richardson's Skua, and is confined to the Arctic regions of both hemispheres.

The nest is a slight depression in the grass or moss, lined sparingly with a little dry grass.

The number of eggs is almost invariably two ; but in very rare instances one only, or as many as three, are reported to have been found. They are precisely similar in colour to those of Richardson's Skua, and are subject to the same variations, but on an average they are slightly smaller in size. They vary in length from 2·2 to 1·9 inch, and in breadth from 1·6 to 1·4 inch.

\* *Stercorarius parasiticus*—Saunders, Manual, p. 677.

## THE GREAT SKUA.

*(Stercorarius catarrhactes.)*\*

PLATE 37. FIGS. 3, 4.

The only locality in the British Islands where the Great Skua is known to breed is in the Shetlands, and even there incessant persecution has driven it from all its old stations, with the exception of one on Unst and a second on the neighbouring island of Foula. It is an oceanic bird, and is only known to breed in Iceland, the Faroes, and on the Shetlands, though it probably also breeds in Hudson Strait in North America.

It makes a somewhat slight nest, treading a hollow in the moss nearly a foot in diameter, and lining it with bits of moss, a little dead grass, and a feather or two.

The usual number of eggs is two, but in some instances it is said that one only is found. The eggs vary in length from 3·0 to 2·7 inches, and in breadth from 2·0 to 1·9 inch. They vary in ground-colour from pale buffish-brown to dark buffish-brown; the overlying spots are dark brown, and the underlying ones are greyish-brown, generally most thickly distributed round the large end, where they are sometimes confluent, and usually varying from the size of a pea downwards, and never very conspicuous. They bear a close resemblance to brown varieties of the eggs of the Lesser Black-backed and Herring Gulls, but the spots always appear duller, in consequence of the less difference in colour between the markings and the ground-colour.

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## FAMILY CHARADRIIDÆ,

OR PLOVERS.

As might be expected in a family of birds so strictly migratory, as a rule, as the Plovers, only seventeen of the British species visit us on passage to and from their northern breeding-grounds, while as many as twenty-three are accidental visitors only. The species which nest are sixteen in number.

\* *Megalestris catarrhactes*—Saunders, Cat. B. Brit. Mus., XXV., p. 315.

## THE OYSTER CATCHER.

*(Haematopus ostralegus.)*

PLATE 38, FIG. 8.

The Oyster Catcher is comparatively rare on the low-lying coasts or those which are much frequented. North of Yorkshire and Lancashire, and throughout the entire coast-line of Scotland, it is much more common, and in many localities breeds in abundance. It frequents nearly all the adjacent islands, including the Orkneys, Shetlands, and the Hebrides, and even isolated St. Kilda. It is commonly distributed on the Irish coasts, and is found from the Atlantic to the valley of the Ob.

The nest is merely a little hollow amongst the rough shingle and broken shells, or in the sand. It is about six inches across, and about an inch deep, and is lined with little scraps of shells and small pebbles, generally more or less neatly and smoothly arranged.

The eggs of the Oyster Catcher are three, and occasionally four, in number, sometimes only two, but three is the usual clutch. The ground-colour is pale buff, sometimes pale brownish-buff, blotched, spotted, and streaked with dark brown, and with underlying markings of grey. Some eggs are much more streaked than others; some are uniformly spotted over the entire surface, others have most of the markings in an irregular zone round the large end. They vary in length from 2·35 to 2·07 inches, and in breadth from 1·6 to 1·47 inch. Some eggs of the Oyster Catcher are indistinguishable from exceptionally dark eggs of the Stone-Curlew; but the latter are, on an average, smaller, and the markings are not so dark and decided; others somewhat resemble certain varieties of those of the Sandwich Tern.

## THE TURNSTONE.

*(Charadrius interpres.)\**

PLATE 38, FIGS. 7, 9.

The Turnstone must be regarded as a visitor to the British Islands on spring and autumn migration, but a few remain during

\* *Strepsilas interpres*—Saunders, Manual, p. 541. *Arenaria interpres*—Sharpe, Handb., III., p. 176.

winter. It is more numerous in Scotland and Ireland than in England, and in the former country it may possibly breed. Its breeding-range is supposed to extend as far north as land exists, and it nests in the Arctic portion of both hemispheres.

The nest is very slight, composed of a few bits of dry herbage or withered leaves, scratched into a little hollow, which is usually selected under the shelter of a tuft of herbage, or under a broad-leaved plant, or behind a bush.

The eggs are four in number, differing considerably from those of the typical Plovers, and approaching much more closely those of the Sandpipers. They vary from pale olive-green of different shades to pale buff in ground-colour, dashed, clouded, spotted, and blotched with olive-brown and very dark brown, and with underlying markings of purplish-grey. Some specimens are boldly streaked with dark brown, especially on the larger end, others have most of the larger markings running in an oblique direction round the surface. Some are much more richly marked than others; occasionally the markings are blurred and indistinct, whilst on others they are bold and well defined. They vary in length from 1·7 to 1·52 inch, and in breadth from 1·2 to 1·1 inch.

### THE LITTLE-RINGED PLOVER.

(*Charadrius minor.*)\*

PLATE 40, FIG. 2.

The Little-ringed Plover is a very rare straggler to England, and has not hitherto been detected in Scotland or Ireland. It is a summer visitor to the whole of Europe north of the basin of the Mediterranean, and south of about lat. 60°, between which and the Arctic circle it can only be regarded as an accidental straggler. It is a resident in the basin of the Mediterranean. On the Asiatic continent it is a summer visitor throughout the Palæarctic region, as far north as lat. 60°, and a winter visitor throughout the greater part of the Oriental region.

The eggs are seldom laid before May, often not until June. It makes very slight provision for them, merely scratching a little hollow in the sand or shingle, which it treads into a very

\* *Ægialitis curonicus* (Gm.)—Saunders, Manual, p. 162. *Æ. dubia* (Scop.)—Sharpe, Handb. III., p. 162.

neat, round, shallow basin, in which the eggs are laid without any lining. They are four in number, pyriform in shape, pale buff in ground-colour, speckled and streaked with surface-spots of dark and light brown, and with underlying markings of inky-grey. The spots are pretty evenly distributed over the surface, but are usually most numerous on the large end. The eggs vary in length from 1·2 to 1·15 inch, and in breadth from 0·9 to 0·85 inch. In the streaky nature of their markings the eggs of this bird show an affinity with those of the Kentish Plover, but their lighter colour, more delicate markings, and smaller size readily distinguish them.

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### THE GREATER RINGED PLOVER.

(*Charadrius hiaticula major*.)\*

PLATE 40, FIGS. 1, 3.

The large form of Ringed Plover, which inhabits the British Islands, is very generally distributed in all suitable localities, but is most common on the sandy coasts, though it occurs in considerable numbers in favourable inland districts, as on the banks of large rivers and the shores of lochs. It is found on most of the adjoining islands, including the Orkneys and Shetlands, the Outer Hebrides and the Channel Islands. It breeds also in Greenland, Iceland, Spitsbergen, and Novaya Zemlya. The smaller form (*C. hiaticula*) is a regular summer visitor to the whole of Europe north of the Alps, and to Asia at least as far east as the Taimur Peninsula, and possibly as far as Bering Straits. This smaller form is also found occasionally on the southern and eastern coasts of England.

The Ringed Plover makes little or no nest. It contents itself by scratching a little hollow in the sand, less frequently in shingle, or even takes advantage of a hole already formed; but occasionally it deposits its eggs on the bare flat sand.

The eggs are four in number, and do not vary much in colour. They are very pale buff or stone-colour, spotted with blackish-brown and with underlying markings of inky-grey. The spots are pretty evenly distributed over the surface, but on many specimens are most numerous on the large end, and vary in size from specks to that of a very small pea, the average being about

\* *Aegialitis hiaticula*—Saunders, Manual, p. 523; Sharpe, Handb., III., p. 158.

as big as a No. 10 shot. The eggs are pyriform in shape, and vary in length from 1·55 to 1·3 inch, and in breadth from 1·05 to 0·98 inch, the larger dimensions being those of British examples.

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### THE KENTISH PLOVER.

(*Charadrius cantianus.*)\*

PLATE 40, FIGS. 4, 6.

This is one of the most local of British birds, and has only occurred, more or less sparingly, on the south and east coasts of England, as far north as Flamborough Head in Yorkshire, and as far west as Cornwall. Its only breeding-places in this country appear to be on the coasts of Kent and Sussex. So far as is known, the Kentish Plover only nests on the margins of salt-lakes or on the sea-shore; nevertheless its breeding-range extends from the Atlantic to the Pacific.

The nest is very simple, a little hollow scratched in the sand or amongst the shingle. This hole seldom or never contains any lining material, and the eggs are laid on the bare sand. Sometimes a site is selected amongst the drifted seaweed, above the usual high-water mark.

The eggs are three or four in number, and from the great resemblance they bear to the colour of surrounding objects they are difficult to find. They vary from light to dark buff in ground colour, and are spotted, scratched, and blotched with blackish-brown, and with underlying markings of inky-grey. Some eggs are much more richly coloured than others; some have the markings composed of blotches and spots, others of streaks, specks, and scratches. They vary in length from 1·35 to 1·15 inch, and in breadth from 0·95 to 0·85 inch.

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### THE ASIATIC PLOVER.

(*Charadrius asiaticus.*)†

An adult male of this eastern Plover was shot in May, 1890, near Yarmouth. It breeds in the basins of the Caspian and Aral

\* *Aegialitis cantianus* (Lath.)—Saunders, Manual, p. 527. *A. alexandrina* (L.)—Sharpe, Handb., III., p. 166.

† *Octodromus asiaticus*—Sharpe, Handb., III., p. 150.

Seas, and winters in Africa. It appears to prefer sandy plains sparsely covered with vegetation, but when these become parched for want of rain it frequents the banks of rivers or inland seas. Thus it is found on the shores of the Caspian, and possibly on those of the Red Sea. Its line of migration appears to be across Arabia to the valley of the Upper Nile, and winters in Africa south of the line.

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### THE KILDEER PLOVER.

(*Charadrius vociferus*).\*

PLATE 39, FIG. 2.

This American species has occurred twice in England—once in Hampshire and once in the Scilly Islands. It is a well-known American Plover, breeding in the temperate portions of the Nearctic region, and migrating south in winter to Central and South America as far as Peru and Chili.

The nest is very simple, being nothing but a hollow in the ground, sometimes lined with a few scraps of herbage.

The eggs are four in number, pale buff in ground-colour, blotched and spotted with blackish-brown, and underlying markings of greyish-brown. They vary in length from 1·6 to 1·45 inch, and in breadth from 1·1 to 1·05 inch.

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### THE DOTTEREL.

(*Charadrius morinellus*).†

PLATE 39, FIGS. 4, 6.

The Dotterel is principally known as a migrant to England; but a few may possibly still stay to breed on some of the most secluded mountains in the Lake District. Its favourite breeding-grounds in the British Islands are in the wildest parts of Scotland. It breeds on the tundras above the limits of forest growth from the Atlantic to the Pacific, and winters in Africa north of the equator. No nest is made.

\* *Aegialitis vocifera*—Saunders, Manual, p. 529. *Oxyechus vociferus*—Sharpe, Handb., III., p. 155.

† *Eudromias morinellus*—Saunders, Manual, p. 521; Sharpe, Handb., III., p. 152.

The eggs vary in ground-colour from greyish-buff to ochraceous-buff, with sometimes the faintest possible tinge of olive, and are blotched and spotted with rich dark brown, and with underlying markings of inky-grey. The surface-markings are generally large, concealing a large portion of the ground-colour, and are often confluent, especially on the larger end of the egg. Some eggs have the spots much larger than others, but on most of them they are pretty evenly distributed over the entire surface. The underlying spots are small and remarkably few in number. The eggs vary considerably in shape, some being almost as pointed at the large end as at the small, whilst others are pear-shaped; they vary in length from 1·75 to 1·5 inch, and in breadth from 1·17 to 1·1 inch. The only eggs of a British bird at all likely to be confused with those of the Dotterel are certain varieties of those of the Arctic Tern, some of which are almost indistinguishable from those of the Dotterel, but the latter have fewer and smaller underlying markings.

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#### THE GOLDEN PLOVER.

(*Charadrius pluvialis.*)

PLATE 39, FIGS. 1, 3.

The Golden Plover is very local in England during the breeding season, south of Derbyshire. It is said to breed in the extreme south-west of England and in several localities in Wales, but its true home is on the moors and mountains of Scotland and Ireland. In Europe, the chief breeding-places of the Golden Plover are the fjelds of Norway and the tundras of Russia and Siberia, as far east as the valley of the Yenisei; it also breeds sparingly on similar ground as far south as the moors of Holland, Belgium and North Germany.

The nest is rather larger, deeper and better made than that of the Lapwing, and is composed of bits of dry herbage and scraps of heath and moss, arranged in a small depression in the ground or on the top of a tuft, or in a clump of cotton-grass.

The eggs are four in number, and are very beautiful. They vary in ground-colour from pale buff to rich buff, with occasionally a tinge of olive, and are spotted and blotched with rich purplish-brown and brownish-black. The underlying markings are com-

paratively few, very small and inky-grey. The larger markings are generally most numerous on the large end of the egg. Many of the blotches are confluent and cover a large portion of the egg; but occasionally the markings are small, varying in size from that of a pea to fine shot. They are pyriform in shape, and vary in length from 2·2 to 1·95 inch, and in breadth from 1·5 to 1·3 inch. Eggs of the Golden Plover may generally be distinguished from those of the Lapwing and Grey Plover by their much brighter colour; the ground-colour is clearer and less olive, and the markings are richer. As a rule they are slightly larger in size than those of the Lapwing.

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#### THE ASIATIC GOLDEN PLOVER.

(*Charadrius fulvus.*)

PLATE 39, FIG. 8.

This small race of Golden Plover, distinguished by its smoky-brown axillaries, has twice been captured in Great Britain; one specimen from Norfolk having been purchased in Leadenhall market, and another having been shot at Stennis, in Orkney. The species is found over the greater part of Asia, from north to south. It breeds on the tundra of Siberia, and a nest I found on the Yenisei, in July, was merely a hollow in the ground on a piece of turf land, overgrown with moss and lichen, and was lined with broken stalks of reindeer moss.

The eggs are four in number, and very closely resemble those of the Golden Plover, but are slightly smaller. They vary in length from 1·92 to 1·85 inch, and in breadth from 1·32 to 1·27 inch.

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#### THE VIRGINIAN GOLDEN PLOVER.

(*Charadrius virginicus.*)

PLATE 39, FIG. 5.

This is a slightly larger bird than the Asiatic Golden Plover, which it resembles in the colour of its axillaries. It nests in the barren grounds of North America, and extends—in winter—over the whole of the New World. Dr. Sharpe and some ornithologists do not admit the distinctness of this form from *C. fulvus*. It has twice occurred in Great Britain—once in Perthshire, and on the other occasion a specimen was picked up in Leadenhall market.

## THE GREY PLOVER.

*(Charadrius helveticus.)\**

PLATE 39, FIGS. 7, 9.

The Grey Plover is a circumpolar bird, but has only been known to breed on the tundras above the limit of forest-growth. It appears to be very local in its distribution during the breeding-season. It is not known with certainty to breed anywhere except on Kolguev Island, in the valley of the lower Petchora, on the Taimur Peninsula in the extreme north of Siberia, in Alaska, on the banks of the Anderson River, and on Melville Peninsula.

To discover the eggs of the Grey Plover was one of the chief reasons for the expedition to the Petchora made by Mr. Harvie-Brown and myself, and we were fortunate in finding several nests, which were rounded and somewhat deep hollows in the turf, containing a handful of broken slender twigs and reindeer moss.

The eggs of the Grey Plover are four in number, intermediate in colour between those of the Golden Plover and the Lapwing, and subject to variation, some being much browner and others more olive, none quite as olive as the typical Lapwing's eggs or as buff as typical ones of the Golden Plover, but the blotching is in every respect the same; the underlying spots are equally indistinct, the surface-spots are generally big, especially at the large end, but occasionally very small and scattered, and sometimes taking the form of thin streaks. They vary in length from 2·2 to 1·9 inch, and in breadth from 1·4 to 1·35 inch.

## THE LAPWING.

*(Vanellus cristatus.)†*

PLATE 40, FIGS. 7, 9.

The Lapwing or Peewit is the commonest and best known of the Plovers found in the British Islands. It is generally distributed through Great Britain and Ireland, breeding in every county. It is a semi-Arctic species, ranging during the breeding-

\* *Squatarola helvetica*—Saunders, Manual, p. 535; Sharpe, Handb., III., p. 138.† *Vanellus cristatus* (Bechst.)—Saunders, Manual, p. 539. *V. vanellus* (L.)—Sharpe, Handb., III., p. 170.

season from the Atlantic to the Pacific, in Scandinavia up to the Arctic circle, but in Siberia not further north than lat. 55°.

The site for the nest is very frequently on the bare fallow or turf in any little depression that may chance to be there. The footprint of a cow or a horse is very frequently selected. Where no hole is to hand the birds scratch a little hollow, which is scantily lined with a few bent sprays of withered heath, or bits of dead rush, moss, or dry grass, on which the eggs are laid.

The eggs are usually four in number, but the bird has been known to sit on two or three, probably in cases where the first clutch have been destroyed; and in very rare instances as many as five have been found. They are buffish-brown, light buff, or olive, and in rare instances pale green in ground-colour, heavily blotched and spotted with blackish-brown, and with underlying markings of inky-grey. The eggs of this bird are subject to much variation. On some the markings are small and evenly distributed over the entire surface; on others the blotches are large and confluent, hiding most of the ground-colour. Some are very sparingly marked; others have most of the spots or blotches in a broad zone round the large end. They are very large for the size of the bird, varying in length from 2·0 to 1·75 inch, and in breadth from 1·4 to 1·28 inch. The eggs of the Lapwing may be easily distinguished from those of the Golden Plover by their much browner appearance and, on an average, by their smaller size.

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### THE SOCIALE LAPWING.

(*Vanellus gregarius.*)\*

A specimen of this eastern Lapwing was shot in Lancashire, in the autumn, about the year 1860. It is an inhabitant of the steppes of Southern Russia, extending to the Aral, and wintering in North-western India, Arabia, and North-western Africa.

The nest has not been described, but is doubtless similar to those of the Common Lapwing.

The eggs, four in number, are very similar to those of the last-named species, but the spots appear to be rather more sparsely distributed. They measure 1·95 to 1·65 inch in length, and 1·35 to 1·25 inch in breadth.

\* *Chætusia gregaria*—Sharpe, Handb., III., p. 173.

## THE CREAM-COLOURED COURSER.

*(Cursorius gallicus.)*

PLATE 36, FIG. 3.

The present species is only an accidental visitor to Great Britain and Europe generally. It breeds in the Canary Islands, and thence through the deserts of Northern Africa to Persia.

The eggs are deposited on the bare ground, and they closely resemble their surroundings in colour. They are two in number, of a pale ochraceous buff ground-colour, thickly spotted, blotched, and freckled with buffish-brown, and with numerous underlying markings of grey, which give them a very marbled appearance. They vary in length from 1·4 to 1·35 inch, and in breadth from 1·1 to 1·0 inch.

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## THE COMMON PRATINCOLE.

*(Glarcola pratincola.)*

PLATE 36, FIGS. 4, 5.

Nearly all of the occurrences of this bird—and more than twenty instances have been noted—have taken place in spring and autumn. The Pratincole is a regular summer visitor to the basin of the Mediterranean, Spain, and the valley of the Lower Danube. North of these limits it is an accidental visitor to various parts of Central Europe.

The birds do not make any nest, but lay their eggs upon the bare ground, seldom, if ever, taking the trouble to scratch a hollow or to collect what dry grass or seaweed may be at hand.

The eggs of the Pratincole are very fragile, oval in form, being scarcely more pointed at one end than the other. They vary in ground-colour from citron or yellow-ochre to pale slate, richly spotted all over with streaks and blotches of dark brown, (approaching black in some instances), mostly so at the large end. The underlying spots of pale greyish-brown are usually very distinct, and often impart great beauty to the egg, giving it a marbled appearance. They vary in length from 1·35 to 1·1 inch, and in breadth from 1·0 to 0·9 inch.



Common Tern.



Lesser Tern.



Common Tern.



White-winged Black Tern.



Lesser Tern.



White-winged Black Tern.



Roseate Tern.



Whiskered Tern.



Roseate Tern.



Arctic Tern.



Whiskered Tern.



Arctic Tern.





Sandwich Tern.



Sandwich Tern.



Sandwich Tern.



Sooty Tern.



Sooty Tern.



Sooty Tern.





Black Tern.



Black Tern

Caspian Tern.



Noddy.



Noddy.



Gull-billed Tern.



Smaller Sooty Tern.



Gull-billed Tern.





Kittiwake.



Kittiwake.



Ivory Gull.



Glaucous Gull.



Glaucous Gull.



## THE AVOCET.

*(Himantopus avocetta.)\**

PLATE 38, FIGS. 2, 5.

At the commencement of the present century the Avocet was a well-known and common summer visitor to the low-lying eastern counties of England, but is now only known as a straggler on migration. The increase of population and the drainage of marshes have restricted the breeding-places of the Avocet in Europe to the islands off the coast of Denmark and Holland, the marshes of Southern Spain, the delta of the Rhone, and the lagoons on the shores of the Black Sea. Further east it is more abundant.

The nests which I found in the valley of the Danube on the 10th of June, 1883, were most of them slight, but some had more foundation than others.

The eggs of the Avocet are three or four in number, but in exceptional cases it is said that as many as five have been found. They are pale buffish-brown in ground-colour, spotted and blotched with rich dark brown, and with underlying markings of grey. They are pyriform in shape, and are subject to but little variety in colour. On some specimens the spots are small and evenly dispersed over the entire surface, whilst on others they more frequently take the form of irregular blotches. They vary in length from 2·0 to 1·9 inch, and in breadth from 1·45 to 1·35 inch. Some eggs of the Avocet are almost indistinguishable from certain varieties of the eggs of the Grey Plover and the Lapwing; but, as a rule, the eggs of the former are richer in ground-colour, and those of the latter are smaller, darker, and more heavily marked.

## THE COMMON STILT.

*(Himantopus melanopterus.)†*

PLATE 38, FIGS. 4, 6.

There seems to be no evidence that the Common Stilt has ever bred in our islands; but it has occurred so many times that it may fairly be classed as an accidental visitor on migration. It is most abundant during the breeding-season in India and Ceylon, where

\* *Recurvirostra avocetta*—Saunders, Manual, p. 545: Sharpe, Handb., III., p. 185.

† *Himantopus candidus* (Bonn.)—Saunders, Manual, p. 547. *H. himantopus*—Sharpe, Handb., III., p. 188.

its numbers are increased during winter. West of India it is a regular summer visitor to Afghanistan, Turkestan, North Persia, Palestine, Asia Minor, to the salt lakes of the Kalmuk and Kirghis Steppes, the lagoons on the shores of the Black Sea, the delta of the Rhone and the marismas of Southern Spain and Portugal.

When Mr. Young and I were in the Dobrudscha in 1883 we found a small colony of seven nests on the 7th of June. They were flat, and stood from two to three inches above the level of the water; the slight hollow was about six inches across, and the nest was about eight inches in diameter at the surface of the water. They were entirely composed of broken bits of old dead reeds, the slenderest pieces being reserved for the lining.

The eggs of the Common Stilt are pale buffish-brown in ground-colour, spotted, blotched and streaked with blackish-brown, and with underlying markings of inky-grey; some have the ground-colour much richer than others, and the character of the markings is subject to considerable variety. Some eggs are boldly and clearly blotched, a few of the larger blotches being connected by irregular streaks; others are blotched, but the colour is paler and the blotches are not so clearly defined. Most of the markings are on the surface, and on some specimens pale and dark brown blotches and spots occur. The eggs are pyriform in shape, and vary in length from 1·85 to 1·5 inch, and in breadth from 1·32 to 1·1 inch. They are not easily confused with the eggs of any other British species, but only differ in size from those of the Avocet.

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### THE GREY PHALAROPE.

(*Phalaropus fulicarius*.)\*

PLATE 38, FIG. 3.

The Grey Phalarope must be regarded as a rare accidental visitor to our shores, but one which, like the Waxwing, occasionally appears in great numbers. It is a circumpolar bird, and breeds in Iceland, Spitsbergen, and in the Taimur Peninsula, as well as in Arctic America from Alaska to Greenland.

The birds are said not to make any nest, but to deposit their four eggs in a slight depression in the grass, or amongst the shingle; occasionally a few leaves are added as a lining.

\* *Crymophilus fulicarius*—Sharpe, Handb., III., p. 193.

The eggs of the Grey Phalarope are four in number. The ground-colour is pale buffish-brown, slightly tinged with olive. They are profusely spotted and blotched with very dark brown, the spots being largest and frequently confluent at the large end of the egg; the underlying spots are few in number and very pale greyish-brown. They vary in length from 1·28 to 1·2 inch, and in breadth from 0·9 to 0·85 inch. The eggs of this species very closely resemble those of the Red-necked Phalarope, but may generally be distinguished by their larger size.

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### THE RED-NECKED PHALAROPE.

*Phalaropus hyperboreus.*

PLATE 38, FIG. 1.

The Red-necked Phalarope formerly bred in the counties of Perth and Inverness, in the Orkneys, and also in Sutherland and the Isle of Skye, but it now only nests sparingly in the Orkneys, Shetlands, and in the Outer Hebrides. It is a circumpolar bird, nesting principally on the tundras above the limit of forest-growth as far north as land extends in the eastern hemisphere, and in the western hemisphere up to lat. 73°. It rarely breeds south of the Arctic circle; but above the pine-regions of the Dovrefjeld it nests as far south as lat. 62°, and on the Pacific coast Middendorff found it nesting on the west shores of the Sea of Ochotsk as far south as lat. 55°. It is a summer visitor to Greenland, Iceland, and the Faroes.

The nest is simply a slight depression in the ground, very much like that of a Snipe.

The eggs of the Red-necked Phalarope are four in number, and vary in ground-colour from pale buff and rich ochraceous-buff to pale olive, thickly blotched, spotted and speckled with rich umber-brown, blackish-brown and pale brown, and with a few greyish underlying markings. Some eggs are much more boldly and richly spotted than others, and on some many of the markings take an oblique direction. The spots are largest and finest round the large end of the egg, sometimes entirely covering it. They vary in length from 1·2 to 1·05 inch, and in breadth from 0·85 to 0·8 inch. The eggs of this bird resemble very closely those of the

Grey Phalarope : the character and colour of the markings are precisely the same, but they may almost invariably be distinguished by their smaller size.

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### WILSON'S PHALAROPE.

(*Phalaropus wilsoni*).\*)

This American species has occurred but once in England, near Market Bosworth, in Leicestershire. It nests throughout temperate North America. The eggs vary from a fawn colour to a rufous-drab, profusely spotted and speckled with shades of rufous-brown, more thickly at the large end. They measure about 1·35 inch in length, and 0·95 inch in breadth.

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### THE COMMON CURLEW.

(*Numenius arquatus*.)

PLATE 45, FIGS. 4, 5.

The breeding-grounds of the Curlew are principally confined to the moors and uplands of the north of England, Scotland, and Ireland. It nests sparingly in the wilder districts of Cornwall and Devonshire, is common on the mountains of Wales, but is never known to nest in the low-lying counties of the east and south of England. Its breeding-range extends throughout Northern and Central Europe, including South Russia.

The nest is very slight and shallow, and about ten inches across; it consists of a little hollow, either one formed naturally or by the birds themselves, lined with a few bits of herbage, a sprig or two of heath, or a few dead leaves or bits of broken rush.

Four is the full complement of eggs, but instances have been known where five have been found, one of them being doubtless the produce of another female. They vary in ground-colour from dark or light olive-green to brownish-buff, spotted and blotched with olive-brown and dark blackish-brown, and with underlying markings of purplish-grey. The markings are generally distributed over the entire surface of the shell, but occasionally they form an irregular zone round the large end; and sometimes the spots are few in number, large, bold, and unusually rich in colour. Sometimes a few streaky lines of very dark brown, or a

\* *Steganopodus tricolor* (V.)—Sharpe, Handb., III., p. 202.

few minute specks of the same colour, are seen amongst the other markings. The eggs vary considerably in shape, some being much rounder than others, but they are usually pyriform; they vary in length from 2·8 to 2·45 inches, and in breadth from 1·95 to 1·75 inch.

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### T H E W H I M B R E L.

(*Numenius phaeopus.*)

PLATE 45, FIGS. 1, 2.

So far as is known, the only breeding-places of the Whimbrel in the British Islands are in the Orkneys and Shetlands. The species breeds in the Arctic regions of Europe and Asia, from Scandinavia to the Petchora, but, like the Grey Plover, it appears to be very local.

The nest is very slight, a little hollow amongst the heath, or under the shelter of a tuft of coarse grass, in a dry part of the swamp, and is lined with a few scraps of dry herbage.

The eggs are usually laid at the end of May, and from that date they may be obtained until the end of June. They are four in number, and are very similar to those of the Curlew. They are olive-green of different shades or pale brownish-buff in ground-colour, spotted and blotched with olive-brown or reddish-brown, and with grey underlying markings. On some eggs most of the spots take the form of an irregular zone round the large end, on others they are evenly distributed over the entire surface; whilst some are only sparingly marked with large blotches and tiny specks. They vary in length from 2·5 to 2·2 inches, and in breadth from 1·75 to 1·6 inch. In actual bulk the eggs of the Whimbrel are always smaller than those of the Curlew. It is almost impossible to distinguish certain eggs of the Whimbrel from some eggs of Richardson's Skua; but as a rule those of the latter bird are smaller and not so pointed at the small end.

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### THE ESQUIMAUX CURLEW.

(*Numenius borealis.*)

PLATE 45, FIG. 3.

Six occurrences in the British Islands of the Esquimaux Curlew have been recorded. It has never occurred on the continent of Europe, being a strictly Nearctic species, breeding on the Ameri-

can tundras above the limit of forest-growth, and occasionally crossing to the Siberian side of Bering Straits. It winters throughout South America below the Equator.

It is said to breed on the open plain or tundra, and its nest is very slight, consisting of a little hollow in the ground, lined with a few bits of dry herbage, or one or two withered leaves and bents.

In this scanty cradle the female deposits four eggs; but Richardson once observed a female sitting on three. I have figured an egg of this bird which is in the collection of my friend Mr. Philip Crowley; it is pale olivaceous-buff in ground-colour, spotted and blotched with light and dark brown, and with faint underlying markings of greyish-brown. In the series of eggs collected by MacFarlane near the Anderson River, and now in the collection of the Smithsonian Institution at Washington, the ground-colour varies from greyish-buff to greenish-olive on the one hand, and to buffish-brown on the other. The overlying spots are dark reddish-brown, sometimes small, but generally bold, and are usually most abundant, often confluent, round the large end of the egg; the underlying markings, generally conspicuous, are pale greyish-brown. The eggs are pyriform in shape, and vary in length from 2·12 to 1·9 inch, and in breadth from 1·5 to 1·33 inch.

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#### BARTRAM'S SANDPIPER.

(*Totanus bartrami.*)\*

PLATE 44, FIGS. 10, 12.

Eight examples of Bartram's Sandpiper have been obtained in Great Britain. The species inhabits temperate North America.

The nest is very slight—a small depression in the ground, carelessly lined with a few straws or bits of herbage, which is all the provision that is made.

The eggs are always four in number, and are laid by the second week in June. They vary in ground-colour from pale greyish-buff to pale buffish-brown; rather sparingly spotted, and blotched with reddish-brown and with grey underlying markings. Some eggs have a few delicate streaks of brown at the large end. The markings are never very large, varying from the size of a pea to

\* *Bartramia longicauda* (Bechst.)—Saunders, Manual, p. 589; Sharpe, Handb., III., p. 267.

a mere speck ; the spots are largest and most numerous round the large end. The eggs vary in length from 1·9 to 1·68 inch, and in breadth from 1·35 to 1·25 inch. The eggs of Bartram's Sandpiper are very similar in general appearance to those of the Common and Green Sandpipers, but may always be distinguished by their larger size.

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## THE RUFF F.

( *Totanus pugnax*. ) \*

PLATE 42, FIGS. 4, 6.

The Ruff is a rare summer migrant to the British Islands, a few pairs still occasionally breeding in the Norfolk broads ; but it is more abundant on spring and autumn migration. Formerly it bred in great numbers in most of the marshy districts of England, from Northumberland southwards. The Ruff is a western Palæarctic species, breeding as far north as land extends, as far south as the valley of the Danube and the Kirghis Steppes, and as far east as the Taimur Peninsula and West Dauria, whence it reaches to, and probably breeds in, the upper valley of the Amoor.

The nest is on the ground, in the middle of a swamp, where you have to splash through the water amongst rushes, sedge, and coarse grass, in the midst of a clump of which a depression is found, and roughly lined with dead grass and sedge. The nest is very difficult to find, but the bird sits close, and reveals her treasures as she flies away.

The eggs, in a full clutch, are always four in number, and somewhat similar to those of the Great Snipe ; indeed some of them are absolutely indistinguishable from eggs of the latter bird ; but, as a rule, they are smaller and greener. The ground-colour varies from an almost neutral pale grey to pale greenish-grey ; the overlying spots are reddish-brown, and the underlying spots pale greyish-brown. The spots are not quite so bold as those on the eggs of the Great Snipe, but they are equal in size to those on most Sandpipers' eggs, and are occasionally confluent at the large end. The eggs vary in length from 1·8 to 1·6 inch, and in breadth from 1·3 to 1·15 inch.

\* *Machetes pugnax*—Saunders, Manual, p. 585. *Pavoncella pugnax*—Sharpe, Handb., III., p. 271.

## THE COMMON SANDPIPER.

*(Totanus hypoleucus.)\**

PLATE 43, FIGS. 1, 3.

The Common Sandpiper is a well-known summer visitor to the British Islands. It breeds throughout Scandinavia, but in North Russia and Siberia it is not found north of the Arctic circle. It nests in suitable localities throughout Europe, and in Asia as far south as Turkestan (and possibly Persia), Cashmere, China, and Japan.

The nest is very simple, a little hollow scratched in the ground, and lined with a few bits of dry grass, scraps of heather, dead leaves, or bits of withered rush.

In this slight cradle the female lays four eggs, very large in comparison with the size of the bird. They vary in ground-colour from white, with the faintest possible tinge of green, to pale creamy-buff, speckled, spotted, and blotched with light and dark reddish-brown, and with underlying markings of inky-grey. The markings are seldom very large, varying in size from that of a small pea to a mere speck, and are most numerous on the large end of the egg. Sometimes the markings are confluent on the large end, gradually becoming scattered over the rest of the surface. They are pyriform in shape, and vary in length from 1·6 to 1·4 inch, and in breadth from 1·13 to 1·0 inch.

## THE SPOTTED SANDPIPER.

*(Totanus macularius.)†*

PLATE 43, FIGS. 4, 6.

The Spotted Sandpiper has been recorded from the British Islands on many occasions, but the number of records admitted to be correct does not exceed half-a-dozen. The Spotted Sandpiper has a very similar range in America to that of the Common Sandpiper in the Old World. In the north it does not quite reach the Arctic circle; but it breeds through the United States, migrating southwards in autumn to winter in Mexico, the West Indies, Central America, and the northern portion of the South American continent.

\* *Tringoides hypoleucus*—Sharpe, Handb., III., p. 283.

† *Tringoides macularius*—Sharpe, Handb., III., p. 287.

It is not known that the Spotted Sandpiper differs from its European ally in its choice of a nesting-site; but Audubon remarked that in the colder climate of Labrador it concealed its nest under ledges of rocks, collected a considerable amount of moss for the outer walls, and added a compact lining of slender grasses and feathers of the Eider Duck.

The eggs are four in number, pale buff in ground-colour, with very dark reddish-brown spots and blotches, which vary in size from that of a pea down to a speck. The underlying spots are pale grey in colour, occasionally very large and conspicuous, but generally small and obscure. The eggs vary in length from 1·35 to 1·2 inch, and in breadth from 1·0 to 0·9 inch. Compared with eggs of the Common Sandpiper they are smaller, more boldly spotted, and the spots are much darker.

### THE GREEN SANDPIPER.

(*Totanus ochropus*).\*

PLATE 42, FIGS. 5, 8.

The Green Sandpiper is principally known in the British Islands as a frequent visitor on spring and autumn migration. The breeding-range of the Green Sandpiper reaches from the Atlantic to the Pacific, in the west extending somewhat north of the Arctic circle, but in the east scarcely reaching that latitude.

So far as is known it is the only Sandpiper which does not lay its eggs on the ground. The Green Sandpiper nests in a tree, but it is not known that it ever builds a nest. Sometimes its eggs are placed in the fork of a tree-trunk, on the leaves or lichens and moss which may have accumulated there; more often the old nest of a Song Thrush or Mistle Thrush is chosen; and in Siberia I have taken the eggs from the old nest of a Fieldfare in a willow tree, six feet from the ground.

Four is the full clutch of eggs, which vary in ground-colour from creamy-white to white, with the faintest tinge of olive on the one hand and to very pale reddish-brown on the other. The surface-spots are dark reddish-brown, generally most numerous on the large end of the egg, and seldom larger than No. 4 shot; the

\* *Helodromas ochropus*, Sharpe, Handb., III., p. 289.

underlying markings are similar in size and distribution, but are pale greyish-brown in colour. They vary in length from 1·6 to 1·5 inch, and in breadth from 1·15 to 1·05 inch. In general appearance they most nearly resemble eggs of Bartram's Sandpiper and the Common Sandpiper, between which they are intermediate in size.

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### THE SOLITARY SANDPIPER.

(*Totanus solitarius.*)\*

The Solitary Sandpiper may fairly claim to be admitted into the British list as a rare accidental visitor, three specimens at least having been identified.

The species is found during the breeding season on the American continent as far south as lat. 44°, and northwards up to the limit of forest-growth, which in the west extends beyond the Arctic circle, but in the east not nearly so far north. It winters in South America, in Brazil and Peru. Whether the similarity in the habits of the two species extends to the mode of nidification remains to be proved, but at present the only nest recorded was found on the ground, and further confirmation respecting the nesting of the species is desirable.

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### THE WOOD SANDPIPER.

(*Totanus glareola.*)†

PLATE 42, FIGS. 1, 3.

The Wood Sandpiper is a somewhat irregular straggler on spring and autumn migration to the British Islands. It has only once been known to breed in England, in the now-drained Prestwick Carr, where Mr. John Hancock obtained its eggs on the 3rd of June, 1853. The Wood Sandpiper is a summer visitor to the whole of Europe north of the valley of the Danube, to Siberia, Turkestan, Mongolia, and the extreme north of China. It probably breeds as far north as land extends, as Middendorff found its nest in lat. 70° on the Taimur Peninsula.

\* *Helodromas solitarius*—Sharpe, Handb., III., p. 292 (1896).

† *Rhyacophilus glareola*—Sharpe, Handb., III., p. 275 (1896).

The nest is a mere hollow in the ground, lined with a few dry stalks and blades of grass.

The eggs of the Wood Sandpiper vary in ground-colour from creamy-white to dull buff and very pale olive, and are very handsomely spotted and blotched with rich reddish-brown. The spots vary in size from a pea downwards, and in the widest part of the egg are often confluent. Occasionally the spots are evenly distributed over the egg, but at the smaller end they are generally less in size and more scattered, and in rare instances very few and far between. The underlying spots are pale brown, and seldom very conspicuous. They vary in length from 1·55 to 1·4 inch, and in breadth from 1·1 to 1·0 inch.

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### THE YELLOWSHANK.

(*Totanus flavipes.*)

PLATE 44, FIG. 11.

The Yellow-legged Sandpiper, or Yellow-legs as it is variously called, is an American bird, which is said to have occurred twice in the British Islands. The species breeds in the Arctic regions of the American continent, from Alaska to Greenland. It is said occasionally to nest as far south as Lake Michigan.

Mr. MacFarlane and others describe the nest as a mere depression in the ground. Sometimes it consists of a slight hollow, lined with a few leaves and twigs.

The eggs are four in number and very handsome. The fine series of eggs of this species in the Smithsonian Institution vary in ground-colour from creamy-white to pale greyish-brown. The surface-spots are dark, rich, reddish-brown, and vary in size from a large pea downward, many of them becoming confluent and forming large irregular blotches, or occasionally taking the form of streaks. Most of the markings are generally on the large end of the egg, but on some specimens they are more evenly distributed over the entire surface. The underlying markings are pale grey, or greyish-brown, and are large and conspicuous. The eggs vary in length from 1·7 to 1·6 inch, and in breadth from 1·2 to 1·08 inch. In colour they resemble those of the Greenshank, but in size they are on an average slightly less than those of the Redshank.

## THE MARSH SANDPIPER.

*(Totanus stagnatilis.)*

One specimen of the Marsh Sandpiper has been recorded from England, having been shot by the Hon. Walter Rothschild, on the Tring reservoirs, in October, 1887. As, however, the specimen was afterwards lost, it will be well to await the capture of other examples before fully admitting the species into the British list.

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## THE COMMON REDSHANK.

*(Totanus calidris.)*

PLATE 44, FIGS. 2, 5.

The Redshank is one of the commonest and best known of all the Waders found in the British Islands. It breeds in all suitable localities throughout the whole of Europe (excepting that, east of the White Sea, its range gradually drops down to lat.  $58^{\circ}$  in the Urals) and in North Africa. In the basin of the Mediterranean it appears to be a resident, but to the whole of South Africa it is only a winter visitor. In Siberia its breeding-range only extends as far north as lat.  $55^{\circ}$ , and appears to be confined to the mountains of Southern Siberia and Turkestan. It breeds in the Caucasus, and probably on some of the Persian highlands.

The nest is very slight: in many cases the centre of a tuft of grass is trodden down into a receptacle for the eggs, but at other times a few dead bents, straws, or scraps of moss, heath or reed are placed as a lining to the selected hollow.

The eggs are four in number, rather large for the size of the bird, and pyriform in shape. They vary in ground-colour from very pale buff to rich ochraceous-buff, and are spotted and blotched with rich dark brown surface-markings, and with underlying spots of paler brown and grey. On some eggs a few streaky lines of dark brown are pencilled on the large end. Most of the stronger markings are on the large end of the egg, and some specimens are more finely and handsomely spotted than others. They vary in length from 1·9 to 1·65 inch, and in breadth from 1·3 to 1·17 inch. They are not easily confused with the eggs of any other British Wader, being yellower in colour than those of the Ruff or Great Snipe, which they somewhat resemble.

## THE DUSKY REDSHANK.

( *Totanus fuscus.* )

PLATE 44, FIGS. 7, 9.

The Dusky, or Spotted, Redshank is a somewhat rare visitor to the British Islands on spring and autumn migration, occurring most often at the latter season. It is not known with certainty to breed anywhere south of the Arctic circle, but on the tundra above the limit of forest-growth it nests from Lapland to Bering Straits, though nowhere very abundantly.

Wolley states that the nests found by him in Lapland were a slight depression in the ground, which was covered with short heath and other small plants growing amongst reindeer moss; they were lined only with a few dead spines of the Scotch fir.

The eggs of the Dusky Redshank are four in number, but are laid late in May or during the first half of June, sometimes later, according to season; they are very handsome, and vary in ground-colour from pale green to pale brown, heavily blotched and spotted with rich sepia-brown, and with underlying markings of violet-grey and brownish-grey. On many eggs a few very dark brown hair-like lines and scratches occur on the large end. Some eggs are so richly marked as to hide almost all of the large end; others are more evenly spotted over the entire surface. The markings are generally bold and very clearly defined. The eggs are pyriform in shape, and vary in length from 1·95 to 1·8 inch, and in breadth from 1·35 to 1·25 inch.

## THE GREENSHANK.

( *Totanus glottis.* )\*

PLATE 41, FIGS. 7, 9.

The breeding places of the Greenshank in Scotland are local, and chiefly situated in the Highlands and in the Hebrides; but it nests as far south as the counties of Perth and Argyle. The geographical distribution of the Greenshank very closely resembles that of the Dusky Redshank; but in the west its breeding range extends further south, and in the east not nearly so far north.

\* *Totanus canescens* (Gm.)—Saunders, Manual, p. 605. *Glottis nebularius* (Gunn.)—Sharpe, Handb., III., p. 280.

The nest is cunningly concealed amongst the heath and short herbage, and is very slight, being a mere depression in the ground, lined with a few bits of dry grass or withered leaves.

The eggs are four in number, placed with their pointed ends inwards. They vary from creamy-white to buff in ground-colour, blotched and spotted with rich dark brown, and with underlying shell-markings of pinkish-brown and grey. The large dark rich blotches are generally on the large end of the egg, and often form a zone. Some eggs have the markings no larger than a large pea, and equally distributed over the entire surface. The underlying markings are large, and partake of the character of blotches as well as spots. The eggs vary in length from 2·05 to 1·82 inch, and in breadth from 1·4 to 1·3 inch. They are not easily confused with those of any other British species.

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### THE BAR-TAILED GODWIT.

(*Totanus rufus*).\*

PLATE 42, FIGS. 7, 9.

The Bar-tailed Godwit has never been known to breed in any part of the British Islands, although it has been suspected to do so. It is entirely confined, during the breeding-season, to the Siberian tundra above the limit of forest-growth, from the Yenisei Valley westwards to Finland and Lapland.

The nest is very slight, a little dry grass or other herbage placed in a depression in the ground.

The eggs are four in number. They are pale or dark olive-green in ground-colour, spotted and blotched with darker brown, and with underlying markings of grey. Two eggs, supposed to be those of this bird, from the neighbourhood of Archangel, and taken on the 1st of June, 1880, are very boldly and handsomely blotched with rich brown, and one specimen is streaked with very dark brown on the large end. They vary in length from 2·39 to 2·05 inches, and in breadth from 1·5 to 1·43 inch. It is impossible to give any character by which the eggs of this bird may be distinguished from those of the much commoner Black-tailed Godwit, nor are they with certainty to be distinguished from eggs of Buffon's Skua.

\* *Limosa lapponica* (L.)—Saunders, Manual, p. 607; Sharpe, Handb., III., p. 309.

## THE BLACK-TAILED GODWIT.

*(Totanus melanurus.)\**

PLATE 42, FIG. 2.

The Black-tailed Godwit is much rarer in the British Islands than the Bar-tailed Godwit. It formerly bred in small numbers in the fens and marshes of the low-lying eastern counties, but is now never known to do so. The geographical distribution of the Black-tailed Godwit is almost an exact parallel to that of the Bar-tailed Godwit, except that the former is never found in the Arctic regions.

The nest is a mere hollow in the short, coarse herbage, on the dry part of the ground, somewhat deep, and lined with a handful of dry grass.

The eggs of the Black-tailed Godwit are four in number, olive-brown or pale olive-green in ground-colour, indistinctly blotched and spotted with darker olive-brown ; and with underlying markings of greyish-brown and pale inky-grey. On some eggs the markings are very pale and ill-defined. They are pear-shaped, and vary in length from 2·2 to 2·05 inches, and in breadth from 1·52 to 1·45 inch.

## THE RED-BREASTED SNIPE.

*(Ercunetes griseus.)†*

PLATE 41, FIG. 8.

This species breeds throughout the Arctic regions of America, from Alaska to Greenland, and has occurred accidentally in Great Britain on some sixteen occasions.

The nests which Mr. MacFarlane obtained in Arctic America were taken between the 21st of June and the 1st of July, and were built amongst the vegetation on the marshy borders of small lakes. They were very slight—a mere depression in the mossy ground, into which a few dead leaves were scraped as a lining.

The eggs of the Red-breasted Snipe are four in number, and vary in ground-colour from pale buffish-brown to pale greenish-brown, spotted and blotched with dark reddish-brown, and with well-marked pale greyish-brown underlying spots. Most of the blotches and spots are on the large end of the egg, many of them

\* *Limosa belgica*—Saunders, Manual, Brit. B., p. 609 (1889). *Limosa, limosa*—Sharpe, Handb., III., p. 312.

† *Macrorhamphus griseus*—Saunders, Manual, p. 501; Sharpe, Handb., III., p. 306.

being confluent. A few streaks of very dark blackish-brown are sometimes seen over the ordinary blotches, and the latter occasionally take an oblique direction. They are pyriform in shape, and vary in length from 1·75 to 1·55 inch, and in breadth from 1·2 to 1·08 inch.

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### THE KNOT.

(*Tringa canutus.*)

PLATE 43, FIG. 10.

Scarcely anything is known of the breeding-places of the Knot, as young birds only were found by Colonel Fielden and Mr. H. C. Hart in the Arctic regions during the voyage of the "Alert" and "Discovery."

A nest found by Mr. Hart during the latter voyage was placed on the ground under a large flat stone, which was resting on two others, and was composed of a few leaves and bits of dry grass loosely put together.

The egg which I have ventured to figure is one of a clutch of four sent, with the parent bird shot on the nest, to me by Mr. Verslev, the chief tenor of the opera in Copenhagen, who received it from Coloniforsteher Bolbre, who procured it in 1875 on Disco, in Greenland, near Godhaven, in lat. 69°.

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### THE CURLEW SANDPIPER.

(*Tringa subarquata.*)\*

The Curlew Sandpiper is not an uncommon bird on migration in the British Islands. It must breed somewhere in the high regions of the north, but like those of the Knot, genuine eggs of the Curlew Sandpiper are still a prize which some adventurous ornithologist has yet to secure.

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### THE DUNLIN.

(*Tringa alpina.*†)

PLATE 43, FIGS. 7, 9.

The Dunlin is a regular summer visitor to the west of Scotland and the adjacent islands, including the Outer Hebrides, the Orkneys and the Shetlands. In England it is a very rare and

\* *Ancyllochilus subarquatus*—Sharpe, Handb., III., p. 236.

† *Pelidna alpina*—Sharpe, Handb., III., p. 228.



Herring Gull.



Herring Gull.



Iceland Gull.



Lesser Black-backed Gull.



Lesser Black-backed Gull.





Black-headed Gull.



Black-headed Gull.



Adriatic Black-headed Gull.



Adriatic Black-headed Gull.



Common Gull.



Common Gull.





Great Black-backed Gull.



Great Black-backed Gull.



Great Black-headed Gull.



Great Black-headed Gull.





Little Gull.



Little Gull.



Cream-coloured Courser.



Common Pratincole.



Common Pratincole.



Ross's Gull.



Bonaparte's Gull.



Sabine's Gull.



local bird during the breeding season, and is confined to the northern counties and a few places on the moors of Cornwall and Devonshire. It is a circumpolar bird, breeding throughout the Arctic regions of both continents—in Asia up to lat. 74°, but in America probably not so far north. The American form is often considered to be distinct from the European one.

The nest itself is a mere depression, with occasionally a slender twig or two round the margin, and lined with a little dead grass, a few roots, or sometimes a little moss.

The eggs, which are always four in number, are subject to great variation in colour, and are sometimes remarkably handsome. They are larger than the eggs of the Little Stint or American Stint, and smaller than those of the Purple Sandpiper and Common Snipe; but there are no variations of colour or spotting to be found in the eggs of these four species which are not occasionally found in eggs of the Dunlin. The ground-colour varies from pale green to pale brown and buff; the underlying spots are few, obscure and grey, but the surface-spots vary from rich reddish-brown to nearly black; they are sometimes, chiefly at the large end, bold, and many of them confluent, but occasionally small and evenly distributed over the surface. On some eggs the blotches are oblique, resembling a common variety of the eggs of the Turnstone. They vary in length from 1·4 to 1·2 inch, and in breadth from 1·0 to 0·9 inch.

### BONAPARTE'S SANDPIPER.

(*Tringa bonapartii*.)\*

PLATE 43, FIG. 8.

Bonaparte's Sandpiper is another of those American species that occasionally wanders across the Atlantic to the British Islands. Upwards of a dozen examples of this bird have been obtained, principally in October and November. It breeds in the Arctic regions of North-east America and Greenland, but it has not occurred west of the Rocky Mountains.

The nest is described as a mere depression in the ground, in which a few dead leaves are collected to serve as a lining.

\* *Tringa fuscicollis* (V.)—Saunders, Manual, p. 567. *Heteropygia fuscicollis* (V.)—Sharpe, Handb., III., p. 242.

The eggs are four in number. Those taken by Mr. MacFarlane are pyriform in shape, olive-brown or brownish-olive in ground-colour, marked with somewhat bold surface-spots of dark brown, and underlying spots of greyish-brown. Many of the markings are confluent on the larger end of the eggs, which measure 1·35 inch in length, and 0·95 inch in breadth. An egg in my collection is greyish-buff in ground-colour, thickly spotted over the entire surface with reddish-brown and with a few larger blotches of the same colour intermingled, and with numerous underlying markings of purplish-grey and pale brown.

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### THE SHARP-TAILED SANDPIPER.

(*Tringa acuminata*).\*

Of this Asiatic Sandpiper two specimens have been obtained in England, both of the occurrences having taken place near Yarmouth in autumn. The breeding-home of the species is undoubtedly North-eastern Siberia, but the nest and eggs have not yet been described.

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### THE PURPLE SANDPIPER.

(*Tringa maritima*).†

PLATE 43, FIGS. 2, 5.

The Purple Sandpiper is a winter visitor to the British Islands, but it is believed to breed in some of the outer Hebrides and the Shetlands. It is a summer visitor to North Greenland, Spitsbergen, Novaya Zemlya, and to the Taimur Peninsula, but is a resident species in South Greenland, Iceland, the Faroes, and on the Norwegian Coast.

The nest is merely a little hollow scraped in the scanty vegetation, and lined with a few dry sprigs of moss, or a little dried grass.

The eggs are four in number and remarkably handsome. They vary in ground-colour from pale-olive to pale buffish-brown, boldly

\* *Heteropygia acuminata*—Sharpe, Handb., III., p. 244.

† *Arquatella maritima*—Sharpe, Handb., III., p. 236.

mottled, blotched, and streaked with reddish-brown and very dark blackish-brown. On some eggs the blotches are large, and chiefly distributed in an oblique direction round the large end ; on others they are more evenly distributed over the entire surface ; and on many, a few very dark scratches, spots, or streaks are scattered here and there amongst the brown markings. The underlying markings are numerous and conspicuous, and are pale violet-grey or greyish-brown in colour. The eggs vary in length from 1·55 to 1·45 inch, and in breadth from 1·1 to 1·0 inch. It is almost impossible to distinguish some eggs of the Purple Sandpiper from certain varieties of those of the Jack Snipe or the Common Snipe ; but on an average the ground-colour of the eggs of the two latter species is less olive. Eggs of the Dunlin resemble very closely those of the Purple Sandpiper, but are smaller.

### THE BROAD-BILLED SANDPIPER.

(*Tringa platyrhyncha*).)\*

PLATE 40, FIGS. 5, 8.

About seven specimens of this species have been obtained in Great Britain, most of them on the east coast of England. The Broad-billed Sandpiper is a very local bird during the breeding-season, but its range extends from the Atlantic to the Pacific. The breeding-season in Scandinavia is in the latter part of May and early in June.

The nest resembles that of a Snipe, and is placed in a tuft of grass.

The eggs are four in number, buffish-white in ground-colour, thickly mottled and spotted with rich chocolate-brown, and numerous underlying markings of violet-grey. Some eggs are so thickly marked as to conceal most of the ground-colour ; others are more sparingly marked, having most of the spots clustered on the large end, where many of them are confluent, and on these the underlying markings are larger than usual. They vary in length from 1·38 to 1·25 inch, and in breadth from 0.95 to 0.87 inch.

\* *Limicola platyrhyncha*—Saunders, Manual, p. 563; Sharpe, Handb., III., p. 223.

## THE PECTORAL SANDPIPER.

*(Tringa pectoralis.)\**

PLATE 43, FIG. 12.

This species has occurred so often in the British Islands that it may fairly be regarded as an irregular migrant on autumn migration. It is confined to Arctic America during the breeding-season, and wanders in autumn through the United States to Central America, and even to the extreme north of the South American continent.

The nest is built in the grass, and placed in some high and dry situation.

The eggs are very handsome, and closely resemble in colour those of the American Stint, though they are more than twice the size. The ground-colour varies from pale buff to pale olive-brown; the surface-spots are very large and irregular in shape, and generally of the richest reddish-brown. Where the surface-spots are not so crowded as to become confluent and to hide the ground-colour, the grey underlying spots are very conspicuous. An egg belonging to the Smithsonian Institution, kindly lent me to be figured, measures 1·55 inch in length, and 1·05 inch in breadth.

## THE LITTLE STINT.

*(Tringa minuta.)†*

PLATE 44, FIGS. 1, 3.

This interesting and charming little Sandpiper is only known as a visitor on migration to the British Isles. It breeds in great numbers, though very locally, on the Siberian tundra, from Kolguev Island and the North Cape, eastwards to the Taimur Peninsula. This was one of the species whose eggs Mr. Harvie-Brown and I were in search of when we went to the Petchora Valley, and there we found it nesting in July.

The nest was like that of other Sandpipers, a mere depression in the ground, with such dead cloudberry-leaves and other dry material as was within easy reach to scrape together to serve as lining.

The eggs vary in ground-colour from pale greenish-grey to pale brown, spotted and blotched with rich brown, and with under-

\* *Heteropygia maculata* (VIEILL.)—Sharpe, Handb., III., p. 247.† *Limonites minuta*—Sharpe, Handb., III., p. 250.

lying markings of greyer brown and purplish-grey. Sometimes a few very dark brown streaks occur on the large end. The spots and blotches are generally large, and often confluent on the large end of the egg. They vary in length from 1·15 to 1·06 inch, and in breadth from 0·85 to 0·8 inch. The eggs of the Little Stint probably go through every variation to which those of the Dunlin are subject.

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### THE AMERICAN STINT.

(*Tringa minutilla*.)\*

PLATE 44, FIG. 8.

The American form of the Little Stint breeds in the Arctic regions of the western hemisphere from Alaska to Labrador. It passes through the United States and the Bermudas on migration southwards to winter in Mexico, the West Indies, Central America and the northern portions of South America. It has occurred on three occasions in Great Britain.

The nest is slight, and consists of a little depression, either scratched out by the birds, or one selected for the purpose ready made, scantily lined with a few dead leaves and bits of dry grass.

The eggs are always four in number when the full complement is laid. In ground-colour they are dull buff, spotted and blotched with reddish-brown, and with paler and somewhat indistinct underlying markings. Most of the spots are congregated on the large end of the egg, often becoming confluent. They are very handsome eggs, scarcely to be distinguished from those of the Little Stint, and, except in size, from those of the Dunlin; sometimes the ground-colour is almost concealed by the spots, causing the eggs to resemble those of the Broad-billed Sandpiper. They vary in length from 1·15 to 0·95 inch, and in breadth from 0·85 to 0·75 inch.

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### TEMMINCK'S STINT.

(*Tringa temminckii*).†

PLATE 44, FIGS. 4, 6.

Temminck's Stint is a regular, but by no means common, visitor to the east and south coasts of England on spring and autumn

\* *Limonites minutilla*—Sharpe, Handb., III., p. 255.

† *Limonites temminckii*—Sharpe, Handb., III., p. 257.

migration. It is essentially an Arctic bird, breeding in the Old World portion of the circumpolar region, on the tundra above the limit of forest-growth, and in similar localities on the banks of the great rivers as far south as lat.  $65^{\circ}$  on the shores of the White Sea and the Gulf of Bothnia, to lat.  $55^{\circ}$  on the shores of the Sea of Ochotsk.

The nests are mere depressions in the ground, lined with a little dry grass, and are seldom far from water.

The eggs of Temminck's Stint are four in number, and vary in ground-colour from pale buff to pale olive and pale greyish-green; they are spotted and blotched with reddish-brown and dark brown, and with underlying markings of pale brown and purplish-grey. The markings are largest and most numerous on the large end of the egg, where they are often confluent and form an irregular zone or a large irregular mass. On many eggs there are a few dark streaks on the large end, and the small spots are generally distributed almost evenly over the entire surface. The eggs vary in length from 1·2 to 1·05 inch, and in breadth from 0·87 to 0·8 inch. It is impossible to give any characters by which the eggs of Temminck's Stint may always be distinguished from those of the Little Stint. As a rule the eggs of the latter bird are more buff in ground-colour, and the markings are larger, bolder, and of a richer brown.

---

### THE SANDERLING.

(*Calidris arenaria*.)

PLATE 41, FIG. 4.

The Sanderling visits all suitable portions of the coasts of the British Islands in autumn and in spring, on its way to and from its northern breeding-grounds. It is a circumpolar bird, and doubtless breeds throughout the Arctic regions, as it has been found on the Anderson River (lat.  $68^{\circ}$ ), in Grinnell Land (lat.  $82\frac{1}{2}^{\circ}$ ), Sabine Island (lat.  $74\frac{1}{2}^{\circ}$ ), and in Iceland (lat.  $65^{\circ}$ ).

A nest found by Colonel Feilden was placed on a gravel ridge, several hundred feet above sea-level, and consisted merely of a slight depression in the centre of a recumbent plant of willow, lined with a few dead leaves and last year's catkins.

The eggs of the Sanderling are four in number, buffish-olive in ground-colour, thickly mottled and spotted with pale olive-brown, and with a few indistinct underlying markings of violet-grey. The eggs obtained by Mr. MacFarlane, as well as the one in my own collection from Iceland, have most of the markings on the large end ; but those obtained by Colonel Feilden have them more uniformly dispersed over the entire surface. They vary in length from 1·44 to 1·35 inch, and in breadth from 0·99 to 0·93 inch. It is not easy to confuse the eggs of any other British wader with those of the Sanderling.

---

### THE BUFF-BREASTED SANDPIPER.

(*Tringites rufescens.*)\*

PLATE 43, FIG. 11.

Some sixteen instances of the occurrence of this American species on the shores of Great Britain are admitted. It may be regarded as a summer visitor to the Arctic regions of America, although it has not been recorded from Greenland. From Alaska its range extends to the Siberian coasts of Bering Straits ; and Middendorff obtained a single example on the southern shores of the Sea of Ochotsk.

The nest is always on the ground, and is scarcely distinguishable from that of the Golden Plover ; it must consequently be very slight, little more than a depression, scantily lined with a few dead leaves and bits of dry grass.

The eggs of the Buff-breasted Sandpiper, of which I have examined the magnificent series in the Museum of the Smithsonian Institution at Washington, are about as large as those of the Wood-Sandpiper, but in colour they rival those of the Redshank. The only adjective that an ornithologist can apply to them is "superb." They vary in ground-colour from pale sandy to rich ochre, sometimes with a slight olive tint. The overlying spots are a very rich reddish-brown, varying somewhat in intensity, most of them very bold irregular blotches, often confluent round the large end of the egg, varied with smaller spots. The underlying markings are numerous, well defined, and pale lavender in colour. On some eggs the spots are smaller, whilst in others they

\* *Tringites sub-ruficollis* (V.)—Sharpe, Handb., III., p. 264.

take the form of diagonal dashes. Often the large ends are slightly streaked with dark brown. They vary in length from 1·5 to 1·4 inch, and in breadth from 1·1 to 1·02 inch.

---

### THE WOODCOCK.

(*Scolopax rusticula.*)

PLATE 41, FIGS. 2, 5.

The Woodcock breeds somewhat sparingly and locally throughout the British Islands, including the Shetlands and some of the inner islands. It is a semi-Arctic bird, ranging from the Atlantic to the Pacific. In Scandinavia it breeds up to the Arctic circle; in West Russia up to about lat. 65°, but in East Russia and Siberia not much further north than lat. 60°. Its southern breeding range extends to the Azores, the Canaries, Madeira, to the Alps, the Carpathians, and the Caucasus, to the Himalayas, where it breeds at an elevation of 10,000 feet, and to Mongolia and the mountains of Japan.

The nest is placed on the ground, and is little more than a hollow scratched in the earth, and lined with a few leaves and a little dry grass.

The eggs of the Woodcock are four in number, and vary in ground-colour from greyish-white to brownish-buff; the surface-spots vary in size from a pea downwards, and are reddish-brown in colour, and very irregular in shape; the underlying spots are quite as large, and are pale greyish-brown. They vary in length from 1·8 to 1·6 inch, and in breadth from 1·4 to 1·3 inch.

---

### THE GREAT SNIPE.

(*Scolopax major.*)\*

PLATE 41, FIGS. 1, 3.

The Great Snipe is known to sportsmen by the name of Double Snipe, to distinguish it from the Full Snipe (the Common Snipe), and the Half Snipe (the Jack Snipe). It can only be regarded as a rare visitor, on spring and autumn migration, to our islands. The geographical distribution of the Great Snipe is a very remarkable one, extending in summer from Scandinavia

\* *Gallinago major*—Saunders, Manual, p. 555; Sharpe, Handb., III., p. 211.

to the valley of the Yenisei, but in winter confined to the basin of the Mediterranean and the continent of Africa. It is not even known to pass through Turkestan on migration.

It makes its nest in the long grass, but more often in the middle of a hillock of sedge or rushes. A small quantity of moss or dead grass is placed as a lining to the depression, where its four eggs are laid.

The eggs of the Great Snipe are very handsome, and vary in ground-colour from pale greyish-buff (sometimes with the faintest possible green tinge) to pale brownish-buff, and are spotted and blotched with rich dark brown and paler brown, and with underlying markings of purplish-brown and grey. Most of the blotches are distributed round the largest part of the egg, often in an oblique direction, and many of them are confluent. Some eggs have the large end covered with a network of streaks, but more often only a few lines are seen. The underlying markings are large, numerous, and very conspicuous. The eggs vary in length from 1·9 to 1·7 inch, and in breadth from 1·3 to 1·22 inch.

### THE COMMON SNIPE.

(*Scolopax gallinago*.)\*

PLATE 40, FIGS. 10, 11, 12.

The Common Snipe is generally distributed throughout the British Islands, nesting wherever swampy ground, even of limited extent, is to be found. It breeds throughout the whole of North Europe and Siberia, but is very rare north of lat. 70°, and in the southern portions of its breeding range is chiefly confined to mountain ranges.

The nest is a mere depression lined with dead grass, and is generally placed in a bunch of rushes, or sedge, in the middle of a swamp.

The eggs, nearly always four in number, vary in ground-colour, but are mostly pale greyish-green, spotted and blotched with rich dark brown, with underlying markings of pale brown and grey. Most of the blotches are on the large end of the egg, often

\* *Gallinago cælestis* (Frenz.)—Saunders, Manual, p. 557. *G. gallinago*—Sharpe, Handb., III., p. 215.

placed obliquely, and many of them confluent; sometimes they form a broad irregular zone, and are often intermixed with very dark brown streaks and scratches. The underlying markings are large, numerous and very conspicuous. The eggs vary in length from 1·65 to 1·5 inch, and in breadth from 1·15 to 1·05 inch. The eggs of the Common Snipe very closely resemble those of the Jack Snipe, but are on an average slightly larger. It is also very difficult to distinguish some eggs of the Common Snipe from certain varieties of those of the Purple Sandpiper.

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### THE JACK SNIPE.

(*Scopopax gallinula*.)\*

PLATE 41, FIG. 6.

The Jack Snipe is a regular winter visitor to the British Islands. It is a very local bird, but appears to be irregularly distributed in the Arctic regions during the breeding-season, from the Atlantic to the Pacific.

A full clutch of eggs of the Jack Snipe is always four. The ground-colour goes through precisely the same variations as that of the Common Snipe's eggs, but the blotches and spots are a richer brown, and not, as a rule, quite so bold. The underlying markings are large and very distinct. The eggs are remarkably large for the size of the bird, and vary in length from 1·56 to 1·45 inch, and in breadth from 1·1 to 1·02 inch. On an average, the eggs of the Jaek Snipe are a little smaller than those of the Common Snipe, but it is impossible to give any character by which they may with certainty be distinguished from them. Some varieties of the Dunlin's eggs resemble those of the Jack Snipe, but they may be distinguished by their smaller size. Eggs of the Buff-breasted Sandpiper are absolutely undistinguishable.

\* *Gallinago gallinula*—Saunders, Manual, p. 559. *Limnocryptes gallinula*—Sharpe, Handb., III., p. 220.

FAMILY GRUIDÆ,  
OR CRANES.

---

The three species of Crane which have been found in the British Islands are all visitors, the Common Crane, which at one time nested with us, being the only species which occurs at all regularly.

---

THE COMMON CRANE.

(*Grus cinerea.*)\*

PLATE 46, FIGS. 1, 3.

The Crane is recorded to have been extremely numerous, no doubt breeding on the extensive bogs in this country, in the 12th and 14th centuries.

It nests in suitable localities throughout Europe and Northern Asia, wintering in North Africa and North-western India and China. In Pomerania the nest of the Crane is generally built on one of the hummocks in the swamps. It is a very slight structure: the top of the hummock is trampled down, and the sedge, part of it fresh new foliage and part last year's dead leaves, is twisted round into an apology for a nest.

Two is the usual number of eggs laid, but in very rare instances three have been found. They vary in ground-colour from brownish-buff to greenish-buff, spotted and blotched with rich brown, and with underlying markings of paler brown and greyish-pink. Some specimens have most of the markings on the large end, where they form a semi-confluent mass; in some they form an irregular zone, whilst in others they are evenly distributed over the entire surface, many being indistinct and confluent. Certain specimens have much of the brown surface-colour clouded over the shell, with one or two large spots and an indistinct mass of colour at the large end, intermingled with a few dark brown spots.

\* *Grus communis* (Bechst)—Saunders, Manual, p. 507. *Grus grus* (L.)—Sharpe, Handb., III., p. 111.

The shell is conspicuously pitted, almost like pig-skin, and shows little gloss. The eggs vary in length from 4·1 to 3·5 inches, and in breadth from 2·5 to 2·3 inches.

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### THE DEMOISELLE CRANE.

(*Grus virgo.*)\*

PLATE 46, FIG. 2.

The Numidian or Demoiselle Crane must be regarded as a very rare and accidental visitor to the British Islands, but a pair were seen on one of the Orkney Islands on the 14th of May, 1863, and one of them, which proved to be a male, was shot (Saxby, 'Zoologist,' 1863, p. 8692). The summer range of the Demoiselle Crane is very extensive, but the bird is only locally distributed throughout the Palæarctic region, from the Mediterranean countries to North-western China.

The nest is always built on the ground, often amongst growing grain of some kind, or amongst tall grass in the meadows. It is a very slight structure, the surrounding herbage being generally trodden down and a slight hollow formed, into which are scraped a few straws, and sometimes one or two small stones.

The eggs are two in number, placed side by side in the nest, with the small ends pointing in the same direction. They are pale buff or olive in ground-colour, spotted and blotched with umber-brown and with numerous underlying markings of brownish-pink. On some eggs most of the spots and blotches are underlying and ill-defined; others are only sparingly marked with one or two large irregular confluent blotches. The surface is rather smooth and is full of small pores, but does not show much gloss. The eggs vary in length from 3·8 to 3·1 inches, and in breadth from 2·2 to 2·0 inches; they very closely resemble those of the Common Crane, but are much smaller.

\* *Anthropoides virgo*—Sharpe, Handb., III., p. 114.

FAMILY *COLUMBIDÆ*,  
OR PIGEONS.

---

Of the six species of Pigeons included in the British List, three are resident, one is a regular summer visitor, and the other two are of accidental occurrence.

---

THE RING DOVE.  
(*Columba palumbus*.)

PLATE 47, FIG. 8.

The Ring Dove is a common resident in the wooded districts of Great Britain. It is confined to the western Palæarctic region, where it is a resident, excepting the most northern portions of its range. In Scandinavia and West Russia it is a common summer visitor up to lat.  $64^{\circ}$ . In the Ural Mountains it does not appear to breed north of lat.  $60^{\circ}$ , but occasionally wanders eastwards into the valley of the Tobol. It breeds sparingly throughout the basin of the Mediterranean, but is principally known in that district as a winter visitor.

The nest is rudely made, almost flat, and is merely composed of a few dead sticks so lightly interwoven that the eggs can often be seen through it from below.

The eggs are almost invariably two in number, never more; but in some cases the bird will sit on a single egg. They are rather small for the size of the bird, elongated and oval in shape, and pure white. They are very smooth, and more polished than the eggs of the Owls, but less so than those of the Woodpeckers. They vary in length from 1·7 to 1·55 inch, and in breadth from 1·35 to 1·15 inch. As a rule they are larger than those of the Rock Dove, and may be distinguished from those of the Stock Dove by being much whiter.

## THE STOCK DOVE.

(Columba *anas*.)

PLATE 47, FIG. 7.

The Stock Dove is generally, though locally, distributed throughout the whole of England and Wales. It is a resident in the extreme west of the Palæarctic region, but to the colder portions of its range it is only a summer visitor. In Scandinavia it breeds up to lat.  $62^{\circ}$ ; in West Russia it is very rarely found north of St. Petersburg, and in the Ural Mountains it is not known to breed north of lat.  $57^{\circ}$ .

Its nesting-site varies considerably according to the nature of the district. By the end of March the birds are in pairs, and the eggs are laid during the last half of April. In places where there are no hollow trees the Stock Dove often rears its young in the old nest of a Magpie or a Crow; or in the dense ivy growing over trees or buildings. It makes a most rudimentary nest, and in some cases the decaying wood is the only bed for the eggs.

The eggs are never more than two in number, and are pale creamy-white in colour—a characteristic which always distinguishes them from those of the Ring Dove. They vary in length from 1·5 to 1·4 inch, and in breadth from 1·2 to 1·13 inch.

---

## THE ROCK DOVE.

(Columba *livia*.)

PLATE 47, FIG. 9.

The Rock Dove breeds on the coasts of Great Britain, Ireland, and all the adjacent islands, even including the distant St. Kilda, wherever the rocks are precipitous enough to give it protection, and provide suitable breeding-places for it in their recesses. The range of this species is much wider than that of any other British Dove, extending from the Atlantic to the Pacific; and its exact limits are very difficult to determine, in consequence of the impossibility of discriminating between wild birds and those which have been, or are, in a semi-domesticated state.

It is a very early breeder, its eggs being often laid by the middle of March; and as it rears two, if not three or four, broods in a season, fresh eggs may be obtained from that month till August

or September. April and May are the principal breeding-months. A few Rock Doves build their nests in the crevices of the cliffs ; but the greater majority resort to the caves for breeding-purposes. The eggs are only two in number, pure white in colour, oval and rather elongated in form ; they vary from 1·5 to 1·38 inch in length, and from 1·2 to 1·1 inch in breadth. As a rule, the eggs of this bird are rather more rotund than those of the Ring Dove, and they are always smaller than normal eggs of that bird.

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### THE TURTLE DOVE.

(*Turtur auritus.*)

PLATE 47, FIG. 2.

During the breeding season the Turtle Dove is generally distributed throughout England and Wales, becoming rarer in Cornwall, in the wilder Welsh counties, and north of South Yorkshire. In Scotland it is only known as an accidental straggler on migration ; but in Ireland it is said to breed sparingly. It is a summer visitor to the western Palaeartic region. In Russia it has not been known to occur north of lat. 60°. East of the Urals it is a summer visitor to Turkestan (as far east as the Altai Mountains, Yarkand and Gilgit), Afghanistan, Persia and Asia Minor.

The nest is sometimes built in a tall, dense hedge, sometimes in an evergreen bush, or in the branches of a pine-tree ; as a rule, however, it is much nearer to the ground than that of the Ring Dove, sometimes within easy reach of the hand. It is usually a slight flat structure, made of slender twigs, but I have occasionally found it to be more substantially made.

The eggs are two in number, creamy-white in colour, like those of the Stock Dove, and oval in form, both ends being almost equally pointed ; they vary in length from 1·25 to 1·1 inch, and in breadth from 0·94 to 0·86 inch. The small size of the eggs of the Turtle Dove prevents them being confused with those of any other British species of Pigeon.

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### THE ORIENTAL TURTLE DOVE.

(*Turtur orientalis.*)

An example of this Dove has been shot near Scarborough. The specimen in question was exhibited by me at a meeting of the

Zoological Society on May 6th, 1890. The species has occurred before accidentally in Europe, but its native home is India and China.

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### THE AMERICAN PASSENGER PIGEON.

(*Ectopistes migratorius.*)

PLATE 47, FIG. 11.

At least five of this wandering species have been shot in England. Great numbers, however, of the Passenger Pigeon have been turned loose in Great Britain. The home of the species is in North America, as far north as 65° N. lat. The eggs are white, and, according to Ridgway, measure about 1·47 inch in length to 1·02 in breadth.

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### FAMILY PTEROCOLIDÆ,

OR SAND GROUSE.

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#### PALLAS'S SAND GROUSE.

(*Syrrhaptes paradoxus.*)

PLATE 47, FIGS. 10, 12.

Pallas's Sand Grouse visits Great Britain at long intervals, but occasionally in large numbers. Such visitations took place in 1859, 1863, 1872, 1876 and 1888. The true home of Pallas's Sand Grouse is in the steppes of Central Asia. It breeds in North-east Turkestan, Mongolia and Dauria.

Radde found eggs in the middle of April, and saw young birds in the middle of May. The birds make no nest, but merely scratch a shallow hollow, about five inches across, in the salt-impregnated soil, though in some cases a little grass or a few sprigs of a saline plant are placed round the margin.

Three is the usual number of eggs, though it is said that four are occasionally found. They are remarkably elongated in shape and are scarcely at all pyriform, in this respect resembling the eggs of the Pigeons. In their colour, which is strictly protective, they resemble much more the eggs of the Plovers, especially



Richardsonis Skua.



Richardsonis Skua.



Great Skua.



Great Skua.



Buffonis Skua.



Pomerine Skua.





Red-necked Phalarope.



Avocet.



Grey Phalarope.



Black winged Stilt.



Avocet.



Black winged Stilt.



Turnstone.



Oystercatcher.



Turnstone.





Golden Plover.



Killdeer Plover.



Golden Plover.



Dotterel.



Virginian Golden Plover.



Dotterel.



Grey Plover.



Asiatic Golden Plover.



Grey Plover.





Ringed Plover.



Little Ringed Plover.



Ringed Plover.



Kentish Plover.



Broad-billed Sandpiper.



Kentish Plover



Lapwing.



Broad-billed Sandpiper.



Lapwing.



Common Snipe.



Common Snipe.



Common Snipe.



those of the Ringed Plovers. The ground-colour varies from olive-buff to brownish-buff, the latter being the most common. The eggs are generally pretty evenly, but not very profusely, spotted with overlying markings of dark brown, and with paler and underlying markings ; these spots are irregular, sometimes almost fantastic in shape, and vary in size from that of a small pea to a mere speck. The eggs vary in length from 1·8 to 1·6 inch, and in breadth from 1·2 to 1·1 inch.

---

### FAMILY CYPSELIDÆ,

#### OR SWIFTS.

---

Of the three species of Swifts which are enumerated as British birds, one is a common summer visitor, and the two others are occasional visitants.

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#### THE COMMON SWIFT.

(*Cypselus apus*).\*

PLATE 48, FIG. 2.

The Swift, although one of the latest birds of passage to arrive and one of the earliest to leave, is found in suitable districts in almost all parts of the British Islands. In Norway it has been found breeding as far north as lat. 69°, and has been seen up to lat. 70°. It breeds throughout Europe and North Africa, being most abundant in rocky districts.

The nest of the Swift is a very slight structure, almost flat, composed of bits of straw and other vegetable fibres, placed together with very little art, and lined with feathers ; these materials are covered with a viscid saliva which solidifies like glue, and renders the nest hard and caked together. The Swift obtains most of the materials with which it builds its nest whilst on the wing, seizing a feather here or a bit of dry grass there, as they happen to be blown into the air. It also finds hay, straw, etc., under the tiles and in the crevices which it frequents, conveyed thither by Sparrows ; indeed the nest has even been found

\* *Micropterus apus*—Sharpe, Handb., II., p. 40.

on a nest of the Sparrow containing eggs, the Swift having, doubtless, ejected the original tenant.

The eggs of the Swift are two or three in number, generally the former, but sometimes as many as four are laid. They are elongated in shape, the small end almost as blunt as the large end, rough in texture, with little gloss, and almost pure white in colour. They vary from 1·08 to 0·93 inch in length, and from 0·7 to 0·62 inch in breadth. Swifts' eggs are readily distinguished from those of the Martin by their larger size, more oval shape, and rougher texture.

---

### THE WHITE-BELLIED SWIFT.

(*Cypselus melba*.)\*

PLATE 48, FIG. 3.

The White-bellied or Alpine Swift has been obtained frequently in the British Islands. It breeds in the Alpine districts of Europe south of the Baltic, and in the Ural Mountains its range extends up to lat. 55°. Eastwards it ranges through Asia Minor, Palestine, West Turkestan, to the Western Himalayas, and the mountain ranges of Western India and Ceylon.

The nest is built in a hole or crevice, generally in the most inaccessible part of the cliffs, sometimes where they overhang. It is usually at some distance from the entrance; and even if this can be approached, the eggs, often in sight of the collector, are beyond his reach. The nest is a very similar structure to that of the Common Swift, rather small, and made of dry grass, straws, and feathers, very flat, and cemented together with the saliva of the bird. Most of the nesting materials are obtained whilst the bird is on the wing, but the remains of other nests may sometimes be utilised.

The eggs are deposited late in May, and are usually two or three in number, but it is said that four and even five sometimes occur. They are elongated, and the small end is almost as blunt as the large end. They are pure white in colour, and vary from 1·3 to 1·2 inch in length, and from 0·8 to 0·72 inch in breadth. Their size easily prevents their being confused with those of the Common Swift.

\* *Microfus melba*—Sharpe, Handb., II., p. 38.

## THE NEEDLE-TAILED SWIFT.

(Chætura caudacuta.)\*

The Needle-tailed Swift has been obtained twice in the British Islands. It breeds in South-east Siberia, East Mongolia, Japan, and North China. Schrenck and Radde found it on the Amoor; Dybowsky records it from Lake Baikal; and my Siberian collector has sent me several specimens from Krasnoyarsk, which appears to be the most westerly limit of its breeding-range in Siberia.

Of the nidification of this bird nothing positive is known. Some writers state that it nests in holes of rocks and trees, whilst others assert that it builds a glutinous nest like that of the Edible Swallow. Of its eggs nothing is known at present; but they are most probably white in colour, as are those of all the Swifts, so far as is known.

## FAMILY CAPRIMULGIDÆ,

OR NIGHTJARS.

Of the three British Nightjars, one is a regular summer visitor, and the other two accidental ones.

## THE COMMON NIGHTJAR.

(Caprimulgus europæus.)

PLATE 47, FIGS. 4, 5, 6.

The Common Nightjar, or Goatsucker, is a summer migrant to the British Islands, and is found more or less commonly in almost every county, but is more numerous in the south of England than in the north. It breeds throughout Europe and South-west Siberia. In Scandinavia and West Russia it is found as far north as lat. 63°; but in the Ural Mountains and the valley of the Yenisei it has not been recorded further north than lat. 59°, nor does it appear to occur further east than Irkutsk.

It makes no nest, and deposits its eggs upon the ground, sometimes at the foot of a tree, in rare instances on a fallen trunk

\* *Acanthyllis caudacuta*—Saunders, Manual, p. 43.

covered with moss and lichen, often in a slight depression on the far-stretching heathy wastes, but most commonly on a small naked flat patch of ground amongst the bracken and the brambles.

The eggs of the Nightjar possess certain characteristics which easily distinguish them from the eggs of all other British birds. They are very similar in shape to those of the Swifts and Pigeons, and still more so to those of the Sand Grouse. They are long and oval, the widest part of the egg being nearly in the middle, and the small end being scarcely more pointed than the large end. They are pure white in ground-colour, sometimes with a faint creamy tinge,—mottled, blotched, veined, streaked, and clouded with brown of various shades, and with underlying markings of violet-grey. They differ considerably in the extent and character of the markings. Some eggs have the spots very large, sparingly but evenly distributed over the surface, but the surface ones are rich brown, and the underlying ones violet-grey. On other eggs most of the markings are underlying violet-grey blotches and spots, with only a few small surface ones of rich brown. Some eggs are intricately streaked and scratched with brown surface-colour, with large streaky blotches of grey underneath, whilst in others this is exactly reversed, the underlying grey markings being principally composed of streaks and lines, and the surface ones mostly of blotches and spots. The shell has very little polish. The eggs vary in length from 1·4 to 1·1 inch, and in breadth from 0·95 to 0·8 inch.

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#### THE ISABELLINE NIGHTJAR.

(*Caprimulgus aegyptius.*)

The claim of the Egyptian Nightjar to be considered a British bird rests on a specimen obtained near Mansfield, in Nottinghamshire, on the 23rd of June, 1883. The range of the Isabelline Nightjar is very restricted. Hitherto it has only been obtained in Western Turkestan, Baluchistan, Egypt and Nubia. Both Heuglin and Severtzow say that it is only a summer visitor to its breeding-grounds, which probably also include Arabia.

Heuglin describes the nest as a mere depression in the sand, near a tuft of halfa-grass, or under the shelter of a stunted bush.

Its eggs appear to be two in number, and he describes them as more yellow in tinge than the eggs of the Common Goatsucker, while they are also smaller and paler. I have not been able to obtain a specimen to figure in the present work.

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### THE RED-NECKED NIGHTJAR.

(*Caprimulgus ruficollis.*)

PLATE 47, FIGS. 1, 3.

The claim of the Red-necked Nightjar to be included in the list of British birds rests upon a single example which was shot on the 5th of October, 1856, at Killingworth, near Newcastle. This species has a very restricted range, and is only known to breed in North-west Africa and the Spanish Peninsula, though it has occurred several times near Marseilles, and in other localities in the extreme south-east of France.

Like the Common Nightjar it lays two eggs on the bare ground, and they can scarcely be distinguished from those of *C. europaeus*.

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### FAMILY MEROPIDÆ,

OR BEE-EATERS.

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Of the two species of Bee-eater entered on the British list, the Blue-tailed Bee-eater has been shot on one occasion, while *M. apiaster* has occurred many times.

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### THE COMMON BEE-EATER.

(*Merops apiaster.*)

PLATE 48, FIG. 6.

The Common Bee-eater is only an accidental straggler to the British Islands. It is a regular summer visitor to Europe south of the Carpathians. Throughout North Africa it is principally known as a spring and autumn migrant, but many remain to

breed, especially in Algeria and Morocco. It passes through Afghanistan, North-west India, and Sind on migration, and winters in South Africa.

It nests in holes burrowed in the earth or in banks.

The eggs are from five to eight or nine in number, nearly round, and pure glossy white, the shell being as highly polished as that of a Kingfisher's or Woodpecker's egg. They vary in length from 1·05 to 0·95 inch, and in breadth from 0·93 to 0·8 inch.

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### THE BLUE-TAILED BEE-EATER.

(*Merops philippinus.*)

An example of the Blue-tailed Bee-eater, said to have been shot by Mr. Thomas Hann of Byer's Green, near the Snook, Seaton Carew, in Durham, in August, 1862, is in the collection of the Rev. T. M. Hicks.\* This species is found throughout India and the Malay Peninsula, South China, and Formosa, extending to many of the islands of the Malay Archipelago, Sumatra, Java, Timor, Borneo, Celebes, and the Philippines. The improbability of a species inhabiting a district so remote and so far to the south ever visiting the British Islands is so great that it is difficult to avoid coming to the conclusion, either that the individual in question had escaped from an aviary, or that the skin of an Indian bird was substituted for that of a Common Bee-eater by the bird-stuffer through whose hands it passed.

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### FAMILY CORACIIDÆ,

OR ROLLERS.

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Of the three species here enumerated, one, a typical African species, and the second, a typical Indian species, are supposed to have visited England once. The Common Roller has occurred more than a hundred times.

\* Hancock, "Birds of Northumberland and Durham," p. 28.

## THE COMMON ROLLER.

(Coracias garrulus.)

PLATE 48, FIG. 14.

Although this conspicuous bird occurs almost every year in our islands, it can only be regarded as an accidental straggler to them, chiefly on autumn migration. It breeds in most parts of Europe south of lat. 60°, but is only of occasional occurrence in the north of France, Belgium, Holland, and the British Islands. It is a summer visitor to Algeria, and to Turkestan, Afghanistan, Cashmere, and the Punjab. It also breeds in South-west Siberia as far north as Omsk, and as far east as the Altai Mountains.

The Roller generally chooses a hole in a rock or a tree in which to lay its eggs; but it often makes use of a hole in a bank or in a wall or building.

The eggs are from three or four to six in number, somewhat globular in form, and pure and glossy white in colour. They vary considerably in size, typical examples measuring from 1·55 to 1·4 inch in length, and from 1·2 to 1·1 inch in breadth, whilst unusually small specimens only measure 1·2 by 1 inch. Their beautifully polished surface and globular form distinguish them from those of the Pigeons; and their large size prevents them being readily confused with those of the British Woodpeckers.

The Abyssinian Roller (*Coracias abyssinicus*) and the Indian Roller (*Coracias indicus*) have both been said to occur once in Great Britain. There is nothing distinctive about their eggs, which resemble those of the Common Roller.

## FAMILY UPUPIDÆ,

OR HOOPOES.

## THE HOOPOE.

(Upupa epops.)

PLATE 48, FIGS. 1, 4.

The Hoopoe may almost be regarded as a regular summer migrant to the British Islands. Scarcely a year passes without specimens being obtained, and it has bred in most of the southern

counties of England. Although not a northern bird, it has a very extensive range, and breeds commonly in temperate and southern Europe south of lat. 56°.

The breeding-season commences in the middle of May, and eggs may be found from that time onwards until the second week in June, the nest being placed in holes in trees, especially willows, or in a suitable hollow in a rock or old wall. There is scarcely any nest, merely a few straws, roots, and often pieces of dried cow-dung as a lining to the hole; but sometimes the eggs rest on the dead wood alone, or on the remains of the old nest of a Starling, or other bird that had previously been in possession of the site.

The eggs are from five to seven in number, and many of them when newly-laid are pale bluish-green, but they soon fade or become stained in the nest. They vary considerably in colour; some are pale greenish-blue, almost the colour of those of the Starling; others are of different shades of olive; some are lavender-grey, and others stone-colour. Some specimens have a considerable amount of gloss, and the surface is full of small pits and streaky hollows, which gives them the appearance of being dusted over with minute white specks. The eggs in each clutch do not differ much amongst themselves. They vary in length from 1·15 to 0·96 inch, and in breadth from 0·77 to 0·65 inch. It is not easy to confuse the eggs of the Hoopoe with those of any other European bird, the peculiar texture of the shell being sufficient to identify them at a glance.

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FAMILY ALCEDINIDÆ,  
OR KINGFISHERS.

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THE COMMON KINGFISHER.

*Alcedo ispida.*

PLATE 48, FIG. 7.

The Kingfisher is a resident on the banks of most of our lakes, rivers, and brooks throughout the British Islands, except in the Outer Hebrides and the extreme north of Scotland. It has a

comparatively restricted range, being confined to the southern-half of the western Palaeartic region, and is represented in Siberia and India by a smaller form, known as *Alcedo bengalensis*.

Upon its nest of fish-bones, if nest it can be properly called, the female Kingfisher deposits her round, shining, white eggs, from six to eight or nine in number. As is the case with most white eggs before they are blown, the yolk inside gives them a beautiful pink appearance. They vary in length from 0·95 to 0·87 inch, and in breadth from 0·8 to 0·72 inch. Kingfishers' eggs are not easily confused with those of any other British bird, for their rotund shape distinguishes them from those of the Woodpeckers, and their size from those of the Bee-eaters.

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### THE BELTED KINGFISHER.

(*Ceryle alcyon*.)

PLATE 48, FIG. 12.

The Belted Kingfisher may fairly claim to be inserted in the list of British birds as an accidental straggler on migration. It is found throughout the continent of North America, from the Atlantic to the Pacific, and from the Arctic Ocean to Central America and Trinidad.

It rears its young in a hole, which is usually made in the clayey banks of a stream or pond near the birds' favourite fishing-grounds. Some holes are perfectly straight, whilst others turn from side to side, usually when near the end. All the holes are enlarged at the end into a sort of chamber, and in this the eggs are deposited.

The eggs, usually laid in April or May, are generally six in number, rarely seven, and are, when blown, pure and glossy white, and vary in length from 1·4 to 1·3 inch, and in breadth from 1·06 to 1·02 inch. Their size, of course, prevents them from being confused with those of the Common Kingfisher.

THE FAMILY PICIDÆ,  
OR WOODPECKERS.

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Three species are resident in Great Britain, one, the Wryneck, is a regular summer migrant, and the rest are accidental visitors.

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THE GREAT SPOTTED WOODPECKER.

(*Picus major.*)\*

PLATE 48, FIG. 13.

The Great Spotted Woodpecker is principally a forest bird, and probably breeds in every county in England and Wales wherever the woods are sufficiently extensive and the trees large enough. It is a partial resident in the wooded districts throughout Europe and Siberia, and even in Japan. In Scandinavia it is rarely found north of the Arctic circle; in Russia it is a common resident up to Archangel, and was obtained by Hoffmann in the Ural Mountains as far north as lat.  $63\frac{1}{2}$ . In West Siberia, Sloffzow obtained it at Omsk in lat.  $55^{\circ}$ ; Theel met with it in the valley of the Yenisei as far north as lat.  $60^{\circ}$ ; and Middendorff procured it on the Pacific coast of East Siberia in lat.  $55^{\circ}$ .

The Great Spotted Woodpecker is a somewhat late breeder. It seldom has eggs before the middle of May. The hole in which the eggs are deposited is nearly always made by the bird itself, but it is said that a ready-made one is sometimes utilised. Occasionally it is made in a large branch, but more frequently in the trunk, and a decayed part is invariably selected. The passage is wonderfully round and smooth, and the end is enlarged into a little sort of chamber, and here the eggs are deposited.

The bird makes no nest; the eggs lie upon the powdered wood at the bottom of the hole. They vary from five to seven or eight in number, and are creamy-white with no spots or markings, save an occasional nest-stain. They vary in length from 1.15 to 0.95 inch, and in breadth from 0.82 to 0.75 inch.

\* *Dendrocopos major*—Sharpe, Handb., II., p. 8.

Two allied species of Pied Woodpecker have visited us from the American Continent. The Hairy Woodpecker (*Picus villosum*) is believed to have occurred twice, and the Downy Woodpecker (*Picus pubescens*) once.

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### THE LESSER SPOTTED WOODPECKER.

(*Picus minor.*)\*

PLATE 48, FIG. 8.

In many parts of England the Lesser Spotted Woodpecker is a commoner bird than the Great Spotted Woodpecker. It is more often seen in small plantations; but, strange to say, north of Yorkshire it is extremely rare, and it is doubtful if it breeds regularly in any part of Scotland. Its range, like that of its larger ally, is Palæarctic; but it extends somewhat further to the north, and, except in the extreme west, not quite so far to the south.

It nests in holes in trees; and though it often begins excavations very early in the season, its eggs are not generally deposited before the beginning or middle of May. The hole is made in many kinds of trees and at different heights from the ground. Sometimes it chooses a dead stump or the stem of an apple or a pear-tree, more frequently high up in the branches of a poplar, a beech, or an elm. Sometimes it bores into a pollard willow by the stream, or selects a pine or birch tree for its purpose.

The Lesser Spotted Woodpecker makes no nest; its eggs are laid on the fine powdered chips and fragments of wood left at the bottom of the hole. They are from five to eight or nine in number, and are pure white with a considerable amount of polish. They vary in length from 0·82 to 0·7 inch, and in breadth from 0·62 to 0·55 inch. It is difficult to distinguish between the eggs of the present species and those of the Wryneck, and they require the most careful identification. On an average, however, the Wryneck's eggs are larger, coarser in texture, and not so glossy.

\* *Dendrocopos minor*—Sharpe, Handb., II., p. 12.

## THE GREEN WOODPECKER.

*(Gecinus viridis.)*

PLATE 48, FIG. 15.

The Green Woodpecker is a somewhat local resident, but is generally distributed throughout the woodland districts of England and Wales, becoming rarer north of Yorkshire. Its range is somewhat restricted in Europe, being confined to the western portions of the Palaeartic regions, and not extending to the Arctic circle.

For nesting purposes, many kinds of trees are selected; poplars, elms, oaks, chestnuts, and sycamores being amongst those which are more frequently chosen. The hole is wonderfully round and regular, and looks as if it had been made with a sharper instrument than a bird's bill.

The eggs are usually laid late in April or early in May; they are from five to seven and occasionally eight in number, and are pure white, beautifully polished. They vary in length from 1·4 to 1·19 inch, and in breadth from 0·95 to 0·89 inch. They also vary slightly in shape, some being blunter at the ends than others. Their size prevents them being confused with those of any other British Woodpecker.

## THE BLACK WOODPECKER.

*(Picus martius.)*

PLATE 48, FIG. 9.

The Black Woodpecker has been included in the list of British birds by most ornithologists, and long lists of its alleged occurrences in our islands have been published. These have been carefully investigated by Mr. J. H. Gurney, jun.,\* with the result that no authentic instance of the occurrence of the species in this country can be substantiated. This fine bird is a resident in the pine-forests of Central Europe as far south as the Pyrenees and the mountains of Asia Minor. It is found as far north as the Arctic circle; and eastwards it extends across Siberia to the north island of Japan. It is a resident in East Mongolia and the

\* Cf. Dresser, B. Eur., V., p. 12.

extreme north of China, but does not appear to range further north in Asia than lat. 62°. In its habits and mode of nidification it differs very little from other Woodpeckers.

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### THE WRYNECK.

(*Iynx torquilla.*)

PLATE 48, FIG. 10.

The Wryneck is a common bird in summer in the south-eastern counties of England. West of the Severn and north of the Trent it is much rarer, and is very locally distributed. It is a rare summer visitor to most of the counties of Scotland, but in Ireland it has only been obtained twice; otherwise it has a very extensive range, being found during the breeding-season throughout the greater part of the Palearctic region.

The Wryneck, like the Woodpeckers, lays its eggs in holes of trees. It does not, however, make its own abode, although it often slightly alters the hole which it has chosen. This is often selected in the most exposed situation, not unfrequently in an orchard, and sometimes in a dead stump in a hedgerow.

Sometimes the eggs may be seen from the opening, at other times they are at arm's length down the aperture. They are deposited on the decayed wood at the bottom with no other nest whatever, and are usually laid about the middle of May. They are from six to ten in number, seven or eight being an average clutch, and are pure white without any markings. They are not quite so smooth and polished as those of the Woodpeckers, and vary in length from 0·9 to 0·8 inch, and in breadth from 0·67 to 0·58 inch. They most closely approach the eggs of the Lesser Spotted Woodpecker, but may generally be distinguished by their larger size, and less amount of gloss.

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### THE FAMILY CUCULIDÆ, OR CUCKOOS.

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The Common Cuckoo is a regular summer visitor, but the other species are of accidental occurrence.

## THE GREAT SPOTTED CUCKOO.

*(Cuculus glandarius.)*\*

PLATE 49, FIG. 7.

The claim of the Great Spotted Cuckoo to be included in the British list is very slender, and rests on two examples only. It is a well-known summer migrant to several parts of Europe, where it arrives rather earlier than the Common Cuckoo.

Like the latter, the present bird is a parasite, and deposits its eggs in the nests of other birds, and leaves its young to be hatched and reared by other species. The nests selected by the bird for its purpose are the species of Crows. A Magpie's nest, either that of the common species or the Azure-winged Magpie, is generally selected in Spain and Algeria; but in Egypt that of the Hooded Crow is preferred, and in some parts of Palestine that of the Black-headed Jay is probably chosen.

The eggs of the Great Spotted Cuckoo are very pale bluish-green in ground-colour, spotted and blotched with light brown, and with numerous underlying markings of violet-grey. On some specimens these underlying spots are more numerous than the surface ones, and the markings are generally pretty evenly distributed over the whole surface, but are most numerous at the larger end of the egg. They vary from 1·35 to 1·2 inch in length, and from 1·05 to 0·92 inch in breadth. Although the eggs of this bird bear considerable superficial resemblance to those of the Common Magpie, they may be distinguished from them by the reddish instead of olive-brown colour of the surface-markings, and by the numerous grey underlying markings. They are also on an average smaller and rounder.

## THE COMMON CUCKOO.

*(Cuculus canorus.)*

PLATE 49, FIGS. 1—5, 9—13.

The Cuckoo is a summer visitor to Great Britain; and in winter it visits on its migrations nearly every part of the southern continents of the Old World, while during the breeding-season it is found almost everywhere from the Atlantic to the Pacific.

\* *Coccystes glandarius*—Saunders, Manual, p. 278; Sharpe, Handb., II., p. 21.

The bird, as is well known, builds no nest of its own, but is parasitic on other species. Space does not permit me to give any full account of the curious habits of the species, but the figures in the plate give some idea of the small size and the varied colourings of the eggs of the Cuckoo. A list of 120 species in which Cuckoo's eggs have been found is published by Mr. Bidwell in the "Bulletin of the British Ornithologists' Club" for March, 1896, and among the many curious facts related by Dr. Rey, who has devoted much attention to the study of the Cuckoo, is the resemblance which is seen in some of the eggs of the species to those of the foster-parent. Thus it happens that blue Cuckoo's eggs are found in nests of the Redstart, and some of those deposited in nests of species like the Sedge Warbler and the Water Wagtail are almost exact copies of the foster-parent's eggs, but are, of course, slightly larger.

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### THE YELLOW-BILLED CUCKOO.

(*Coccyzus americanus.*)

PLATE 49, FIG. 8.

The claim of the Yellow-billed Cuckoo to be included in this work is supported by the record of four British-killed examples. It has a very extensive range on the American continent, breeding as far north as New Brunswick and Minnesota, and as far south as Texas, as well as in some of the West Indian Islands.

The nest is generally placed in trees and large bushes, often in a fruit-tree, or in a cedar, a crab, or a thorn. It is very carelessly put together, and composed of small sticks loosely mixed with grass, and is almost as slight and flat as the nest of a Pigeon.

The eggs are from three to five in number, of an uniform bluish-green, and measure from 1·4 to 1·1 inch in length, and from 0·98 to 0·83 inch in breadth. The shell is somewhat rough in texture, and possesses little or no gloss. The colour fades rapidly, even in a cabinet.

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### THE BLACK-BILLED CUCKOO.

(*Coccyzus erythrophthalmus.*)

PLATE 49, FIG. 6.

An example of this species was shot by Dr. Rea at Killead, ten miles from Belfast, near the end of September, 1871. It

inhabits the eastern half of the North American Continent, breeding as far north as Labrador, and as far south as Georgia and Texas. In winter it is found in Mexico, Central America, some of the West Indian Islands, and the northern portions of South America.

The habits of this bird differ little from those of the Yellow-billed Cuckoo, and, like the last-named species, it builds its own nest.

The eggs of the Black-billed Cuckoo vary in length from 1·15 to 1·05 inch, and in breadth from 0·9 to 0·8 inch, and are on an average smaller than those of the Yellow-billed Cuckoo; but small eggs of the latter are indistinguishable from large eggs of the former.

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THE FAMILY PASSERIDÆ,  
OR SINGING BIRDS.

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Of these there are one hundred and forty species, of which fifty are resident and fifty migrants, while forty are occasional or rare visitors.

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WHITE'S GROUND THRUSH.

(*Geocichla varia.*)\*

PLATE 50, FIG. 1.

This handsome bird has occurred in the British Islands at least a dozen times. It winters in South Japan, South-west China, and the Philippine Islands, occasionally straying as far west as Sumatra.

A nest of this species was obtained by Swinhoe near Ningpo, and is now in my collection. It was built on a fork on a horizontal pine-branch, and is about two-and-a-half inches deep inside and about four inches outside, seven inches in outer, and four-and-a-half inches in inner, diameter. The outside is composed of withered rushes, fine and coarse grass, and moss, with an occasional twig and withered leaf, and plastered most copiously with mud. Here and there are a few pieces of some green weed, apparently conveyed in the mud from the swamps. The inside is lined with a thick coating of mud, like the nests of our own

\* *Turdus varius*—Saunders, Manual, p. 11. *Oreocichla varia*—Sharpe, Handb., I., p. 243.



Great Snipe.



Woodcock.



Great Snipe.



Sanderling.



Woodcock.



Jack Snipe.



Greenshank.



Red-breasted Snipe.



Greenshank.





Wood Sandpiper.



Black-tailed Godwit



Wood Sandpiper.



Ruff.



Green Sandpiper



Ruff.



Bar-tailed Godwit.



Green Sandpiper



Bar-tailed Godwit.





Common Sandpiper.



Purple Sandpiper.



Common Sandpiper.



Spotted Sandpiper.



Purple Sandpiper.



Spotted Sandpiper.



Dunlin.



Bonaparte's Sandpiper.



Dunlin.



Knot.



Buff-breasted Sandpiper.



Pectoral Sandpiper.





Little Stint.



Little Stint.



Temminck's Stint.

Redshank.



Temminck's Stint.



Spotted Redshank.



American Stint.



Spotted Redshank.



Bartram's Sandpiper.



Yellowshank.



Bartram's Sandpiper.



Ring Ouzel or Blackbird, and is then finally lined with fibrous rootlets, quite as coarse as those the Magpie uses, and one or two pieces of sedgy grass. In general appearance the nest resembles most closely a common Magpie's without the sticks, just the mere cup, and is far more coarsely made than the nests of the true Thrushes.

The eggs, greenish-white, with minute reddish spots, were three, although most probably the full number had not been laid. They resemble those of the Mistle Thrush, but the ground-colour is slightly paler, and the spots much finer, more numerous, and more evenly distributed. They measure 1·2 inch in length and 0·9 inch in breadth.

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### THE SIBERIAN GROUND THRUSH.

(*Geocichla sibirica.*)\*

PLATE 50, FIG. 3.

The only claim of the Siberian Ground Thrush to be included in the list of British birds rests upon a single example, which was sent to the late Mr. F. Bond by a dealer, who informed him that it had been shot between Guildford and Godalming in the winter of 1860-61. The Siberian Ground Thrush breeds in the valleys of the Yenisei and the Lena, between lat. 67° and 68°, and also near Yokohama in Japan. The egg figured was procured in the latter locality by Mr. H. Pryer.

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### THE MISTLE THRUSH.

(*Turdus viscivorus.*)

PLATE 50, FIGS. 4, 6.

The "Stormcock," as this bird is popularly called, is one of those few species which, during very recent times, have extended their range in the British Islands. Upon the European Continent the Mistle Thrush breeds throughout the temperate portions, extending on the west coast as far north as the Arctic circle. Eastwards it ranges through Turkestan to the North-west Himalayas and Lake Baikal.

\* *Turdus sibiricus*—Saunders, Manual, p. 12.

Probably few other British birds' nests exceed in picturesqueness the home of this Thrush. There is a peculiar rustic beauty about it which few others possess. As in the nest of the Blackbird (as indeed in those of all the Thrushes), it undergoes three distinct stages before completion: First, the outside is composed of grass, chickweed, bog-moss, and often large masses of wool, through which are artfully woven a few slender twigs to strengthen the sides of the structure; this nest is lined with mud or clay and, lastly, a very thick lining of grass, usually in a green state, completes the work. No attempt at concealment is made; indeed it seems that the birds rather court discovery than otherwise; for it is no uncommon thing to see a large piece of wool hanging loosely from a nest, or a portion of the nest itself so lightly put together as to cause it to arrest the attention at once.

The eggs of the Mistle Thrush very rarely exceed four in number, and in but very few cases are less. They are somewhat different from the typical Thrush's egg, being of a greyer tinge. The ground-colour ranges from bluish-white to reddish-brown, spotted, blotched, and clouded with various shades of rich purplish-brown and with greyish underlying spots. They vary in length from 1·32 to 1·03 inch, and in breadth from 0·94 to 0·8 inch.

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#### THE SONG THRUSH.

(*Turdus musicus.*)

PLATE 50, FIG. 2.

The Song Thrush breeds throughout Great Britain and Ireland in all well-cultivated districts, or where the ground is sufficiently wooded to afford it shelter. Its breeding-range extends across the Palæarctic region from the Atlantic as far east as the valley of the Yenisei, but the bird is much commoner in the west than in the east.

The nest is a bulky structure, and composed outwardly of dry grass, with generally a few twigs and sometimes a little moss. This grass-formed nest is then lined with a thick coating of mud or clay, and sometimes cow's dung, with decayed wood as a final lining.

The eggs of the Song Thrush are four or five in number, and may readily be distinguished from those of any other species of

British bird. They are of a beautiful clear greenish-blue, marked with small spots of a deep rich brown approaching to black. Eggs of this bird vary considerably, both in size and markings. Many eggs (doubtless the production of the older birds) are exceptionally large; others more resemble the Redwing's in size. Some eggs (though these are rare) are spotless; others are very richly spotted and blotched with reddish-brown and various tints of purplish-grey. Eggs that are boldly blotched never have the colouring-matter so intense as those on which the markings are small. They vary in length from 1·16 to 0·95 inch, and from 0·9 to 0·7 inch in breadth.

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### THE REDWING.

(*Turdus iliacus.*)

PLATE 50, FIGS. 5, 8.

The Redwing is a regular winter visitant to Great Britain and Ireland. Its principal breeding-range is at or near the Arctic circle throughout the Palaearctic region, though it appears to become very rare east of the Yenisei river.

The nest is neatly made, and somewhat resembles that of the Ring Ouzel, though it is smaller and perhaps more firmly put together.

The eggs of the Redwing are from four to six in number, most frequently the former, and cannot easily be confounded with the eggs of the other British Thrushes, on account of their smaller size. The streaks or spots generally almost hide the ground-colour, and are evenly distributed over the entire surface. The usual colour is a pale bluish-green, thickly marbled over the entire surface with greenish-brown. Some specimens have the spots dispersed in irregular streaks and blotches, like miniature Blackbird's eggs; in others the ground-colour is almost clear, except at the large end of the egg, where a zone is formed of confluent brown spots; whilst others are almost clear pea-green, devoid of all markings. They vary but little in size or shape, and are never large enough to be mistaken for small specimens of the other eggs of this group of birds, which they resemble in colour. They vary in length from 1·1 to 0·9 inch, and in breadth from 0·8 to 0·7 inch.

## THE FIELDFARE.

*(Turdus pilaris.)*

PLATE 50, FIG. 7, 9.

Fieldfares have been said to breed in the British Islands, but, until definite proofs are forthcoming, it is not safe to admit the truth of the statement, the birds being very liable to be confounded with Mistle Thrushes by careless observers. The Fieldfare has a somewhat more southerly breeding range than the Redwing. It breeds in the Arctic circle, extending up to, and occasionally beyond, the limit of forest growth, and in north-temperate Europe as far south and west as the basin of the Baltic, and throughout Siberia as far east as the watershed of the Yenisei and the Lena.

The nest is very similar to the Blackbird's or the Ring Ouzel's in construction and materials. The outside is made of coarse dry grass, with sometimes a few birch-twigs or a little moss interwoven, then plastered with mud, and finally lined with a thick bed of fine grass.

The eggs are from four to six in number, and, in rare instances, as many as seven or as few as three. None of our British Thrushes' eggs vary so widely as do the eggs of the Fieldfare. The average type of egg is bluish-green in ground-colour, thickly marbled, speckled, and blotched over the entire surface with rich reddish-brown, the spots being the densest on the larger end, in fact resembling a very handsome Blackbird's egg. Some varieties are pale greenish, with the spots and streaks distributed equally over the whole surface and very pale and indistinct, like the duller eggs of the Blackbird; in others the egg is paler in ground-colour, but thickly and boldly blotched with reddish-brown, like typical eggs of the Ring Ouzel; while yet, again, specimens are more rarely met with, which are almost as blue as the Song Thrushes', and with but one or two streaks of liver-brown on the larger end. They vary in length from 1·35 to 1·02 inch, and in breadth from 0·9 to 0·7 inch.

The American Migratory Thrush (*Turdus migratorius*) has occurred once in England and once in Ireland, but in both instances the birds are believed to have escaped from confinement.

## THE BLACKBIRD.

*(Merula merula.)*\*

PLATE 50, FIGS. 11, 12.

Throughout Great Britain, wherever trees abound, the Blackbird is very commonly met with, and occasionally frequents the wild mountain-wastes, but only near the upland farms or in gardens or orchards on the border-lands of the moor. The Blackbird is a more or less constant resident in every country in Europe and North Africa; but its range does not extend very far north. In Norway, in consequence of the milder climate caused by the Gulf-stream, it breeds up to the Arctic circle; but in Russia it does not appear to range further north or further east than the valley of the Volga.

In form the Blackbird's nest is somewhat shallow, and is usually a large, bulky structure.

The eggs of the Blackbird are from four to six in number, although this is in some few cases exceeded, for nests have been known to contain eight eggs. They differ considerably in size, form, and colour; some specimens are exceptionally large, others small; some are quite pear-shaped, others almost round. The usual colour is a bright bluish-green, spotted, streaked, clouded, and blotched with rich reddish-brown and various tints of purple. Some specimens have most of the spots and streaks round the large end of the egg in a zone or band; others are finely blotched; whilst some specimens are so richly marked as to hide all trace of the ground-colour. Varieties of the Blackbird's eggs are occasionally met with which are very similar to the eggs of the Starling, pure blue and spotless. The eggs vary from 1·35 to 1 inch in length, and in breadth from 0·9 to 0·79 inch.

## THE RING OUZEL.

*(Merula torquata.)*†

PLATE 50, FIG. 10.

The range of the Ring Ouzel in Great Britain is pretty much restricted to the moorland wastes and northern mountains. On

\* *Turdus merula*—Saunders, Manual, p. 13.

† *Turdus torquatus*—Saunders, Manual, p. 15.

the Continent it breeds in Scandinavia, but in Central Europe it is replaced by *M. alpestris*.

When examining the nest of this bird, its close resemblance to that of the Blackbird will be noticed. Indeed it would be almost impossible to discriminate between them, were we not aware that the Blackbird does not haunt the wide, open, moor. In the districts where the habitats of these two birds adjoin (the boundary of cultivation and the wild), nothing but a sight of the parent birds can make identification sure.

The Ring Ouzel lays four or five finely-marked eggs, bluish-green in ground-colour, boldly and richly blotched with reddish-brown, and sometimes streaked with dark brown. So closely do the eggs of this bird resemble those of the Blackbird and the Fieldfare, that, were a series of the eggs of these three birds mixed promiscuously, it would be absolutely impossible to separate all of them correctly. Nevertheless, on an average, the Ring Ouzel's eggs have the ground-colour clearer, and are more boldly and richly marked, than those of the Blackbird. They vary in length from 1·35 to 1·08 inch, and in breadth from 0·9 to 0·78 inch.

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### THE BLACK-THROATED OUZEL.

(*Merula atrigularis*).<sup>\*</sup>

PLATE 51, FIG. 1.

The only claim of this Thrush to rank as a British species rests on a single example taken in the south of England during the winter of 1868. The Black-throated Ouzel belongs to the eastern Palæarctic region, and is one of many Siberian birds which are in the habit of occasionally missing their way on their autumn migration, and wandering into Europe instead of Southern Asia.

Nothing is known of the nest of this bird; but a series of its eggs has been obtained by Herr Tancre's collectors on the Altai Mountains. They exhibit the same variation in colour as the eggs of the Blackbird, and measure from 1·2 to 1·16 inch in length, and from 0·8 to 0·75 inch in breadth.

\* *Turdus atrigularis*—Saunders, Manual, p. 9.

## THE COMMON DIPPER.

*(Cinclus aquaticus.)*

PLATE 51, FIG. 8.

The distribution of the Dipper in Great Britain is chiefly confined to the mountainous districts of the west and north of England, including Wales, and throughout Scotland, extending to the outer Hebrides and the Orkneys, but not to the Shetland Isles. In Ireland it is found in similar localities to those in Britain. The Dipper in a more or less modified form appears to occur throughout the Palæarctic region and the Himalayas wherever rocky mountain-streams are to be found.

By the first week in April, should the weather be at all favourable, the birds are engaged in nest-building. The site for the nest is usually amongst the rocks, never in a tree or bush, although occasionally amongst their gnarled and moss-grown roots. In form it is somewhat like the Wren's, domed; but the hole which admits the parent birds is very low down the side, and can seldom be seen unless from below, the entrance overhanging a little. Inside this mossy dome a nest of the ordinary open style is constructed, apparently quite distinct from it, without being in any way woven into it.

The eggs of the Dipper are four or five in number, and can never be confounded with the eggs of the Thrushes, except in size and form. They are pure white and spotless, somewhat less than a Song Thrush's egg in size. The shell, however, does not possess that beautiful gloss so characteristic of the eggs of the Kingfisher and the Woodpecker, and is somewhat rough in texture. They vary in length from 1·1 to 0·95 inch, and in breadth from 0·77 to 0·7 inch.

The Black-bellied Dipper (*Cinclus melanogaster*) of Scandinavia, has occurred on the eastern coasts of England. Its eggs resemble those of *C. aquaticus*.

## THE ROBIN.

*(Erithacus rubecula.)*

PLATE 51, FIGS. 2, 3.

Throughout Great Britain and Ireland the Robin is everywhere a well-known bird in those localities where there is sufficient cover; like the Sparrow, it is a close attendant on cultivation

and improvement. Formerly it was a rare bird on the wild and desolate Hebrides; but now it is comparatively common, as improvement and the planting of trees and shrubs have increased. It breeds as far north as the Orkneys, but has not yet been known to do so in the Shetlands, and only rarely occurs on the Faroes in the autumn. The Robin breeds throughout Europe as far north as the Arctic circle, rarely beyond; but becomes of far less frequent occurrence in Russia, and is not known to nest east of the Ural Mountains.

The Robin's nest is very bulky and somewhat peculiar in its construction. In the first place, should the nest be on the ground, a small cavity is made as a foundation for future operations. Then, with withered leaves, dry grass and moss, a somewhat rude nest is made, but with a neat deep cup lined with hair, and sometimes a little wool and rootlets, the latter material being the most extensively used.

The eggs of the Robin are from five to eight in number, but probably six may be taken as an average clutch. In ground-colour they are pure and shining white; the markings, which in some cases are very rich, are brown of various shades, or red, and sometimes with dashes and freckles of grey. In colour they differ considerably. Some are pure white without a trace of markings, others have a zone of colour round the larger end; many are so clouded with spots as to hide the ground-colour, while not a few are richly and boldly blotched with reddish-brown, streaked with dark brown approaching black. The eggs possess a considerable amount of gloss, which fades to a very great extent after being kept for any length of time. To be seen in all their delicate beauty they must be examined soon after they are laid and before the contents have been removed. They vary in length from 0·9 to 0·7 inch, and in breadth from 0·65 to 0·56 inch.

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#### THE ARCTIC BLUE-THROATED ROBIN.

(*Erythacus suecica*).\*

PLATE 51, FIGS. 6, 7.

The present species is a frequent visitor to England, especially in the autumn. The Arctic Blue-throat breeds within the Arctic

\* *Cyanecula suecica*—Saunders, Manual, p. 33; Sharpe, Handb., I., p. 280.

circle, or in the birch-regions at high elevations of more southerly climes, both in Europe and Asia ; in the latter continent it breeds as far south as the Himalayas, and occasionally crosses Bering Straits into Alaska.

The nest is not unlike that of a Robin. The hole is well filled with dry grass and roots, and at the far end a neat deep cup is formed, lined with fine roots and hair. It is almost impossible to find the nest, except by accidentally frightening off the bird, and even then it often takes some time, so carefully is it concealed.

The eggs are from five to six in number, and are laid about the middle of June. They are greenish-blue, more or less distinctly marbled with pale reddish-brown, and are very similar to the eggs of the Nightingale. They may be described as miniature eggs of the Redwing. They measure from 0·8 to 0·69 inch in length, and from 0·56 to 0·53 inch in breadth.

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### THE NIGHTINGALE.

(*Erithacus luscinia*).\*

PLATE 51, FIGS. 10, 11.

The Nightingale is a common summer visitor to all the counties of England, except those in the north and west, being comparatively rare in South Yorkshire, Shropshire, and East Devon, which may be considered the limits of its range in our islands. It is pretty generally distributed on the Continent of Europe during the breeding-season south of Scandinavia and west of Russia, only occurring in the latter country accidentally. It passes through North Africa on migration, and a few remain to breed in Algeria.

The nest is a large structure loosely put together outside, but neatly finished. It is composed externally of dry grass, sometimes fine flags and rushes, and strips of withered bark, together with dead leaves of the oak, the hawthorn, and the birch, usually the former. The nest cavity, which is deep and round, is lined with fine grasses, dry rootlets, sometimes with horse-hair, and more rarely with vegetable down.

The eggs of the Nightingale are four or five in number, usually the latter, and sometimes as many as six have been found. There appear to be two types of the egg of this bird—a rich olive-

\* *Daulias luscinia*—Saunders, Manual, p. 39; Sharpe, Handb., I., p. 274.

brown one, and a bluish-green one. The ground-colour of the olive-brown type of egg is bluish-green, where it can be seen through the surface-colouring, which is pale reddish-brown. The bluish-green type is very faintly mottled with pale reddish-brown, the colouring-matter being sometimes collected on one end of the egg, like a cap. In some specimens this cap is to be seen on each end, the egg becoming paler round the centre. Some eggs are finely streaked here and there with darker brown. In size they vary from 0·93 to 0·75 inch in length, and from 0·65 to 0·57 inch in breadth.

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### THE ROCK THRUSH.

(*Monticola saxatilis.*)

PLATE 51, FIG. 4.

The occurrence of the Rock Thrush in England is only accidental, only one specimen being admitted to be genuine. The Rock Thrush breeds across Southern Europe as far north as the Hartz Mountains, and eastward through Persia, Turkestan, and South Siberia, as far as Lake Baikal, South-east Mongolia, and North China. It passes through North Africa on migration, where some remain to breed, and winters in Senegambia, Abyssinia, and East Africa.

Wherever the nest is found, it is usually well concealed from view, and always in a hole. Nests in the more cultivated districts are made of roots, fine and coarse grasses, moss and bents, and lined with hair and feathers. Those taken from more isolated places, the rocky districts high up mountain sides, are similar in outward construction, rarely lined with hair or feathers, but with fine rootlets and dry grass.

The eggs of the Rock Thrush are four or five in number, of the same beautiful bluish-green as those of the Song Thrush, but slightly paler and rounder; indeed they are almost intermediate between a Song Thrush's and a Starling's. The markings are confined to a very few faint light brown specks, usually on the larger end; but the eggs are very often spotless. Even in the same clutch these peculiarities may be noticed; for sometimes one egg will be faintly marked, and the rest spotless. They vary in length from 1·05 to 0·95 inch, and in breadth from 0·82 to 0·7 inch.

## THE REDSTART.

*(Ruticilla phoenicurus.)*

PLATE 51, FIG. 12.

This handsome little bird is of somewhat local distribution in the British Islands, and can nowhere be said to be of very common occurrence. The Redstart breeds throughout Central Europe as far north as the Arctic circle. In South Europe it is rarely seen, except on spring and autumn migration, although a few remain to breed at high elevations, usually selecting the pine regions for this purpose. It winters in North Africa. In Asia its range during the breeding season extends eastwards as far as the valley of the Yenisei, and the winter home of these Asiatic birds appears to be in Persia.

May is the Redstart's nesting season. We must not seek its nests amongst the branches, nor yet amidst the brambles or vegetation on the ground, but always in some hole, well protected from the wind ; holes in walls and trees are, as a rule, selected ; but most peculiar sites are sometimes chosen—for example, gate-posts, flower pots and crevices under the eaves. Indeed, in this respect the Redstart is almost as famous as the Robin.

The eggs are usually five or six in number, occasionally seven, and even eight. They are of a paler blue and are more highly polished than those of the Hedge Accentor, and the shell is far more fragile. They vary in length from 0·8 to 0·7 inch, and in breadth from 0·57 to 0·5 inch.

## THE BLACK REDSTART.

*(Ruticilla tithys.)*

PLATE 51, FIG. 5.

The Black Redstart is a regular winter visitant to the whole of the south coast of England, and is not uncommon in Cornwall ; but there is no positive evidence that it has ever bred in the British Islands. The geographical distribution of the Black Redstart during the breeding season is a somewhat peculiar one. In the south it extends from Portugal through Algeria to Palestine. Northwards its range becomes more restricted, and apparently does not extend east of the valleys of the Dniester and

the Vistula or north of Holstein. South of the Alps it is found throughout the year, its numbers being increased during winter, when its range at that season extends as far south as Nubia.

The nest of the Black Redstart resembles that of the Robin, being a very large, loose structure outside ; inside it is extremely round and neat.

The usual number of eggs is five ; sometimes only four are laid ; but six, and even seven, eggs have been recorded. The colour is usually pure white ; but sometimes there is the faintest tinge of brown, and a clutch in my collection from Altenkirchen shows the faintest possible tinge of bluish-green. The eggs are very finely grained, and the surface polished. In length they vary from 0·83 to 0·7 inch, and from 0·6 to 0·5 inch in breadth.

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#### THE WHEATEAR.

(*Saxicola ænanthe.*)

PLATE 51, FIG. 9.

The Wheatear is one of the first migrants to arrive in Britain in early spring. Outside the British Islands the Wheatear's range is exceeded by few other British Passerine birds. It breeds throughout Central and Northern Europe. Westward its breeding-range extends over Iceland as far as Greenland, Labrador, and eastwards throughout northern Siberia, the mountains of Persia and Syria, and beyond Bering Straits into Alaska.

Far under a piece of rock, or in a crevice of a huge boulder, not unfrequently in the holes of walls, or under a convenient earth-clod on the fallow, are the usual situations chosen for the nest. It will, when nesting on the sandy downs, take possession of a deserted rabbit-burrow, or other suitable hole in the sandy soil.

The eggs of the Wheatear are from four to seven in number, but six seems to be the average clutch. They are pale greenish-blue, elongated in form, and usually spotless. Occasionally, however, they are found with markings upon them, usually confined to a few faint purplish specks on the larger end, sometimes so indistinct and fine as to be scarcely perceptible, unless examined closely. The eggs vary in length from 0·95 to 0·79 inch, and in breadth from 0·65 to 0·6 inch.

## THE ISABELLINE WHEATEAR.

*(Saxicola isabellina.)*

PLATE 51, FIG. 13

This large Wheatear is an inhabitant of South-eastern Europe and North-eastern Africa, ranging eastwards to Central Asia as far as Northern China. A specimen was shot in Cumberland in November, 1887.

The nest resembles that of the Common Wheatear, and is generally placed in burrows.

The eggs are four or five in number, of a pale greenish-blue, with occasionally a slight indication of pale brown spots. They measure from 0·85 to 0·9 inch in length, and about 0·65 inch in breadth.

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## THE DESERT WHEATEAR.

*(Saxicola deserti.)*

PLATE 51, FIG. 14.

The claim of the Desert Wheatear to a place in the British Avi fauna rests upon the capture of two specimens—one obtained on the 26th of November, 1880, near Stirling, and another near Holderness on the 17th of October, 1885. It is found from North Africa to Central Asia and India. Of the habits of the Desert Chat during the breeding season but little is known.

Its nest is said, by ornithologists who have met with it, to resemble that of the Black-throated Chat. It is placed on the ground, sometimes in the shelter of a bush or in a fissure of the rocks, or not unfrequently in the walls of wells.

The eggs closely resemble those of the Black-throated Wheatear, but are not so brightly coloured, and the pale liver-coloured spots are larger. They are light greenish-blue in ground-colour, spotted with liver-brown of varying degrees of intensity, usually in a zone round the larger end. They measure 0·77 inch in length and 0·49 inch in breadth.

## THE BLACK-THROATED WHEATEAR.

*(Saxicola stabazina.)*

PLATE 51, FIG. 15.

A male of this species was shot by Mr. David Page, of Bury, in Lancashire, on or about the 8th of May, 1875, whilst it was sitting on the ridge of the out-buildings belonging to the Bury Angling Association near the reservoir. The Black-throated Wheatear, and its ally the Black-eared Wheatear, are two of the commonest birds in Greece and Asia Minor.

The nests which I found were usually in the grass in some rock-sheltered crevice, and were loosely made outside of moss and grass, but rather neatly lined with roots and goats' hair.

The number of eggs was usually five, but sometimes only four. They vary in ground-colour from pale to dark bluish-green, spotted with reddish-brown of different shades. In some specimens the spots are dark (almost liver) brown and sharply defined; in others they are pale, many of them confluent. As a rule, the markings are confined to the large end of the egg, where they usually form a zone; but sometimes they are irregularly dispersed over the entire surface. Some eggs are almost spotless, whilst others have an indistinct band of very pale spots at the large end. They measure from 0·8 to 0·7 inch in length, and from 0·62 to 0·56 inch in breadth.

## THE WHINCHAT.

*(Pratincola rubetra.)*

PLATE 51, FIGS. 18, 19.

The Whinchat may be said to be pretty generally diffused throughout the three kingdoms in summer, and, in certain localities, it is a common and abundant species. It breeds in all suitable localities throughout Central and Northern Europe, ranging from the Arctic circle as far south as the pine regions extend.

The nest of the Whinchat is usually made in a little cavity in the ground, and the thickest tufts of herbage are selected. Dry grass, moss, and a few straws form the outside of the nest. Internally it is composed of rootlets and horse-hair, loosely put together and almost enshrouded in the surrounding herbage.

The eggs are from four to six in number, greenish-blue like those of the Stonechat.

## THE STONECHAT.

*(Pratincola rubicola.)*

PLATE 51, FIG. 16.

Unlike the Whinchat, the present species is, in our islands at least, a constant resident, and may be seen in its favourite haunts at all times of the year. Its distribution in Great Britain is somewhat local, much more so than that of the Whinchat. The Stonechat breeds in suitable localities in all the counties of Great Britain and Ireland, the Channel Islands, and the Hebrides, and is occasionally found on the Orkney and Shetland Isles, but is not known to breed there. On the Continent the Stonechat is not found north of the Baltic or east of the valley of the Volga; but is a resident in North Africa, Palestine, and Asia Minor.

The nest is composed of dry grass and moss, occasionally with a few rootlets, and is lined with finer bents, hair, feathers, and sometimes a little wool. Although somewhat loosely put together and exhibiting but little skill, the nest of this bird is a pretty one.

The eggs of the Stonechat are from four to six in number, and vary considerably in the extent and intensity of their spotting. They are pale bluish-green in ground-colour, clouded and spotted with reddish-brown. In most eggs of this bird the spots are confined for the most part to a broad zone round the larger end, and in some specimens the end is covered completely with them. The pattern is very similar to that of the eggs of the Whinchat, only far more intense and more widely dispersed. Eggs of the Stonechat are sometimes found almost spotless, while others are so richly marked as to resemble the eggs of the Spotted Flycatcher; and it will also be noticed that clutches of eggs are seldom uniform in the intensity of their colouring, the last-laid eggs being usually paler. They vary in length from 0·75 to 0·65 inch, and in breadth from 0·59 to 0·55 inch.

## THE SPOTTED FLYCATCHER.

*(Muscicapa grisola.)*

PLATE 51, FIGS. 17, 20.

The Spotted Flycatcher is one of the latest of our summer migrants. Throughout Great Britain it is a common bird from May until September, breeding in every county, but becoming

rather less numerous in Scotland and in the Channel Islands. Throughout the European Continent and the islands of the Mediterranean it is a very common bird, and, for the most part, a regular summer migrant.

A very handsome nest of the Spotted Flycatcher in my collection is somewhat larger than usual, and resembles certain nests of the Robin. The lining contains no feathers, but is completely composed of fine dry grass and a few hairs. It is deeply cup-shaped, and the frontage to the nest is broad. Externally it is chiefly composed of moss, long stems of water-plants, grass-blades, and leaves of herbage—now dry and withered, but evidently gathered in a green state. Here and there may be seen parts of dead leaves, almost skeletonized, and a few scraps of green lichens. Nests of this bird are sometimes composed largely of sticks and fibrous roots, and then they are usually warmly lined with wool and feathers.

The eggs of the Spotted Flycatcher vary in number from four to six, and range from bluish-white to pea-green in ground-colour, blotched, spotted, and clouded with various shades of reddish-brown. Some eggs are so richly covered with spots as to hide the ground-colour, and resemble very closely certain varieties of Robin's eggs; others have the markings confined to a zone round the larger end; while many are more evenly marked and singularly clouded with a faint roseate tinge, which adds considerably to their beauty, but which soon fades after they are blown. They vary in length from 0·8 to 0·7 inch, and in breadth from 0·62 to 0·52 inch.

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### THE PIED FLYCATCHER.

(*Muscicapa atricapilla.*)\*

PLATE 52, FIG. 2.

Although the Pied Flycatcher breeds in some districts in North Wales and the English counties on the Welsh border, its chief summer haunt appears to be from South-west Yorkshire, extending northwards to the Lake districts of England and the eastern and midland counties of Scotland from Berwickshire to Caithness. On the Continent it is common in Scandinavia during

\* *Ficedula atricapilla*—Sharpe, Handb., I., p. 323.



Whimbrel.



Whimbrel.



Esquimaux Curlew.



Curlew.



Curlew.





Crane.



Demoiselle Crane.



Crane.





Red-necked Nightjar.



Turtle Dove.



Red-necked Nightjar.



Nightjar.



Nightjar.



Nightjar.

Stock Dove.

Ring Dove.

Rock Dove.



Sand Grouse.



Passenger Pigeon.



Sand Grouse.





Hoopoe.



Swift.



White-bellied Swift.



Hoopoe.



Hairy Woodpecker.



Bee-eater.



Kingfisher.



Lesser Spotted Woodpecker.



Wryneck.



Downy Woodpecker.



Black Woodpecker.



Belted Kingfisher.



Great Spotted Woodpecker.



Roller.



Green Woodpecker.



summer ; but in Russia it is not found so far north, ranging in the Ural Mountains only to lat. 57°.

The Pied Flycatcher's nest is always placed in a covered site, which varies but little in its situation. It is built in the holes of birch and other trees, sometimes in a deserted Woodpecker's hole, or a crevice of a wall or rock, at various heights from the ground, sometimes but a few feet, at others far up the trunks. In these holes a slight nest is formed of dry grasses, dead leaves, moss and feathers, sometimes a little wool or a few horse and cows' hairs.

Few of our British eggs are more beautiful in colour than those of the Pied Flycatcher. They are of a delicate pale blue, sometimes almost approaching white, perfectly spotless, somewhat frail in texture, and slightly smaller than those of the Hedge Accentor. In number they vary from five to eight, the latter number, however, being somewhat exceptional ; and but one brood is, as a rule, reared in the year. The eggs vary in length from 0·8 to 0·65 inch, and in breadth from 0·58 to 0·52 inch.

### THE RED-BREASTED FLYCATCHER.

(*Muscicapa parva*.)\*

PLATE 52, FIG. 3.

This pretty little Flycatcher is fairly entitled to a place in the British avifauna, three examples having been obtained. Upon the European Continent the range of the Red-breasted Flycatcher is somewhat restricted. It breeds in Germany, Austria and South Russia as far north as the Baltic provinces, arriving during the latter end of April or early in May, and departing again in August or September.

The nest is built in the hollow of a tree-trunk or against the stem. It is a very handsome little structure, almost entirely formed of green moss, with here and there a few scraps of lichen and a downy feather or two. The inside is sparingly lined with fine dry grass and hairs. The nest-cavity measures about two inches in diameter and one and a half inch in depth.

Many of the eggs of this bird very closely resemble Robin's eggs in colour, others as closely the eggs of the Spotted Flycatcher. They are the palest of bluish-green in ground-colour,

\* *Siphia parva*—Sharpe, Handb. I., p. 325.

closely freckled with reddish-brown and greyish-brown shell-markings. They are from five to seven in number, and vary from 0·07 to 0·06 inch in length, and from 0·54 to 0·5 inch in breadth.

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### THE GRASSHOPPER WARBLER.

(*Locustella locustella*).\*)

PLATE 52, FIG. 1.

This is a somewhat local bird in the British Islands; but there is probably no county in England, Wales, Ireland, or Scotland south of the Firth of Forth where it does not breed. On the Continent it is probably confined to Western Europe.

A nest I found in Sussex was round, compact and rather deep, the outside woven principally of green moss, mixed with a few dead leaves and a little dry grass. The lining was of entirely dry, slender, round grass stalks.

The ground-colour of the eggs is a pale, pinkish-white, generally profusely spotted all over with small rufous-brown spots or dots interspersed with paler and greyer underlying spots of the same character. In most eggs the spots are slightly larger towards the large end of the egg, and sometimes very decidedly so. Occasionally the overlying spots are sparsely distributed, and in some instances they are almost absent altogether. Not unfrequently irregular short and thin hair-lines of very dark rufous-brown are observable. The eggs vary in length from 0·75 to 0·7 inch, and in breadth from 0·55 to 0·5 inch. The number ranges from four to seven.

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### S A V I ' S W A R B L E R .

(*Locustella luscinioidecs*.)

PLATE 52, FIG. 4.

Savi's Warbler is in all probability extinct as a breeding-bird in our islands, as the marshes where it formerly bred have been to a great extent drained. On the Continent the distribution of this species is also somewhat restricted, though in many localities it is a common bird.

\* *Locustella naevia* (Bodd.)—Saunders, Manual, p. 81; Sharpe, Handb., I., p. 236.

Graf Casimir Wodzicki, describing its habits in Galicia\* writes:—  
 “The nest is carefully concealed amongst the sedges (*Carex*), and is placed upon a heap of tangled blades, usually six inches, but sometimes two or three feet above the water. It is composed of flat leaves of broadish grass, generally of sweet-grass (*Glyeeria*), carefully woven together, the narrowest leaves being chosen for the lining. It is a marvellously neat structure, very deep, sometimes deeper than the inside diameter.”

The eggs vary in number from four to six. They are French-white or pale-buff in ground-colour, thickly sprinkled over the entire surface with ashy-brown spots, most numerous at the larger end of the egg, where they usually form an obscure zone. The pale violet-grey underlying markings are numerous; and on some eggs there are a few very dark, irregular, hair-like streaks. The eggs of Savi’s Warbler somewhat closely approach those of the Grasshopper Warbler, but are always browner. They vary in length from 0·8 to 0·75 inch (Professor Newton gives a measurement of 0·84), and from 0·6 to 0·55 inch in breadth.

### THE SEDGE WARBLER.

(*Aerocephalus phragmitis*.)

PLATE, 52, FIG. 5.

This well-known bird is a common summer visitor to nearly every part of our islands, breeding more or less abundantly in every county. On the Continent the Sedge Warbler has a somewhat extensive range, being found in Norway as far north as lat. 70°, in Sweden and North Russia to lat. 68°, and in the valleys of the Ob and the Yenisei to lat. 67°.

Few of our British nests are so unassuming as that of the Sedge Warbler’s. It is a small and simple little structure, not very deep, made of dry grass-stems, portions of sedgy plants, sometimes lined with a few hairs, sometimes with scraps of vegetable down. It is occasionally placed as high as ten feet from the ground, but more frequently at a height of one or two feet, and rarely on the ground itself.

The eggs of the Sedge Warbler are five or six in number, and differ considerably in colour. One type is stone-colour, with pale

\* (Journ. Orn., 1853, Extra-Heft, p. 49.)

and indistinct mottlings of yellowish-brown. A second type has the same buffish appearance, but the markings are very much more pronounced and of a richer brown, in some specimens deep red-brown. Almost all eggs of the Sedge Warbler, of both types, are marked with fine scratchy streaks of rich blackish-brown ; on some eggs these pencillings are not continuous and can scarcely be traced ; in others they are almost as pronounced as the marks on a Bunting's egg. The eggs vary in length from 0·75 to 0·6 inch, and in breadth from 0·55 to 0·5 inch.

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### THE AQUATIC WARBLER.

(*Acrocephalus aquaticus.*)

PLATE 52, FIG. 6.

This species is a bird of the Western Palaearctic region. It has been recorded on three occasions in England. It never makes its nest amongst the reeds over the water, but chooses a bunch of sedge or water plants near the bank, or a thorn or willow overgrown with rank herbage. The nest is never placed on the ground, but frequently only a few inches above it ; seldom more than a foot or eighteen inches. It is suspended between the stalks of the plants which grow close to it, and which are woven into the sides.

It is impossible to give any character by which the eggs of this bird can be distinguished from those of the Sedge Warbler. They are four or five in number, and vary in length from 0·7 to 0·67 inch, and in breadth from 0·52 to 0·5 inch.

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### THE GREAT REED WARBLER.

(*Acrocephalus turdoides.*)

PLATE 52, FIG. 7.

The only satisfactorily authenticated instance of the occurrence of the Great Reed Warbler in our islands is the one recorded by Hancock in his " Catalogue of the Birds of Northumberland and Durham." It is a western Palaearctic species, breeding in Central and Southern Europe, and ranging eastwards into Northern Persia and Turkestan.

The nest is usually placed in the middle of the reed-bed, about half-way between the top of the reeds and the surface of the

water. The nest is deep and cup-shaped, having an inside diameter of about two inches and a half, and being of about the same depth. Outside it measures about five inches in height, with an outside diameter of four inches. Occasionally the leaves of water-plants are interwoven in the nest, and sometimes moss, wool, a feather or two, and downy seeds, such as those of the clematis and cotton-grass.

The number of eggs is generally four or five, but frequently six. In colour they almost exactly resemble those of the Marsh Warbler, but are twice the size. The ground-colour is a pale blue, sometimes approaching green, and often tinged with grey. Few eggs are more boldly or richly spotted. Large blotches of olive-brown or russet-brown, sometimes pale, but occasionally approaching black, are distributed pretty evenly over the surface, and are relieved by minute spots of the same colour and by the underlying blotches, which show pale through the ground-colour. The eggs vary considerably in size; the largest in my collection measures 1·0 by 0·7 inch, and the smallest 0·8 by 0·63 inch.

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### THE REED WARBLER.

(*Acrocephalus arundinaceus*.)\*

PLATE 52, FIG. 8.

The Reed Warbler is common enough in the south of England, but in the north it is very rare. It is found in suitable localities in summer throughout Europe, south of lat. 58°, and in Asia Minor, Palestine, South-west Siberia, Turkestan, Persia, Baluchistan, and probably in Afghanistan.

The materials of the nest are principally very fine roots, a piece or two of worsted, a feather, a little moss and some dry grass. The lining is entirely of fine roots.

The eggs vary very little, but some clutches are much darker and more profusely spotted than others. The ground-colour is a pale greenish blue, and the spots or blotches greenish brown, more or less confluent at the larger ends, the underlying spots being paler and greyer than the others. Some eggs show a few streaky spots, almost black. They vary from 0·78 to 0·7 inch in length, and from 0·55 to 0·5 inch in breadth, and are from three to five in number.

\* *Acrocephalus streperus* (V.)—Saunders, Manual, p. 71; Sharpe, Handb., I., p. 231.

## THE MARSH WARBLER.

(Acrocephalus palustris.)

PLATE 52, FIG. 9.

Thanks to the researches of Mr. Harting and others, the Marsh Warbler must now be admitted to be a regular, though local, summer visitor to England. On the Continent the geographical range of the Marsh Warbler is almost the same as that of the Reed Warbler.

The nest, according to Naumann, is never placed over water—not even over marshy ground. It is always built over firm ground, though this is generally somewhat moist, as it cannot help being on the bank of a stream, a situation often chosen.

The number of eggs varies from five to seven, and in the colour and character of the markings they present two very distinct types, the one apparently as common as the other. The first type has the ground-colour pale greenish-blue, with surface-spots and blotches of olive-brown and underlying markings of violet-grey. The peculiarity of this type is that most of the spots are underlying ones, the overlying spots being fewer and smaller. Each of these olive surface-markings generally contains a spot of darker brown in the centre. The second type somewhat more nearly approaches the eggs of the Reed Warbler, being of a greenish-white ground-colour, richly marbled, blotched and spotted with olive-brown, and having a few very dark-brown specks. In this type the underlying markings are few and usually small. In both types most of the markings are distributed on the large end of the egg, sometimes so thickly as to almost conceal the ground-colour. The eggs vary in length from 0·8 to 0·65 inch, and in breadth from 0·59 to 0·52 inch.

## THE ICTERINE WARBLER.

(Hypolais hypolais.)\*

PLATE 52, FIG. 10.

The Icterine Warbler has been noticed in Great Britain on half-a-dozen occasions, and it is believed to breed occasionally in England. It is a common summer visitor to the north of France, Belgium, Holland, Germany, Italy and Sicily, but is very rare in

\* *Hypolais icterina*—Saunders, Manual, p. 69.

the south of France, and entirely absent from Spain. It is common in Denmark, the Baltic Provinces and South Scandinavia, but becomes much rarer further north, the limit of its range in Norway being lat.  $67^{\circ}$ , and in Sweden and West Russia about  $65^{\circ}$ . On the Urals it is said only to range as far north as  $57^{\circ}$ , and it has been recorded east of those mountains from the valley of the Tobol.

The nest of this Warbler is a very beautiful one, and is generally built in the fork of a small tree eight or ten feet from the ground. It is composed of dry grass deftly interwoven with moss, wool, spiders' webs, thistle-down, strips of bark and lichen, lined with fine roots, grass-stalks and horse-hair.

The eggs are four or five in number—very rarely six. They are brownish-pink in ground-colour, evenly spotted and more rarely streaked with very dark purplish-brown, which occasionally approaches black. The underlying markings are very indistinct, and some specimens are very finely streaked with lighter brown. Some eggs have the spots much smaller and finer than others. They vary in length from 0·78 to 0·65 inch, and in breadth from 0·6 to 0·5 inch.

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#### THE BARRED WARBLER.

(*Sylvia nisoria*.)

PLATE 52, FIG. 11.

The present species has been recorded at least eight times in Great Britain. It nests in South Sweden, as well as in Germany east of the Rhine, Transylvania, South Russia, Persia, and Turkestan, as far east as Yarkand.

The nest is not like that of most Warblers, a slender structure, so loosely made as to be semi-transparent, but is somewhat bulky and compact. It is composed of dry grass-stalks and roots, with generally some small-leaved plants, cobwebs, thistle-down, or other woolly material mixed with it. Outside it is rough enough, but inside it is very neat and round, rather deep, and lined with a few fine roots, cobwebs, or horse-hair.

The eggs are usually four or five in number, and, in rare instances, six; they are laid in the last week of May. They are very characteristic, and cannot easily be confounded with those of any other Warbler. The ground-colour is dull buffish-white; the

underlying spots are grey, and, though somewhat obscured by the overlying layer of ground-colour, they appear distinct and bold enough when carefully examined. In the greater number of eggs the overlying spots are either absent altogether or are so small and pale as to be observed with difficulty; but in some cases, though rarely, they are tolerably well defined and are brown, and much more numerous than the underlying spots (which they almost conceal), and are, like them, principally distributed at the larger end of the egg. They vary in length from 0·9 to 0·8 inch, and in breadth from 0·65 to 0·6 inch.

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### THE ORPHEAN WARBLER.

(*Sylvia orpheus.*)

PLATE 52, FIGS. 14, 15.

The Orphean Warbler can only be looked upon as a very rare and accidental straggler to our islands, if indeed the evidence of its occurrence at all can be relied upon. On the Continent the range of this bird is very restricted. It appears to be a summer migrant to all the countries lying in the basin of the Mediterranean and the Black Sea, and eastward as far as Persia and Turkestan.

The nest is a tolerably substantial one, and deep, composed of dry grass and leafy stalks of plants. Inside it is built of finer grasses, and lined sparingly with thistle-down or the flower of the cotton-grass. Little or no attempt seems to be made to conceal it. It is generally placed on the branch of a tree not more than a few feet from the ground, and sometimes near the top of a bush.

Four or five is the usual number of eggs. The ground-colour is white, sometimes faintly tinted with grey and sometimes tinted with brown. The spots are almost always much more developed at the large end than at the small one, and are sometimes very small, but generally vary in size from dust-shot to No. 4 shot, and in rare instances are even larger, two or three being confluent and forming irregular blotches. The colour of the overlying spots varies from olive-brown to nearly black, whilst the underlying spots naturally take the tint of the ground-colour of the egg, and vary from pale grey to buff. They vary in length from 0·85 to 0·75 inch, and in breadth from 0·63 to 0·56 inch.

## THE BLACKCAP.

*(Sylvia atricapilla.)*

PLATE 52, FIGS. 17, 18, 19.

The Blackcap is one of the best-known of all the Warblers that visit us in spring and remain to nest. On the Continent the Blackcap is generally distributed throughout Europe—in Scandinavia ranging as far north as lat.  $66^{\circ}$ , in the valley of the Dwina to lat.  $62^{\circ}$ , and on the Ural Mountains to lat.  $57^{\circ}$ .

The nest is made of dry grass-stems, leaf-stalks, a little moss, and coarse roots, cemented together with a few cobwebs and insect-cocoons, and lined with a few horse-hairs. Although very slight in structure, it is well-built, very compact, and most beautifully rounded.

The eggs of the Blackcap are from four to six in number. There are certainly three distinct types of the eggs of this Warbler. The usual type is dirty white in ground-colour, suffused with olive-brown or yellowish-brown, clouded with darker tints of the same colour, and here and there marked with rich brown spots and sometimes a few streaks. The second type closely resembles certain varieties of the eggs of the Barred Warbler. They are the palest of bluish-white in ground-colour; and most of the markings are underlying ones of violet-grey, with a few surface-spots and blotches of yellowish-brown, intermingled with one or two spots and streaks of dark brown. The third, and perhaps the most beautiful type, certainly the rarest, is uniform pale brick-red in colour, indistinctly marbled with darker shades, and sparingly spotted and streaked with dark purplish-brown. The usual type of the Blackcap's egg very closely resembles the eggs of the Garden Warbler, but they are perhaps more uniformly clouded and brighter in colour than those of that bird. They vary in length from 0·85 to 0·75 inch, and in breadth from 0·6 to 0·55 inch.

## THE GARDEN-WARBLER.

*(Sylvia hortensis.)\**

PLATE 52, FIGS. 12, 13.

The Garden Warbler is pretty generally distributed throughout England, except in the extreme south-west, but becomes exceed-

\* *Sylvia simplex*—Sharpe, Handb., I., p. 195.

ingly local in Wales, Scotland, and Ireland. On the Continent the geographical distribution of the Garden Warbler extends throughout Western Europe, and, like that of some other migrants, becomes more and more restricted, both to the north and to the south, as it progresses eastwards. In Norway the bird ranges as far north as lat.  $70^{\circ}$ , in Finland and North-west Russia to lat.  $65^{\circ}$ , and in the Ural Mountains to lat.  $59^{\circ}$ .

The nest is a simple net-like structure, made of the withered stems of grasses and a few small roots; sometimes a few cobwebs and a little moss cement the stalks together, and it is lined with a small quantity of horse-hair. The surrounding branches are artfully interwoven with the sides of the nest, which, frail as it is, is well and skilfully put together.

The eggs are four or five in number, in some cases as many as six. They very closely resemble those of the Blackcap, and vary in ground-colour from pale buffish-white to greenish-white. In some eggs the markings are distributed in large blotches of greenish-brown, varying in richness of colour, and intermingled with smaller and paler underlying spots, with sometimes a few short irregular streaks of dark brown; in others the underlying spots are the predominant ones—large irregular pale violet-grey blotches, sparingly dashed and marbled with brown surface-spots, some of which are very dark in colour; others, again, have the markings chiefly round the large end of the egg—very rich brown spots and irregular streaks intermingled with grey underlying spots. I have never met with the rufous type which occasionally occurs in eggs of the Blackcap and other Warblers as well as the Shrikes, etc. The eggs vary in length from 0·85 to 0·7 inch, and in breadth from 0·63 to 0·55 inch.

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#### THE WHITETHROAT.

(*Sylvia cinerea.*)\*

PLATE 52, FIG. 16.

The Common Whitethroat is, as its name implies, one of the best-known of the Warblers. It breeds throughout Europe, in Scandinavia and West Russia, as far north as lat.  $65^{\circ}$ , and in the Ural Mountains as far as lat.  $60^{\circ}$ . Eastwards it is found in Asia Minor, Palestine, Persia, Turkestan and South-west Siberia.

\* *Sylvia sylvia*—Sharpe, Handb., I., p. 182.

The nest is made of fine dry grass-stems, and is lined with a few fibrous rootlets and a quantity of horse-hair. Although so slight and loosely put together, the Whitethroat's nest is a very pretty one, and may generally be distinguished from the nests of allied birds by its greater depth.

The eggs of the Whitethroat are from four to six in number. Some specimens are buffish-white, with most of the spots underlying, and violet-grey in colour; others are pale bluish-white, mottled, blotched and speckled with yellowish-brown, and with large underlying spots of violet-grey; whilst others are pale green, sparingly marked with olive-green. In some eggs the spots are evenly distributed; in others they form a zone round the larger half of the egg; and in others they are all confluent on the large end, forming a round mass of colour. They measure from 0·8 to 0·65 inch in length, and from 0·6 to 0·5 inch in breadth.

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### THE LESSER WHITETHROAT.

(*Sylvia curruca.*)

PLATE 52, FIG. 20.

In this country the bird is a somewhat local one, and becomes very rare in the west of England and in Wales. It is found nesting throughout Europe, Asia Minor and Palestine, extending northwards somewhat beyond the Arctic circle, but not quite to the limit of forest-growth.

The nest is much shallower than that of the Common Whitethroat, and is often made of coarser materials. It is usually made of fine dry grass-stalks, amongst which the twigs that support it are artfully interwoven. It is generally bound together with spiders' webs or the cocoons of caterpillars, and lined with a few fibrous rootlets and sometimes a little horse-hair.

The eggs of the lesser Whitethroat are four or five in number, and present in their variations two very distinct types. The first type, and perhaps the commonest, is pure white or pale creamy-white in ground-colour, spotted and blotched with rich greenish-brown, and with underlying shell-markings of violet-grey. The second type has the ground pale buff or stone-colour, and the markings are not so bold and deep in colour. They are confined for the most part to the large end of the egg, often forming a

zone, sometimes an irregular circular patch. Many of the eggs are streaked with very deep brown, and usually most of the large spots are paler round the edge than in the centre, and on all eggs the large spots are intermingled with finer markings of pale yellowish brown. They measure from 0·78 to 0·6 inch in length, and from 0·55 to 0·5 inch in breadth.

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### THE SUB-ALPINE WARBLER.

(*Sylvia subalpina.*)

PLATE 53, FIGS. 3, 4.

This Warbler is a little smaller than the Lesser Whitethroat, and is distinguished by its vinous-chestnut chin and breast. A specimen of this South European bird was captured on St. Kilda by Mr. J. S. Elliot, on the 13th of June, 1894.

The nest is composed of dry stalks, with dead thistle-leaves, and lined with fine dry grass or long horse-hair.

The eggs are four in number, pale yellowish or greenish-white, speckled all over, especially at the larger end, with light-brown or slaty-blue.

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### THE DARTFORD WARBLER.

(*Sylvia provincialis.*)\*

PLATE 53, FIG. 1.

The headquarters of this species appear to be in the basin of the Mediterranean, where it occurs in Spain, the extreme South of France, Corsica, Sardinia, Italy, and Sicily. Canon Tristram obtained it in Palestine; and Heuglin found it near Alexandria. It is a resident in Morocco and Algeria. In England it is principally confined to the counties bordering the Channel, but also occurs in the counties of Surrey, Oxford, Worcester, Leicester, and Derby.

The nest is a very slender structure, built principally of the finest round grass-stalks and slender stems of various plants, a good deal of moss being used in the foundation, and small bits of wool being introduced into the lining. The nest is very small and

\* *Sylvia undata*—Saunders, Manual, p. 53. *Melizophilus undatus*—Sharpe, Handb., I., p. 198.

deep, and though the sides are thick, the materials are so loosely put together that when held up to the light it is possible to see through them.

Four or five is the usual number of eggs. In colour they much resemble those of the Whitethroat. The ground-colour is white, sometimes of a greenish and sometimes of a buffish shade. The spots are darker and more numerous than those of typical eggs of the Whitethroat, and are dark brown, largest and most numerous towards the large end of the egg. The underlying spots are, of course, paler, but in closely spotted eggs are not conspicuous. In size the eggs vary from 0·7 to 0·65 inch in length by 0·53 to 0·5 in breadth.

### THE RUFOUS WARBLER.

(*Sylvia galactodes*).\*

PLATE 53, FIG. 2.

The Rufous Warbler can only be considered a very accidental straggler to the British Islands. It has a very restricted geographical distribution, its breeding-range being confined to the basin of the Mediterranean.

Mr. Salvin observes :—“The materials for the nest are dead shoots of the tamarisk, which form the outside, the inside and lining being usually Coot’s or Duck’s feathers mingled with wool or camel’s-hair; and in nine cases out of ten, a small piece of serpent’s skin is loosely placed in the bottom of the nest.”

The eggs are from three to five in number, and differ somewhat in the extent and colour of the markings. The usual type is very pale bluish-white or French-grey in ground-colour, irregularly marked and dashed with large brown spots, and with a few streaks of the same colour and pale violet-grey shell-markings. Another type is very pale blue in ground-colour, finely speckled with pale brown, the spots being most numerous on the large end of the egg. They measure from 0·95 to 0·8 inch in length, and from 0·67 to 0·59 inch in breadth. The eggs of the Rufous Warbler very closely resemble those of the Tawny Pipit (*Anthus campestris*); but, as a rule, the eggs of the latter bird are comparatively broader in proportion to their length.

\* *Aedon galactodes*—Saunders, Manual, p. 67; Sharpe, Handb., I., p. 202.

## THE WOOD WREN.

*(Phylloscopus sibilatrix.)\**

PLATE 53, FIG. 12.

Though somewhat more local than its near allies, the Wood Wren is by no means uncommon in England and Wales. To the greater part of Europe it is a regular summer visitor.

The nest, which is extremely difficult to find, is always on the ground, concealed amongst the grass, heath or bilberry. It is semi-domed, composed of dry grass, with sometimes a little moss or a few leaves, and lined with horse-hair—not with feathers.

The eggs vary in number from five to seven, and are pure white in ground-colour, spotted and blotched with purplish-brown, and with numerous shell-markings of violet-grey. Some eggs are much more thickly marked than others; in some the spots are small; in others they are confluent in places and form several large pale blotches, thickly intermingled with smaller and darker spots and streaks. They measure from 0·7 to 0·6 inch in length, and from 0·59 to 0·53 inch in breadth. The peculiar character of the Wood Warbler's eggs, as compared with the eggs of its British congeners, consists in their average larger size, the more numerous and richer brown markings, and the underlying spots of violet-grey.

## THE WILLOW WREN.

*(Phylloscopus trochilus.)*

PLATE 53, FIGS. 5, 6.

Of all the Willow Warblers the common Willow Wren, as it is generally called, is the most abundant and the most widely distributed. On the Continent it is equally common.

The nest is almost always concealed amongst grass on the ground, and is difficult to find. It is semi-domed, the rim which forms the entrance being at an angle of about 45°. It is somewhat loosely constructed outside with dead grass, and sometimes a little moss or a few dry leaves. Inside it is more carefully finished, and is lined with fine roots, horse-hair, and lastly with a profusion of feathers.

\* *Phylloscopus sibilator*—Sharpe, Handb., I., p. 205.

The eggs vary in number from five to eight, and are white or pale creamy-white in ground-colour, blotched, spotted and speckled with pale brownish-red. In some specimens the spots are small and finely powdered over the whole shell; in others the markings are confluent, usually at the large end of the egg, sometimes forming a zone, and sometimes with a few streaks of rich brown. In shape the eggs vary not a little, sometimes being almost round. They vary in length from 0·73 to 0·56 inch, and in breadth from 0·5 to 0·45 inch.

The eggs of all the British Willow Warblers possess certain characteristics which readily distinguish them from each other. Those of the Common Willow Warbler are readily identified by their pale reddish-brown markings; those of the Chiffchaff by their less numerous and very dark red spots; and those of the Wood Wren are darkest of all, being thickly marked with purplish coffee-brown and underlying spots of pale violet-grey. From the eggs of many of the Tits it is a more difficult matter to distinguish the eggs of the two former Willow-Warblers; but the situation and shape of the nest are sufficient for their identification.

### T H E C H I F F C H A F F .

(*Phylloscopus rufus.*)\*

PLATE 53, FIGS. 7, 8.

The Chiffchaff, though it has a much more restricted range than the Willow Wren, and is seldom so abundant, is nevertheless a common bird in most parts of England and Wales. In Scotland and Ireland it is said to be more local. On the Continent the Chiffchaff does not range quite up to the Arctic circle.

The nest of the Chiffchaff does not differ from that of the Willow Wren. It is semi-domed, composed of dried grass, rather loosely made outside, but inside it is very neat and lined with roots, horse-hair, and finally with a profusion of feathers. Unlike that of the Willow Wren, it is often placed a foot or two from the ground.

The eggs are five or even seven in number, and vary from pure white to pale creamy-white in ground-colour. There are two

\* *P. minor*—Sharpe, Handb., I., p. 211.

types of Chiffchaff's eggs. The commonest type is spotted, chiefly at the large end of the egg, with very dark reddish-brown. Belonging to this type are certain varieties, in which the markings are very minute and more evenly distributed over the entire surface of the egg. In the second type the spots are very much larger and likewise paler and not so numerous. Underlying spots of violet-grey are seen sparingly in the eggs of this bird. The eggs vary in length from 0·65 to 0·55 inch, and in breadth from 0·5 to 0·45 inch.

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### THE YELLOW-BROWED WILLOW WREN.

(*Phylloscopus superciliosus.*)

PLATE 53, FIG. 9.

The breeding-range of the Yellow-browed Warbler is supposed to be confined to the pine forests of North-eastern Siberia, from the valley of the Yenisei eastwards to the Pacific, and from the mountains of Lake Baikal northwards to the Arctic circle. It is an occasional visitor to Great Britain.

A nest found by me in the Yenisei valley was built in a slight tuft of grass, moss and bilberries, semi-domed, exactly like the nest of our Willow Warbler's. It was composed of dry grass and moss, and lined with reindeer-hair.

The eggs are pure white in ground-colour, spotted very thickly at the large end, in the form of an irregular zone, with reddish brown, and more sparingly on the remainder of the surface; some of the spots are underlying and paler, but not grey, and on one or two of the eggs they are confluent. They measure 0·6 inch in length and 0·45 inch in breadth. The markings are well defined, like those of the eggs of the Chiffchaff, but the colour is decidedly more like those of the Willow Warbler's.

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### THE GOLDCREST.

(*Regulus cristatus.*)

PLATE 53, FIG. 10.

The Golden-crested Wren, Kinglet, or Golderest, as it is often called, is very generally distributed throughout the British Islands. It is found throughout the Palaeartic region, in Scandinavia as far north as the Arctic circle, but in North Russia only as far as



Cuckoo.



Cuckoo.



Cuckoo.



Cuckoo.



Cuckoo.



Black-billed Cuckoo.



Great Spotted Cuckoo.



Yellow-billed Cuckoo.



Cuckoo.



Cuckoo.



Cuckoo.



Cuckoo.



Cuckoo.





White-thrush.



Song Thrush.



Siberian Thrush.



Mistle Thrush.



Redwing.



Mistle Thrush.



Fieldfare.



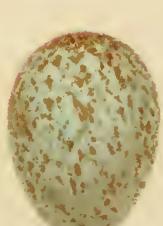
Redwing.



Fieldfare.



Ring Ouzel.



Blackbird.



Blackbird.





Black-throated Ouzel.



Robin.



Robin.



Rock Thrush.



Black Redstart



Bluethroat.



Bluethroat.



Dipper.



Wheatear.



Nightingale.



Nightingale.



Redstart.



Isabelline Wheatear.



Desert Wheatear.



Black-throated Wheatear.



Stonechat.



Spotted Flycatcher.



Whinchat.



Whinchat.



Spotted Flycatcher.





Grasshopper Warbler.



Pied Flycatcher.



Red-breasted Flycatcher.



Sav's Warbler.



Sedge Warbler.



Aquatic Warbler.



Great Reed Warbler.



Reed Warbler.



Marsh Warbler.



Icterine Warbler.



Barred Warbler.



Garden Warbler.



Garden Warbler.



Orphean Warbler.



Orphean Warbler.



Whitethroat.



Blackcap.



Blackcap.



Blackcap.



Lesser Whitethroat.



Archangel in lat.  $63^{\circ}$ , and in the Ural Mountains and eastwards not extending above lat.  $60^{\circ}$ .

The nesting-site of the Goldcrest is generally in the branches of pines, firs, or drooping yew-twigs, usually the very extremity of the branch being selected, where two or three twigs branch out, and where the nest is wafted to and fro by every breath of air. The end of a drooping branch of spruce is a site often chosen. The nest is almost spherical, slung under the branches like a hammock, and made outwardly of the greenest moss, a few grass stems and hairs, and felted with spiders' webs and sometimes a few lichens, and then usually lined with a quantity of feathers. The foliage on the selected branches is carefully interwoven with the nesting materials, so that at a casual glance it appears nothing but a tangled mass of vegetation.

The eggs of the Goldcrest are from five to eight in number, sometimes as many as ten. Usually they are of a most delicate reddish-white, speckled with tiny red markings, which often form a zone round the larger end of the egg. Some specimens are pure and spotless white, whilst others have the spots confluent and so numerous as to give the egg a uniform reddish or yellowish-brown appearance. They measure from 0·6 to 0·52 inch in length, and from 0·43 to 0·4 inch in breadth.

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#### THE FIRECREST.

(*Regulus ignicapillus.*)

PLATE 53, FIG. 11.

The Firecrest has a very restricted range. Its northern limit appears to be the Baltic Provinces, where, however, it is very rare. To the west it breeds throughout Europe south of the Baltic, and is extremely abundant in Algeria, although it has not been recorded from North-eastern Africa. Eastwards its range does not apparently extend beyond the Crimea and Asia Minor, and it occasionally visits Great Britain in winter.

The nest of the Firecrest does not differ from that of the Goldcrest.

The eggs are as numerous as those of the Goldcrest, and are usually nine or ten in number, sometimes less, and, in rare instances, more. They may always be distinguished from the

eggs of the Goldcrest by their much redder tinge. They are reddish-white in ground-colour, richly marbled and speckled over the entire surface with brownish-red. Some specimens are thus richly coloured only on the larger end of the egg; but usually the whole surface is covered. On some specimens a few minute streaks of brown are found. They measure from 0·56 to 0·5 inch in length, and from 0·45 to 0·4 inch in breadth.

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### THE GREAT TIT.

(*Parus major.*)

PLATE 53, FIG. 13.

The Great Tit is a common bird throughout the wooded portions of Great Britain. It appears to be found throughout the Palaearctic region, from the Atlantic to the Pacific.

The site of the Great Tit's nest varies considerably. Holes in walls and decaying timber are favourite places; so, too, are the deserted nests of Crows and Magpies, as also amongst the sticks in the foundation of Rooks' nests. Most curious situations are sometimes chosen. Like the Robin, it appears to have the same weakness for a flower-pot; or it will sometimes select an old pump.

The eggs of the Great Tit are from five to eleven in number, usually seven or eight, and they vary somewhat in size and markings. They are pure white in colour, sometimes with a faint yellowish tinge, spotted and blotched with light reddish-brown. Some specimens are far more richly marked than others, the colour being distributed in bold blotches; on others it consists of mere specks, sometimes partly confluent and forming a zone round the larger end of the egg. The eggs measure from 0·8 to 0·65 inch in length, and from 0·55 to 0·5 in breadth.

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### THE BLUE TIT.

(*Parus cæruleus.*)

PLATE 53, FIGS. 14, 15.

The Blue Tit is one of the most widely spread and certainly one of the best known of our native birds. It is distributed over

the whole of temperate and Southern Europe, as far east as the Ural Mountains and the Caucasus.

The Blue Tit's breeding-grounds are in well-wooded districts, in gardens and orchards, near houses, in the holes of outhouses, and in walls. Like all other nests built in holes, it is but a poorly made structure, so loosely put together that it is difficult to remove it without breaking it to pieces. The materials usually selected are moss and dry grass; and it is lined with wool, hair, and great quantities of feathers.

Many nests of the Blue Tit contain as many as twelve eggs; in other and more usual instances the number varies from five to eight. The eggs are very similar in shape to those of the Great Tit, and are white in ground-colour, speckled, as a rule, rather faintly with light red; they measure from 0·7 to 0·55 inch in length and from 0·5 to 0·42 inch in breadth.

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#### THE BRITISH COAL TIT.

(*Parus britannicus.*)

PLATE 53, FIG. 16.

The Coal Tit is found pretty generally throughout the British Islands in all suitable localities. The British form, *P. britannicus*, appears to be peculiar to our islands. The European form, *P. ater*, occasionally visits us on migration, and may interbreed with the British sub-species, as intermediate forms between them can be obtained.

The nest of the Coal Tit is generally found in holes of trees and stumps, but sometimes a hole in a wall will be selected. Birch-woods are favourite haunts of this bird during the breeding season, where the abundance of holes suitable for nesting purposes is most probably the chief attraction. The nest resembles those of the other Tits, and is very loosely put together. It is made of dry grass, moss, in some cases thickly felted with hair, and lined very warmly with feathers.

The eggs, from five to eight or nine in number, are usually pure white, spotted and freckled with light red. In some specimens the spots are bold and rich in colour, chiefly massed on the large end of the egg; in others they are evenly distributed over the

entire surface in small dots. A beautiful clutch of eggs from Pomerania, in my collection, nine in number, has the ground-colour delicate creamy-white; many of the markings are confluent, and all are very pale and chiefly distributed in broad wavy streaks. One egg in this clutch has the colour distributed in the minutest of specks over the whole surface. The eggs vary from 0·7 to 0·58 inch in length, and from 0·5 to 0·45 inch in breadth.

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### THE MARSH TIT.

(*Parus palustris*).\*

PLATE 53, FIG. 17.

British examples (*Parus dresseri*) are of a somewhat more sandy-brown than those from the continent of Western Europe, but scarcely sufficiently so to warrant their separation. The variety of the Marsh Tit which is generally accepted as the typical form of *P. palustris* is found throughout South-western Europe as far north and as far east as St. Petersburg.

I have always found the nest of the Marsh Tit in a hole in a tree, generally near the ground, and almost always in such a narrow hole that it was necessary to use a wire to draw out the eggs with part of the nest. Many other situations, however, are on record. The inside of the hole, if too deep, is filled up with bits of wood or small twigs, and upon this foundation a moderately neat nest is composed of moss, wool, hair and any other soft material that may be within reach.

Fresh eggs may be found in May. The number varies from five to eight, and some writers say even twelve; but no such case has ever come under my notice. They are white, with a scarcely perceptible yellowish tinge in ground-colour, spotted and speckled with light-red. They vary from 0·67 to 0·6 inch in length, and from 0·52 to 0·47 inch in breadth. It is impossible to distinguish the eggs of the Marsh Tit from those of its allies. They are, of course, slightly smaller than those of the Great Tit; but the only safe guide to the correct authentication of the eggs of this bird, and indeed of those of all the Tits, is by observing the parent birds.

\* *Parus dresseri*—Sharpe, Handb., I., p. 139.

## THE CRESTED TIT.

*(Parus cristatus.)*\*

PLATE 53, FIG. 18.

The Crested Tit is one of the most local of our indigenous birds. Its only known breeding-grounds in the British Islands are in Scotland, in the valley of the Spey and in the adjoining counties of Ross and Inverness on the west, and Aberdeen on the east. The Crested Tit is much commoner and less local on the Continent, being a resident in most of the pine-forests, though it does not appear to range further north than lat. 64°, whence Meves records it.

The Crested Tit generally builds its nest in a hole in a tree, and usually at no very great height from the ground. The nest is put together in a somewhat slovenly fashion, and made of dry grass, moss, wool, feathers, and very often the fur of the "Blue Hare" thickly felted together.

The eggs of the Crested Tit are from four to six or seven in number, and differ considerably in the amount and distribution of the markings. They are pure white in ground-colour, some specimens being spotted and speckled over the whole surface with brownish-red, others with the markings in a confluent zone round the end. In some specimens this band is increased into an irregular patch, which almost conceals the ground-colour of the large end of the egg; whilst in others the spots are very rich and bold, forming bands of colour round the egg. The colour of the spots is also subject to variation; and usually those eggs which are evenly and minutely marked have the spots darker red than those specimens in which the markings are larger. Clutches are sometimes obtained in which the spots are almost absent, or displayed on one of the eggs only; but as a rule the eggs of the Crested Tit are more richly and boldly spotted than those of its allies. They measure from 0·7 to 0·6 inch in length, and from 0·55 to 0·47 inch in breadth.

\* *Lophophanes cristatus*—Sharpe, Handb., I., p. 143.

## THE BRITISH LONG-TAILED TIT.

(Acredula rosca.)<sup>\*</sup>

PLATE 53, FIG. 19.

The British form of the Long-tailed Tit is found in France, Western Germany, Northern Italy, and some parts of Turkey, and apparently interbreeds with the Continental form *A. caudata*, which differs from it in the adult bird having a pure white head. The latter form ranges throughout Northern and Central Europe between the Arctic circle and the Alps, its range extending eastwards through Southern Siberia to the Pacific. This white-headed form sometimes migrates to Great Britain.

The nest is oval in shape; and a small hole in the side near the top admits the parent birds. The materials that compose it are very similar to those used by the Chaffinch—the greenest moss, lichens, and cobwebs all felted artfully together, and lined with an immense number of feathers and hairs. The nest of this bird is undoubtedly the finest piece of bird-architecture found in our islands.

The eggs vary considerably in number. Some nests only contain six eggs, whilst others may be found with eleven, and in rare instances as many as sixteen and twenty have been known. They are pure white or pearly-grey in ground-colour, with a few small spots of light-red, and fainter marks of purple, although many specimens are spotless or appear to have the scanty colouring-matter delicately suffused over the entire surface; sometimes they are without any trace of markings. They measure from 0·63 to 0·52 inch in length, and from 0·48 to 0·4 inch in breadth. The eggs of this bird are less spotted than those of any other Tit.

## THE BEARDED TIT.

(Panurus biarmicus.)

PLATE 53, FIG. 20.

The Bearded Tit is still found in a few districts in Norfolk. On the Continent the range of the species is an extensive one; but it has not been recorded south of the Mediterranean or north of Pomerania.

\* *Acredula caudata*—Saunders, Manual, p. 93. *Ægithalus vagans*—Sharpe, Handb., I., p. 147.

A nest I found in Norfolk was built about a foot from the ground, on a clump of sedge (*Carex*), and was partially concealed by overhanging reeds. It was built of flat grasses, rather deep, and was lined with the flower of the reed.

The usual number of eggs varies from four to seven. They most closely resemble in some respects the eggs of the Buntings, but always possess peculiar characteristics which readily distinguish them. They are white, slightly suffused with brown, and possess considerable gloss, being somewhat sparingly marked with short wavy lines, specks, and streaks of dark brown. Some specimens are a trifle more thickly marked than others; but otherwise little variation is seen. The eggs are remarkably large for the size of the bird, and vary from 0·75 to 0·65 inch in length, and from 0·6 to 0·53 inch in breadth.

### THE COMMON HEDGE SPARROW.

(*Accentor modularis*).\*

PLATE 54, FIG. 1.

The Hedge Sparrow—the Hedge Accentor, Hedge Warbler or Hedge Chanter of those who wish to protest against the absurdity of classing so round-winged and thin-billed a bird amongst the Finches—is the Dicky Dunnock or Shuffle Wing of the plough boy. It is a resident throughout the British Islands wherever there are bushes, but in sub-arctic Europe it is a migratory bird, crossing over Heligoland in some numbers in autumn to winter in our Eastern counties. In sub-tropic Europe it is a resident in the north and a winter visitor in the south, wandering in autumn as far as Asia Minor and Palestine and occasionally to North Africa. It is not known to have occurred east of the Ural mountains.

The nest is a handsome little structure, composed of green moss, a dead leaf or two, a little dry grass, and strengthened with a few fine twigs; moss usually forms the greater part of the nest, and it is lined with a thick warm bed of hairs, feathers, and wool.

The eggs of the Hedge Sparrow are from four to six in number, and differ very little in shape or colour. They are a beautiful greenish-blue in colour, spotless and somewhat rough in texture

\* *Tharrhaleus modularis*—Sharpe, Handb., I., p. 305.

—a character which will to some extent serve to distinguish them from eggs of the Redstart. They vary from 0·82 to 0·72 inch in length, and from 0·65 to 0·55 inch in breadth.

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### THE ALPINE ACCENTOR.

(*Accentor alpinus.*)\*

PLATE 54, FIG. 4.

The Alpine Accentor is a purely accidental visitor to the British Islands. It breeds throughout the mountains of Southern Europe, the Sierra Nevada in South Spain, the Pyrenees, the Alps, the mountains of Greece and Asia Minor, and the Caucasus, extending into Northern Persia.

The nest is placed on the ground, under an overhanging rock or rhododendron shrub, and is neatly finished and rather deep. It is composed of dry round grass-stalks, intermixed with fine roots and a few lichens. It is said sometimes to be lined with moss, wool, or hair.

The eggs vary in number from five to six, and in size from 1·0 by 0·7 inch to 0·9 by 0·63 inch. In colour they are unspotted pale greenish-blue.

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### THE WREN.

(*Troglodytes parvulus.*)†

PLATE 54, FIG. 2.

The Common Wren is generally distributed throughout the British Islands, even in the wildest and most desolate districts. It is found throughout Europe, but does not extend to the Arctic circle.

The Wren builds a domed nest like those of the Dippers. As often as not the outside is composed of moss and withered leaves, the latter in great numbers. Round the hole which admits the parent birds are woven straws, which also do much to strengthen the whole structure. The inside is lined with fine moss, hair, and a large quantity of feathers; but those materials are not always found.

\* *Accentor collaris*—Saunders, Manual, p. 87; Sharpe, Handb., I., p. 308.

† *Anorthura troglodytes*—Sharpe, Handb., I., p. 314.

The eggs of the Wren vary from four to six, and even eight or nine in number. Clutches of still larger numbers are on record, but are very exceptional. They are pure white in ground-colour when blown, with a few red spots usually congregated round the large end of the egg in a zone. Occasionally they are entirely without markings; but sometimes the spots are evenly distributed over the egg. In form they differ considerably, some being almost round, others more elongated. They vary in length from 0·75 to 0·65 inch, and in breadth from 0·55 to 0·48 inch.

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### THE ST. KILDA WREN.

(*Troglodytes hirtensis.*)\*

PLATE 54, FIG. 3.

This is a large race of the Common Wren found in St. Kilda.

Mr. Dixon, who discovered this island race, says that the nest is similar to that of the Common Wren, and is plentifully lined with feathers: it is placed in the crevice of a wall or under an overhanging bank.

The eggs are similar to those of the Common Wren, but are larger, and with the reddish spots somewhat more boldly marked. The length is about 0·75 inch, and the breadth about 0·6 inch.

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### THE COMMON CREEPER.

(*Certhia familiaris.*)

PLATE 54, FIG. 5.

The Creeper is generally, though locally, distributed throughout the wooded districts of Great Britain and Ireland. In western Europe it appears to range to about 63° N. lat.; in Eastern Europe, to about lat. 60°. In Siberia it has not been recorded further north than lat. 57°.

The breeding-season of the Creeper commences in April, and its nesting place is somewhat varied. A site is usually chosen on some decaying tree, where the thick bark has peeled away from the trunk for some distance and left a hollow space behind in which the bird can build its nest. The crevice behind the bark which the bird usually selects is often too large for the nest itself,

\* *Anorthura hirtensis*—Sharpe, Handb., I., p. 317.

and the superfluous space is filled up with a quantity of fine twigs, chiefly of beech and birch. Round the edge of the nest is artfully woven a series of the finest twigs, and the lining is made of roots, grass, moss, and sometimes feathers. But the chief characteristic of the Creeper's nest is the lining of fine strips of inside bark which is probably invariably there.

The eggs are from six to nine in number. They are, when blown, pure white or creamy-white in ground colour, rather richly marked with brownish-red spots, and with a few greyish underlying markings. They differ considerably in the amount and arrangement of the markings; but it will usually be noticed that all the eggs in one clutch are very similar. In some clutches the spots are confined to a zone round the large end of the egg; some are very rich in colour, others pale. In other clutches the zone is almost confluent; whilst in others the markings are few, and composed of very deep reddish-brown spots almost like those on the egg of the Chiffchaff. They vary in length from 0·7 to 0·58, and in breadth from 0·5 to 0·45 inch.

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#### THE WALL CREEPER.

(*Tichodroma muraria.*)

PLATE 54, FIG. 6.

The range of this species is a somewhat wide one, extending across the Palaearctic region between lat. 30° and 50°, and just entering the limits of the Oriental region in the Himalayas and China. It is a rare and occasional visitor to Great Britain.

The nest is placed in the crevices of the rocks, sometimes in places quite inaccessible. A handsome nest of this bird in my collection is very elaborately built. Its chief material is moss, evidently gathered from the rocks and stones, intermingled with a few grasses, and compactly felted together with hairs, wool, and a few feathers. The lining is almost exclusively composed of wool and hair, very thickly and densely felted together.

The eggs of the Wall Creeper are from three to five in number, and are white in ground-colour, very finely freckled near the large end with reddish-brown, and with numerous minute violet-grey underlying spots. They vary from 0·8 to 0·75 inch in length, and from 0·6 to 0·52 inch in breadth.

## THE NUTHATCH.

*(Sitta cæsia.)*

PLATE 54, FIGS. 7, 8.

In the southern and central counties of England the Nuthatch is a common and fairly well-known bird; but it becomes much rarer and more local in the northern counties. It inhabits Central and Southern Europe, and its range extends to the south as far as Algeria, and to the east as far as Asia Minor and West Persia.

The site of the nest is almost invariably in a hole in a tree; but other situations are sometimes chosen, as, for instance, in a hole in a wall, as mentioned by Hewitson—and, stranger still, in the side of a haystack. The nest, placed generally at some little distance from the entrance, is crude and simple in the extreme.

The eggs of the Nuthatch are from five to eight in number, and are pure white in ground-colour, blotched and spotted with reddish-brown, with underlying markings of purplish-grey. There are several striking varieties in the eggs of this bird; but those of a clutch generally resemble each other. The markings differ considerably in size; and on a few specimens fine specks of very rich blackish-brown are seen, and more rarely one or two very fine streaks of the same colour. The type with the semi-confluent zone very closely resembles certain varieties of the eggs of the Greenfinch; but the pure white ground-colour and the reddish, instead of purplish, tinge of the spots, serve to distinguish them. They vary from 0·85 to 0·75 inch in length, and from 0·6 to 0·53 inch in breadth.

## PALLAS'S GREY SHRIKE.

*(Lanius major.)\**

Pallas's Grey Shrike is as distinct from the Great Grey Shrike as the Carrion Crow is from the Hooded Crow. Like so many other Siberian birds, it is an accidental visitor to Western Europe, but one which has occurred so frequently that it may almost be looked upon as a regular, though rare, straggler to Great Britain. Pallas's Grey Shrike breeds throughout Siberia south of lat. 65°, where it is a partial migrant, wintering in Turkestan.

\* *Lanius sibiricus*—Sharpe, Handb., I., p. 165.

Of the nest and eggs of Pallas's Grey Shrike nothing definite appears to be known.

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### THE GREAT GREY SHRIKE.

(*Lanius excubitor.*)

PLATE 54, FIG. 9.

The Great Grey Shrike is a regular though somewhat rare autumn and winter visitant to the British Islands. It breeds in the north of France, Belgium, Holland, Switzerland, Germany, Denmark, Scandinavia (up to about lat. 70°), and North Russia.

The nest of the Great Grey Shrike is a somewhat bulky structure, as large as that of a Blackbird. Outside it is composed of slender twigs, dry grass, a few leaves, and a little moss, and is lined with roots, wool, hair, and feathers.

The number of eggs varies from five to seven. They are buffish or greenish-white in ground-colour, blotched and spotted with olive-brown of different shades, and with underlying markings of violet-grey. Usually most of the spots are on the large end of the egg, where many of them are confluent. Sometimes they form an irregular zone, and are generally somewhat ill-defined. The eggs of this Shrike do not differ very much; and the red type of egg, found in a series of eggs of *L. collurio* and *L. rufus*, appears never to occur. They vary in length from 1·1 to 1·0 inch, and in breadth from 0·8 to 0·75 inch.

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### THE LESSER GREY SHRIKE.

(*Lanius minor.*)

PLATE 54, FIG. 12.

The Lesser Grey Shrike can only be considered a very accidental straggler to the British Islands. It breeds in Eastern France, Germany, Switzerland, Italy, South Russia (up to lat. 57°), Austria, Turkey, Asia Minor, Palestine, Turkestan, Persia, and South-western Siberia (as far north as Omsk, in lat. 57°, and as far east as Lake Saisan, in long. 84°).

The Lesser Grey Shrike breeds early in June, and the nest is placed in the thick branches of poplars or fruit-trees, at least ten feet from the ground. One which I found near Smyrna, with the

exception of a twig or two, a piece of flag-like rush, and a little wool at the foundation, was composed of downy-leaved cudweeds (*Gnaphalium dioicum*), some in flower and some in seed, and most pulled up by the roots.

The eggs vary in number from four to seven. Some are very round, measuring 0·95 by 0·8 inch ; others are much longer and more pointed, viz., 1·05 by 0·7 inch. The average size and shape lies between these extremes. The ground-colour is a pale bluish-green. Some eggs have a few small greenish-brown spots, chiefly towards the larger end. Typical eggs have also larger spots or blotches; whilst in examples which are exceptionally rich in their markings the spots round the egg towards the large end are confluent, but do not assume the form of a uniform band round the egg, because the underlying spots, which in all the varieties are paler and greener than the overlying spots, are distinctly visible amongst the others. The eggs of this bird may easily be distinguished from those of the Great Grey Shrike by their smaller size and much greener colour. From the largest and greenest varieties of the eggs of the Woodchat it is not quite so easy to separate them ; but the latter are very seldom, if ever, quite so large or quite so green. It is not known that rufous varieties of the eggs of the Lesser Grey Shrike ever occur.

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#### THE RED-BACKED SHRIKE.

(*Lanius collurio*.)

PLATE 54, FIGS. 10, 11.

The Red-backed Shrike is by far the commonest Shrike met with in the British Islands. It is a summer visitor to the whole of the continent of Europe up to lat 64°, with the exception of the Spanish Peninsula, where it is only an occasional straggler to the north-east.

The nest is a bulky one, large for the size of the bird, and made of dry stems of plants, dead grass, rootlets, and moss, and lined with horse-hair and sometimes a little wool.

The eggs are from four to six in number, and are subject to such considerable variation that it would almost be impossible to describe each in turn. For the sake of convenience, they may be divided into four very distinct types. The first is pale green in

ground-colour, spotted and speckled with olive-brown and with numerous underlying markings of violet-grey ; the second is pale buff in ground-colour, spotted and blotched with pale olive-brown and with underlying spots of pale brown and violet-grey ; the third is almost pure white or creamy-white in ground-colour, finely speckled and spotted with rich reddish-brown, and with larger underlying spots of violet-grey ; the fourth has a salmon-coloured ground, spotted and blotched with brownish-red of different shades, with violet-grey underlying spots and sometimes a few hair-like lines of deep brown. The character of the markings also varies considerably. Some eggs are uniformly spotted over the entire surface ; more frequently the markings take the form of a zone, and sometimes are so thickly massed on the large end of the egg as to entirely conceal the ground-colour. In some eggs the markings are finely powdered on the shell ; in others they take the form of bold spots and blotches ; and in all eggs the underlying spots are both numerous and well defined. The eggs vary in length from 0·95 to 0·8 inch, and in breadth from 0·7 to 0·62 inch. It is very difficult to distinguish between the eggs of the present species and those of the Woodchat Shrike. The latter bird's are, however, on an average, larger, not so bright, and usually more boldly marked.

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### THE WOODCHAT SHRIKE.

(*Lanius rufus.*)\*

PLATE 54, FIGS. 14, 15.

The Woodchat Shrike is an accidental visitor to England, chiefly during the seasons of migration. Upon the Continent the Woodchat Shrike breeds in the basin of the Mediterranean, its northern range extending into Southern France, Holland, Germany (as far north and east as Pomerania), and Austria. Eastwards it is found as far as Western Persia, its range extending northwards into the Caucasus.

The nest of the Woodchat Shrike is a very handsome structure, though loosely put together. It is usually placed in the fork of a small tree, sometimes in the branches of an olive-tree, sometimes in an evergreen oak, a cork-tree, or a tamarisk.

\* *Lanius pomeranus*—Saunders, Manual, p. 145; Sharpe, Handb., I., p. 171.

The eggs of this bird are from four to six in number. They are exceedingly variable in size and colour. They may be separated into three very distinct types, connected with each other by innumerable intermediate varieties. In the first the ground-colour is pale green, spotted and dashed, chiefly at the larger end, with olive-brown, and thickly marked with obscure underlying spots of pale violet-grey and ashy-brown. In the second type the ground-colour is very pale buffish-white, sparingly spotted with dark greenish-brown, and thickly marked with underlying spots of grey. In the third type the ground-colour is reddish-buff, the surface spots are dark reddish-brown, and the underlying ones are pale lilac. In the greater number of the eggs of this bird the markings are most numerous on the large end, and very often form a zone. The spots, too, differ considerably in size; and, as a rule, the underlying ones are the largest. In some few instances the zone is round the small end of the egg. They vary in length from 1·05 to 0·86 inch, and in breadth from 0·72 to 0·65 inch.

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### THE RAVEN.

(*Corvus corax.*)

PLATE 55, FIGS. 7, 9.

The Raven is now rapidly becoming scarce in England. In Scotland, however, it is a fairly common bird in some parts of the mainland and adjacent islands, especially on the Outer Hebrides and the Western Isles, extending to the Orkneys, the Shetlands and even to St. Kilda. According to Thompson, it is generally distributed in Ireland in all suitable localities. The Raven is a circumpolar bird, being found both in the Palaeartic and Nearctic regions.

The nesting-site varies according to the locality which the birds frequent. In some districts a lofty tree is selected, and this was probably the bird's favourite choice when it was commoner in England; but now the incessant persecution to which it is subject almost everywhere, drives it to the remoter wilds of Scotland and the cliffs which skirt the ocean.

The eggs of the Raven are from four to six in number, five being not an unusual clutch. They are bluish-green or greenish-brown in ground-colour, more or less thickly marked with dark

olive-brown. In some specimens the markings are very sparse ; in others so thick as often to hide the ground-colour. A rare and beautiful variety of the Raven's egg is sometimes obtained—reddish-white in ground-colour, spotted with rich reddish-brown and splashed with violet-grey. This type of egg closely resembles certain varieties of those of the Moorhen, and also approaches very closely in colour to the eggs of a South-African Crow, *C. capensis*. In size and shape Ravens' eggs vary considerably, some specimens being quite undistinguishable from eggs of the Carrion Crow. They vary in length from 2·1 to 1·7 inch, and in breadth from 1·4 to 1·25 inch.

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#### THE CARRION CROW.

(*Corvus corone*).

PLATE 55, FIGS. 10, 12.

The Carrion Crow is still a fairly common bird in the wooded districts and on the rocky coasts of England and Wales, the Channel Islands, and Southern Scotland ; but in Central and Northern Scotland it certainly is less common and more local in its distribution. It is generally but locally distributed over Europe.

The site for the nest depends considerably on the nature of its haunts. In hilly districts, and in the neighbourhood of the coast its bulky nest is made in the rocks, usually in the least accessible part. In the wooded districts it selects some tall tree for its purpose, a large oak or pine being very often chosen. The nest is made of large sticks, usually dead ones, stems of heather, masses of turf, fine twigs, and roots, and lined with wool, moss, dead leaves, fur, feathers, and any soft material the bird can find. In shape it is rather flat ; and the interior is smooth and compact.

The eggs are from three to six in number, usually five, and are very similar to those of allied species. They vary from pale bluish-green to clear green in ground-colour, spotted and blotched with olive-brown of different shades, with violet-grey underlying spots. They are subject to no small amount of variation. Some specimens are so thickly spotted and blotched as to almost conceal the ground-colour ; others are very sparingly marked. The eggs are usually well marked ; but occasionally specimens are obtained



Dartford Warbler.



Rufous Warbler.



Sub-Alpine Warbler.



Sub Alpine Warbler.



Willow Wren.



Willow Wren.



Chiffchaff.



Chiffchaff.



Yellow-browed Willow Wren.



Goldcrest.



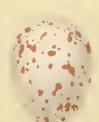
Firecrest.



Wood Wren.



Great Tit.



Blue Tit.



Blue Tit.



Coal Tit.



Marsh Tit.



Crested Tit.



Long-tailed Tit.



Bearded Tit.





Hedge Sparrow.



Wren.



St. Kilda Wren.



Alpine Accentor.



Creeper.



Wall Creeper.



Nuthatch.



Nuthatch.



Great Grey Shrike.



Red-backed Shrike.



Red-backed Shrike.



Lesser Grey Shrike.



Starling.



Woodchat Shrike.



Woodchat Shrike.



Rose-coloured Starling.



Meadow Starling.



Red-winged Starling.



Waxwing.



Golden Oriole.





Jay.



Chough.



Magpie.



Alpine Chough.



Hooded Crow.



Nutcracker.



Raven.



Jackdaw.



Raven.



Carrion Crow.



Rook.



Carrion Crow.





Common Crossbill.



Common Crossbill.



Two-barred Crossbill.



Pine Grosbeak.



Hawfinch.



Bullfinch.



Bullfinch.



Hawfinch.



Scarlet Rosefinch.



House Sparrow.



House Sparrow.



House Sparrow.



Greenfinch.



Tree Sparrow.



Tree Sparrow.



Serin Finch.



Goldfinch.



Siskin.



Chaffinch.



Chaffinch.



almost spotless, or merely marked with a few yellowish-brown dashes. They vary in length from 1·8 to 1·5 inch, and in breadth from 1·3 to 1·1 inch. It is impossible to distinguish the eggs of the Carrion Crow from those of the Hooded Crow; but the eggs of both these birds are generally larger than those of the Rook and smaller than those of the Raven.

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### THE HOODED CROW.

(*Corvus cornix.*)

PLATE 55, FIG. 5.

The Hooded Crow is a migratory bird in the northern portion of its range. Although it is a permanent resident in Scotland, great numbers of the Scandinavian birds migrate to Holland, Belgium and Northern France, and even to England, to winter.

The nest is composed of almost every material which can be applied to the architect's purpose. Large sticks and twigs, stalks of heather, bones, moss, turf, wool and feathers are all used. From the fact that the bird returns to its old habitations year after year, many nests are very bulky structures, and the greater part of the outside material is bleached by the weather. The inside is smooth, soft and compact, and rather deep.

The eggs of the Hooded Crow are four or five in number, and are absolutely indistinguishable in size and colour from those of the Carrion Crow. They exhibit precisely similar types and variations as the eggs of that bird, rendering a description of them unnecessary.

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### THE ROOK.

(*Corvus frugilegus.*)\*

PLATE 55, FIG. 11.

The Rook is found commonly in most parts of England and Wales, as well as of Ireland, wherever the country is not too barren to afford it a pasture and a nesting-place. It breeds throughout Central and Southern Europe as far north in Scandinavia as the Arctic circle, but in Russia and in West Siberia only up to lat. 64°.

\* *Tryfanocorax frugilegus*—Sharpe, Handb., I., p. 4.

The nest is composed outwardly of sticks, varying in thickness from slender twigs to branches more than half-an-inch in diameter, and is cemented with mud and clay, and lined with large masses of turf, a few roots, moss and dry leaves, straws, and a few feathers. It is somewhat flat in shape outside; but inside, the hollow is rather deep. Although in rare instances nests of the Rook may be seen loosely made, the majority are singularly strong and compact.

The eggs of the Rook are from three to five in number, and differ considerably in size, form and markings. Some specimens are oval, others are rounder, whilst many are considerably elongated. Many have the ground-colour green, of various shades; whilst in some it is very light blue, almost white. The markings are greenish-brown of different degrees of intensity, sometimes interspersed with spots of deep blackish-brown. The markings are often so thickly distributed as to hide the ground-colour. They measure from 1·8 to 1·55 inch in length, and from 1·25 to 1·05 inch in breadth.

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#### THE JACKDAW.

(*Corvus monedula*.)\*

PLATE 55, FIG. 8.

The Jackdaw breeds in most districts, both in Great Britain and Ireland—in inland localities, as well as on the coasts; in forest districts, as often as in rocky ones; in the busy thickly populated cities, as much as in the quiet tower of the village church. On the Continent the Jackdaw is distributed throughout Europe south of the Arctic circle, but becomes very local in the basin of the Mediterranean.

The Jackdaw's nest is made of sticks, moss, grass, leaves, feathers, wool, together with the food-refuse pellets cast up by the bird, which, in addition to being found in the nests, also strew the ground below them. Numbers of the nests will be built close together, in some cases as many as a dozen in one single hollow tree.

The eggs are usually six in number, sometimes only four or five. They vary considerably in size, shape and markings. Some

\* *Colœus monedula*—Sharpe, Handb., I., p. 10.

specimens are bluish-green in ground-colour, richly and boldly spotted and blotched with dark greenish-brown, chiefly at the large end of the egg, and with a few violet-grey underlying spots; others are much paler in ground-colour, and have the markings smaller, deeper in colour, and more evenly distributed over the entire surface, being deep greenish-brown, olive-brown, and pale grey; whilst others are the palest of blue, almost white, and quite free from markings. They measure from 1·6 to 1·3 inch in length, and from 1·1 to 0·95 inch in breadth.

### THE MAGPIE.

(*Pica caudata.*)\*

PLATE 55, FIG. 3.

The Magpie is generally distributed throughout the British Islands. It is found throughout the Palaeartic region north of the Mediterranean, Syria, South Persia, and the lowlands of Baluchistan. In the Oriental region it is found in the Himalayas, Japan, South China, Formosa, and Hainan; and in the Nearctic region it occurs throughout the western United States, but only to the east of the Missouri river in winter.

The nest is very bulky and almost impenetrable, from the fact that the birds usually select sticks with large thorns upon them. The nest-cavity is very deep for its breadth; and the hole in the side of the basket-like roof, just above the edge of the nest, is generally well concealed.

From six to eight is the usual number of eggs. They are very small in proportion to the size of the bird, many of them being no larger than exceptionally large eggs of the Blackbird. They vary from bluish to yellowish-green in ground-colour, with greenish-brown markings thickly and evenly distributed over the entire surface. They are subject to considerable variation: some specimens are almost white, with a few pale olive-green markings at the larger end; whilst others are green in ground-colour, boldly marked with deep brown and a few faint underlying greyish-purple blotches. A less frequent variety is precisely like the eggs of the Pied Wagtail in colour. They measure from 1·45 to 1·25 inch in length, and from 1·0 to 0·9 inch in breadth.

\* *Pica rustica*—Saunders, Manual, p. 227. *Pica pica*—Sharpe, Handb., I., p. 18.

## THE COMMON JAY.

*(Garrulus glandarius.)*

PLATE 55, FIG. 1.

The Jay is still found more or less commonly in all the wooded parts of England, and in some districts appears even to be increasing in numbers; but in Scotland it has of late years become much rarer. It is a resident bird throughout Europe except in the south-east. In Scandinavia it is found as far north as the Arctic circle; in Russia up to lat.  $63^{\circ}$ , ranging eastwards to the valley of the Volga.

In form the Jay's nest is cup-shaped, deep, and very bulky. It is generally very neatly made, and is built on the same model as the nests of the Bullfinch, the Hawfinch, and the Sparrow Hawk. The coarsest twigs are selected for the foundation; as the construction of the nest proceeds, finer and finer twigs are chosen; and, finally, the lining is composed of roots, which often project above the outside structure.

The eggs are laid by the latter end of April, more frequently in the first or second week of May, and are from five to seven in number. They are bluish-green in ground-colour, usually evenly and thickly speckled over the whole surface with olive-brown, and sometimes marked with a few streaks of rich brown. Some specimens are not so closely marked and have a greener appearance, as more of the ground-colour is visible; whilst others have the greater part of the spots collected in an indistinct zone round the egg. They vary in length from 1·35 to 1·2 inch, and in breadth from 1·0 to 0·85 inch.

## THE CHOUGH.

*(Pyrrhocorax graculus.)\**

PLATE 55, FIG. 2.

Formerly the Chough bred in many inland localities in England; but now it is only known to frequent a few favoured spots on the coast. It is essentially a bird of the rocks, and is in no part of its range a migratory species. In the British Islands it finds suitable haunts on the coast; but on the Continent it breeds almost exclusively on the mountains.

\* *Graculus graculus*—Sharpe, Handb., I., p. 22.

The nest is usually placed in some crevice or hole in a rock, sometimes at a considerable distance from the opening, where it is absolutely impossible to obtain the eggs. It is made of sticks and heather-stems, and lined with dry grass, roots and wool, sometimes with hair. It is often a large structure, but, as is usual with birds nesting in holes, seldom very compactly made.

The eggs of the Chough are from three to six in number. They range from creamy-white to greenish-white in ground-colour, spotted with brown of various shades, and dashed with underlying markings of purplish-grey. They vary considerably as to the amount of markings. Some specimens have a few dark streaks upon them. They measure from 1·65 to 1·4 inch in length, and from 1·15 to 1 inch in breadth.

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#### THE ALPINE CHOUGH.

(*Pyrrhocorax alpinus.*)

PLATE 55, FIG. 4.

One specimen has been recorded from Oxfordshire, as having been shot by a keeper at Broughton Castle, near Banbury. Although the appearance of the bird bore no evidence of its having been kept in confinement, some doubt must still attach to the example in question; for *P. alpinus* is not a migratory species, and, further, it is a bird very likely to be imported into this country.

The Alpine Chough inhabits the mountains of Southern Europe, and has much the same distribution as the Common Chough, and I have found it breeding in the Parnassus. The egg has been figured for the sake of comparison with that of the British species.

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#### THE NUTCRACKER.

(*Nucifraga caryocatactes.*)

PLATE 55, FIG. 6.

The Nutcracker has very little claim to be considered a British bird; but as nearly a score of examples have been seen or obtained in various parts of England and Scotland, it may be looked upon as an irregular straggler to our islands during the autumn migration. It is essentially a forest bird, and is found in all suitable

localities throughout the Palæarctic region, very rarely nesting north of the Arctic circle.

The Nutcracker is an early breeder, and seems always to choose a not very tall pine tree, and there, from 18 to 25 feet from the ground, it builds a bulky nest on a branch against the stem. The outside diameter is about a foot, and the inside depth about five inches. The hollow containing the eggs is four inches in diameter, and from one-and-a-half to two inches deep. The foundation is composed of lichen-covered twigs of larch and spruce, finished off with fresh birch twigs, and lined with dry grass and the inner bark of trees, with a little loose earth. The final lining is of grass, generally dry, but sometimes fresh.

The number of eggs varies from three to five. They are very pale bluish-white in ground-colour, sometimes creamy-white, thickly spotted with olive-brown, and freckled over most of the surface with faint underlying markings of violet-grey. Some specimens are much more sparingly marked than others, and have the spots chiefly on the large end and very small. In others a few of the surface-spots are large, intermingled with smaller markings of the same colour; and, in one specimen in my collection, there are traces of a streak of rich brown. They vary from 1·4 to 1·26 inch in length, and from 1·0 to 0·92 inch in breadth.

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### THE STARLING.

(*Sturnus vulgaris.*)

PLATE 54, FIG. 13.

The Starling is one of the commonest and most widely distributed of our indigenous birds. In Scotland it has considerably increased in numbers within the last half-century. It breeds throughout Europe north of lat. 44°, and is a resident in the Azores. In Scandinavia it is found as far north as lat. 69°, in Sweden and Finland up to lat. 65°, and in the Urals only up to lat. 57°.

The nest is a somewhat slovenly structure, made of straw, dead grass, and rootlets, sometimes with a twig or two, and is lined with a few feathers, a little wool, or even a scrap or two of moss, paper, rag or twine. In many cases the birds do not trouble about a lining at all; and the cup of the nest is

entirely composed of straws, arranged very evenly and smoothly, but with a lot of straggling bents around them.

The eggs are from four to seven in number, six being an average clutch. They are slightly elongated and rough in grain, but very highly polished, and are of a delicate greenish-blue colour, sometimes of a very pale bluish-white. They vary in length from 1·25 to 1·1 inch, and in breadth from 0·88 to 0·80 inch.

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### THE ROSE-COLOURED STARLING.

(*Pastor roseus.*)

PLATE 54, FIG. 16.

Although this handsome bird has been often shot in our islands, it can only be looked upon as an accidental visitor of frequent occurrence. It occurs irregularly on the Continent, but is found more plentifully to the eastward in Central Asia and the Indian Peninsula.

The nests are roughly composed of small sticks, little branches, straws, hay, grasses, and other dry herbs disposed in a shapeless mass, with a limited hollow space in the middle to contain the eggs, and irregularly lined with herbaceous fibres, leaves, mosses and feathers.

The eggs of this bird vary from five to seven in number, and are so pale a grey in colour as to be scarcely distinguishable from white; they are very fine-grained, smooth and glossy, and vary in length from 1·15 to 1·07 inch, and in breadth from 0·83 to 0·8 inch.

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### THE RED-WINGED STARLING.

(*Agelæus phœniceus.*)

PLATE 54, FIG. 18.

This species—which is not a true Starling, but is a member of the great American family of *Icteridæ*, or Hang-nests—has occurred in Great Britain so often that it is worthy of a place in the British list, though doubtless many of the occurrences were those of escaped birds. The same may be said of another member of the family *Icteridæ*, the Rusty Grackle (*Scolecophagus ferrugineus*).

## THE MEADOW STARLING.

*(Sturnella magna.)*

PLATE 54, FIG. 17.

One of these birds was seen in Norfolk in October, 1854, and another was shot in Suffolk in March, 1860, whilst a third has been obtained near Cheltenham. It is common in the Eastern States of North America, being migratory in the north. It frequents pasture land, is very rarely found in woods, and is celebrated for the sweetness of its song.

The nest is domed, and is always built on the ground.

The eggs are four or five in number, white in ground-colour, spotted all over, but principally at the larger end, with conspicuous reddish-brown blotches. The underlying spots are generally somewhat indistinct, but occasionally they form an important feature in the egg, and are slate-grey.

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## THE GOLDEN ORIOLE.

*(Oriolus galbula.)*

PLATE 54, FIG. 20.

The Golden Oriole breeds throughout most parts of the continent of Europe south of the Baltic, though comparatively few remain to spend the summer in the extreme south. It seems probable that the Golden Oriole was never much more than an accidental summer visitor, or at most a rare straggler during the breeding-season, to our islands.

The nest is always suspended from the fork of a horizontal branch, sometimes of a pine tree, but generally of an oak, and is usually placed from twenty to thirty feet above the ground. The outside is composed of broad sedges and strips of inner bark, which are wrapped round the two branches forming the fork, from which the nest is pendant. I have generally found intertwined with these long narrow strips a few withered leaves, and almost invariably a scrap or two of a newspaper. The lining is composed of slender round grass-stalks, very frequently with the flower of the grass attached.

A full clutch of eggs is usually four or five. They are creamy-white in ground-colour, sometimes with an almost imperceptible tinge of pink, sparingly spotted with very dark purplish-brown. The spots vary considerably in size and shape, but are almost invariably well defined; on many specimens there are a few underlying spots of purplish-grey. The shell is rather rough in texture, but highly polished. They vary in length from 1·35 to 1·1 inch, and in breadth from 0·93 to 0·8 inch.

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### THE WAXWING.

(*Ampelis garrulus.*)

PLATE 54, FIG. 19.

This charming and interesting bird may be regarded as an irregular winter visitor to Great Britain, having been met with in almost every county, in some years in considerable numbers.

The Waxwing is almost a circumpolar bird, breeding in the pine-regions of both hemispheres at or near the Arctic circle. A nest of this bird, which Mr. Nordvi procured for me from Muonioniska, is a large and very compact structure. The outside diameter is seven inches, and the inside four inches. It is about four inches high outside, and nearly two inches deep. The foundation is made of twigs and a little moss and inner bark, the feathers being most numerous in the lining.

Five or six, and occasionally seven, is the number of eggs laid. Professor Newton describes them as measuring from 1·11 to 0·82 inch in length, by 0·73 to 0·64 inch in breadth. He writes:—“The ground is most generally of a delicate sea-green, sometimes fading to French white, but very often of a more or less pale olive, and occasionally of a dull purplish-grey. On this are almost always bold blotches, spots, and specks of deep brownish-black, though sometimes the edges are blurred. Beneath these stronger markings there is nearly always a series of blotches or streaks of greyish-lilac, and among them well-defined spots or specks of yellowish-brown are interspersed. In some eggs the darkest markings are quite wanting, in others the ground is of a deep olive colour.”

## THE COMMON CROSSBILL.

*(Loxia curvirostra.)*

PLATE 56, FIGS. 1, 2.

The Common Crossbill has been known to breed in many of the English counties, but is more often found nesting in Scotland, and its nest has been taken by Mr. R. J. Usher in co. Waterford, in Ireland. It frequently occurs as a winter migrant in different parts of Great Britain. The species breeds in most of the pine forests of the Palæarctic region, in Norway occasionally ranging north of the Arctic circle, but in Russia not nesting to the north of lat.  $64^{\circ}$ . The large-billed form, commonly called the "Parrot" Crossbill, is principally found in Scandinavia, but has occurred occasionally in the British Islands.

The favourite position for the nest seems to be almost at the top of a pine tree, in the cup formed by the forking of the branches; but it is not unfrequently built on a horizontal branch, at some distance from the trunk. It is formed on the same model as the nest of the Bullfinch—an outside nest of sticks, and an inside nest of soft material, the latter rising somewhat higher than the former.

The usual number of eggs is four, but five are sometimes found. The ground-colour varies from pale greenish-blue to almost white. The overlying spots are dark-brown, principally at the large end; most of them are very small, but some are as large as No. 10 shot, and many elongated into streaks. The underlying spots are pale reddish-brown, but do not differ in size, shape or distribution from the overlying ones. The eggs vary in length from 0·95 to 0·85 inch, and in breadth from 0·7 to 0·65 inch.

## THE TWO-BARRED CROSSBILL.

*(Loxia bifasciata.)*

PLATE 56, FIG. 3.

The present species inhabits the northern Palæarctic region from the neighbourhood of Archangel to the Pacific, and has occurred a few times in Great Britain. The American White-winged Crossbill, which is only a form of the European one, has also been obtained in our islands. It breeds in Arctic America from Alaska to Labrador.

A nest of true *L. bifasciata*, taken near Archangel, is described by Mr. Dresser as closely resembling that of the Common Crossbill, but smaller and slighter in structure. He also remarks that the eggs are rather darker in ground-colour than those of that species, and are smaller in size, but otherwise closely resemble them.

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### THE PINE GROSBEAK.

(*Loxia enucleator.*)\*

PLATE 56, FIG. 4.

The Pine Grosbeak is said to be a very rare winter visitor to the British Islands, but the evidences of its occurrence are not at all satisfactory. It is a circumpolar bird, breeding in the forests at or near the Arctic circle.

The nest is made on the same model as that of the Hawfinch and Bullfinch, but of coarser materials. The outside is a framework of slender fir-twigs; and the inside, which projects above the outside, is composed of roots, fine grass, and a lichen which grows on the branches of the trees, and might easily be mistaken for hair.

The number of eggs varies from three to four; they measure from 1·07 to 0·97 inch in length, and from 0·74 to 0·7 in breadth. They may be described as large, handsome Bullfinch's eggs. The ground-colour is pale greenish-blue, boldly spotted, principally at the larger end, with surface-spots varying from rich brown to almost black, and with underlying spots of greyer brown. Some eggs are also profusely speckled with very small spots, and occasionally a Chaffinch-like streak is seen on the large end. On some eggs the spots are so large and numerous as to be more or less confluent.

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### THE SCARLET ROSEFINCH.

(*Carpodacus erythrinus.*)

PLATE 56, FIG. 9.

The claims of the Scarlet Rosefinch to be considered a British bird rest upon the occurrence of two examples on our shores. The species breeds throughout North Europe and Siberia, from the Baltic to the Pacific.

\* *Pinicola enucleator*—Saunders, Manual, p. 191; Sharpe, Handb., I., p. 63.

Its nest is built in the fork of a small bush, or amongst climbing plants not far from the ground. It bears little resemblance to the nest of a Finch, and might easily be mistaken for that of a Warbler. It is composed of dry grass-stalks and lined with horsehair. It is rather deep, and very neatly and carefully made, although it is so slender as to be semi-transparent when held up to the light. The inside diameter is two inches and a quarter.

Five is the usual number of eggs; but sometimes only four are laid, and occasionally as many as six. They vary in length from 0·9 to 0·73 inch, and in breadth from 0·63 to 0·55 inch. The ground-colour is not so pale as that of the eggs of the Bullfinch; the spots are also fewer, smaller, and blacker than in typical eggs of the latter species. They are smaller than the eggs of the Bullfinch, and are not likely to be mistaken for the eggs of any other bird.

#### THE BULLFINCH.

*(Pyrrhula vulgaris.)\**

PLATE 56, FIGS. 6, 7.

The Bullfinch is found commonly, although more or less locally, in all the wooded portions of Great Britain. It breeds throughout Western Europe, from Germany westwards, and south to the Mediterranean.

The nest of the Bullfinch can readily be told from that of almost every other British bird. It is a very beautiful structure, the frame-work being almost entirely composed of slender twigs, and is very flat, not unlike a miniature Wood Pigeon's nest. The sticks are very artfully woven and matted together; and in the middle of this platform of sticks the cup of the nest is formed of fine rootlets projecting above the frame work, making the inside as deep as usual. In some nests a little wool or a feather or two are found.

The eggs are from four to six in number, greenish blue in ground-colour, spotted and sometimes streaked with dark purplish brown, and with larger and paler blotches of pinkish brown. In some eggs the spots are evenly distributed over the entire surface, but in the majority of specimens they form an irregular zone round the large end. The eggs of the Bullfinch are much bluer

\* *Pyrrhula europaea*—Saunders, Manual, p. 187; Sharpe, Handb., I., p. 60.

than those of any of the allied Finches, except those of the Lesser Redpole, with which their size effectually prevents any confusion. They vary from 0·85 to 0·7 inch in length, and from 0·6 to 0·55 inch in breadth.

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### THE LARGE BULLFINCH.

(*Pyrrhula major.*)

This large form of our common Bullfinch is an inhabitant of Scandinavia and Europe east of Poland, as well as of Siberia. It has twice been obtained in Yorkshire.

Its nesting habits resemble those of the ordinary Bullfinch, and the eggs differ only in being slightly larger.

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### THE HAWFINCH.

(*Coccothraustes vulgaris.*)\*

PLATE 56, FIGS. 5, 8.

The Hawfinch is by no means so rare a bird as has been generally supposed. It is very local, and during the breeding-season it is so shy and skulking that it frequently escapes detection. It probably breeds in suitable localities in almost every county of England and Wales, excepting perhaps north of Yorkshire. It is found in suitable localities throughout Europe, Siberia, and the north island of Japan, south of lat. 60°.

The nest is a very beautiful piece of handiwork, and is similar to that of the Bullfinch, but on an enlarged scale. The outside is invariably made of twigs, frequently intermixed with lichens and sometimes with dry plants; and the cup of the nest is formed of dry grasses, lined with fine roots and often a little hair; it is not unusually shallow, and is neatly finished.

The eggs vary from four to six in number, and are usually laid about the second week in May, sometimes earlier. There are two very distinct types. The usual type is pale olive or bluish-green in ground-colour, streaked with dark olive-brown, and having a few spots of the same colour on the surface, and with underlying markings of greyish-brown. The second type differs only in having the ground-colour buff and the underlying spots more inclined to violet-grey. The eggs vary in length from 1·0 to 0·85 inch, and in breadth from 0·8 to 0·67 inch.

\* *Coccothraustes coccothraustes*—Sharpe, Handb., I., p. 33.

## THE HOUSE SPARROW.

*(Passer domesticus.)*

PLATE 56, FIGS. 10, 11, 12.

The House Sparrow is, almost without exception, commonly distributed throughout the British Islands, only being absent from certain isolated places in the Highlands, the bare and rocky islands of Scotland, and one or two similar places in Ireland. It is distributed over the whole of Europe and Asia (up to, and occasionally beyond the Arctic circle), with the exception of Italy, Sicily, Sardinia, and Malta, where it is mostly replaced by *P. italiae* and *P. hispaniolensis*.

In addition to the clumsy, ill-made nest which the Sparrow always builds in holes, it frequently constructs a well-made domed nest in a tree.

The eggs vary from five to seven in number, and are pale bluish-white in ground-colour, more or less thickly blotched, spotted and speckled with dark brown, lilac, and greyish-brown. They vary considerably in size, shape, and colour. In some the ground-colour is almost concealed by the rich brown markings, freckled and blotched over the entire surface; in others the spots are large and very bold, and chiefly massed on the large end of the egg; whilst many specimens are scarcely distinguishable from those of the Pied Wagtail. They vary in length from 0·95 to 0·8 inch, and in breadth from 0·65 to 0·57 inch. It is often impossible to distinguish small eggs of this species from those of the Tree Sparrow. Many Sparrow's eggs also very closely resemble certain varieties of the eggs of the Meadow Pipit.

## THE TREE SPARROW.

*(Passer montanus.)*

PLATE 56, FIGS. 14, 15.

The Tree Sparrow is a much rarer bird than the House Sparrow, and its distribution is more local. It is common, though somewhat local, throughout the Palaeartic region from the Atlantic to the Pacific up to and, in Europe, slightly beyond the Arctic circle.

In the majority of cases the nest is cup-shaped and is rather loosely put together. It is made very similarly to that of the House Sparrow, but is not, perhaps, so bulky, and does not contain such an assortment of rubbish. It is usually made of dry grass, straws and rootlets, lined with wool, feathers and sometimes a little hair.

The eggs of the Tree Sparrow are from four to six in number, varying considerably in colour. The eggs in each clutch are usually pretty uniform in colour, except one egg, which is generally much lighter than the rest. These light-coloured eggs may be the produce of the bird when its colour-producing powers are getting exhausted. The eggs are bluish-white in ground-colour; but generally little of this can be seen, for the surface-markings are distributed so finely and evenly over the entire surface as to hide it. The markings vary from rich brown to greyish and greenish-brown. On some eggs, especially those which are more boldly and less evenly spotted, the underlying markings are very large and violet-grey. Some eggs are streaked with very dark brown, something like those of the Meadow Pipit. They vary in length from 0·85 to 0·73 inch, and in breadth from 0·62 to 0·54 inch. Tree Sparrows' eggs very closely resemble those of the House Sparrow, but are, on an average, smaller and usually darker and redder.

#### THE GREENFINCH.

(*Fringilla chloris*).\*

PLATE 56, FIG. 13.

The Greenfinch is a lover of well-cultivated districts, and in such is commonly distributed throughout the British Islands. It breeds throughout Europe, in Norway extending as far north as lat. 65°, and in the Urals as far as lat. 60°.

Few nests are prettier than that of a Greenfinch. It is not so neat as the nest of a Goldfinch or Chaffinch; but its very slovenliness is the secret of its beauty. The outside is made of moss, dry grass and wool.

The eggs of the Greenfinch are from four to six in number, and vary from pale greenish-white to white, with the faintest tinge of

\* *Ligurinus chloris*—Saunders, Manual, p. 161. *Chloris chloris*—Sharpe, Handb., I., p. 31.

blue in ground-colour. The markings are usually almost confined to the larger end, and consist of purplish-brown spots, blotches, and more rarely streaks, with underlying spots of pinkish-brown. As a rule, there are as many underlying markings as surface ones, but in some eggs the former predominate. They vary in length from 0·9 to 0·72 inch, and in breadth from 0·62 to 0·53 inch. The eggs of the Greenfinch very closely resemble those of the Goldfinch and Linnet, and small specimens are indistinguishable from large eggs of the two latter species. They also resemble those of the Crossbill so closely that it is almost impossible to distinguish them ; but, as a rule, they are perhaps smaller in size.

### THE CANARY.

(*Fringilla canaria.*)

There can be little doubt that the Canary is an accidental visitor to the British Islands. It is abundant on most of the Canary Islands, on Madeira, and throughout the Azores.

It is a somewhat early breeder, commencing nest-building in the latter part of March. The nesting-site is usually selected in some evergreen tree or shrub, placed at a considerable height from the ground, and is seldom below eight feet. A nest of this bird found by Dr. Bolle was built in the fork of a box-tree about twelve feet high, growing out of a myrtle hedge. This nest was described by him as being broad at the base, narrow at the top, and very neatly built of snow-white cotton-plant mixed with a few dry grass-stems.

The eggs are four or five in number, bluish-green in ground-colour, spotted and speckled with reddish-brown ; they measure about 0·8 inch in length, and about 0·55 inch in breadth.

### THE SERIN FINCH.

(*Fringilla serinus.*)\*

PLATE 56, FIG. 16.

The evidence in support of the opinion that the Serin is an accidental visitor to our shores rests on no better foundation than

\* *Serinus hostulanus*—Saunders, Manual, p. 169. *Serinus serinus*—Sharpe, Handb., I., p. 53.



Brambling.



Linnet.



Linnet.



Twite.



Lesser Redpoll.



Mealy Redpoll.



Mealy Redpoll.



Greenland Redpoll.



Snow Bunting.



Snow Bunting.



Lapland Bunting.



Lapland Bunting.



Reed Bunting.



Reed Bunting.



Little Bunting.



Little Bunting.



Corn Bunting.



Ortolan Bunting.



Ortolan Bunting.



Corn Bunting.





Girl Bunting.



Girl Bunting.



Yellow Bunting.



Yellow Bunting.



Rustic Bunting.



Black-headed Bunting.



Black-headed Bunting.



Wood Lark.



Crested Lark.



Crested Lark.



Syl Lark.



Syl Lark.



White-winged Lark.



Short-toed Lark.



Shore Lark.



Calandra Lark.



Pied Wagtail.



Pied Wagtail.



White Wagtail.



White Wagtail.





Grey Wagtail.



Blue-headed Wagtail.



Yellow Wagtail.



Richard's Pipit.



Tree Pipit.



Tree Pipit.



Tree Pipit.



Tree Pipit.



Meadow Pipit.



Meadow Pipit.



Red-throated Pipit.



Red-throated Pipit.



Tawny Pipit.



Rock Pipit.



Scandinavian Rock Pipit.



Alpine Pipit.



Swallow.



Sand Martin.



House Martin.



Swallow.





Quail.



Hemipode.



Quail.



Ptarmigan.



Partridge.



Ptarmigan.



Black Grouse.



Red-legged Partridge.



Pheasant.



Red Grouse.



Capercaillie.



Red Grouse.



that which can be adduced in support of the claim of the Canary to be so considered. On the Continent the range of the Serin is remarkably restricted, being confined to Europe, west of Russia, and to North Africa.

The nest of the Serin, though very loosely made of short, slender stalks and roots, held together with thistle-down, spider's web, and bits of wool or cotton, is very carefully and neatly constructed. There is no special lining except that the proportion of soft material is greater inside than outside. The outside diameter is only about  $2\frac{3}{4}$  inches, and that of the inside only  $1\frac{3}{4}$  inch; the depth is little more than an inch.

Five is the usual number of eggs, but sometimes there are only four. They are on an average smaller than those of the Goldfinch or Siskin, but are indistinguishable from them, being subject to the same variations of colour. The length ranges from 0·65 to 0·6 inch, and the breadth from 0·5 to 0·45 inch.

### THE GOLDFINCH.

(*Fringilla carduelis*).\*

PLATE 56, FIG. 17.

The Goldfinch is locally distributed throughout Great Britain. It breeds everywhere in Europe, in Norway as far north as lat.  $65^{\circ}$ , but in the Ural Mountains only as far north as lat.  $60^{\circ}$ .

The nest is a charming piece of bird-architecture. It is much smaller than that of the Chaffinch, but is to a certain extent made on the same model. It usually measures from  $1\frac{1}{2}$  to 2 inches in inside diameter, and is about 1 inch deep. It is often made of moss, lichens, vegetable down, and a few long hairs.

The eggs of the Goldfinch are four or five in number, and are laid by the middle of May. They are greenish-white in ground-colour, spotted and streaked with purplish-brown, and with underlying markings of violet-grey. The spots vary considerably in intensity of colour, and on some eggs are almost black. Some specimens are only scratched and indistinctly marked with reddish-brown; others are almost spotless. The larger end of the egg is usually the most spotted, where the markings form an

\* *Carduelis elegans*—Saunders, Manual, p. 165. *Carduelis carduelis*—Sharpe, Handb., I., p. 39.

irregular zone. Some eggs are much more boldly streaked than others, and the streaks are longer. The eggs vary in length from 0·7 to 0·62 inch, and in breadth from 0·53 to 0·48 inch. Goldfinches' eggs can generally be distinguished from Linnets' and Greenfinches', which they much resemble in colour, by their smaller size; whilst from those of the Lesser Redpole they are easily told by their much lighter ground-colour. From those of the Citril Finch, Serin and Siskin they are indistinguishable, except in perhaps being blunter and a trifle larger.

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### THE SISKIN.

(*Fringilla spinus.*)\*

PLATE 56, FIG. 18.

From the evidence to be gleaned upon the subject, there can be little doubt that the Siskin has bred in several counties of England. In Scotland it is much commoner than in England, and breeds regularly in many localities. It nests also in Ireland, as well as in the pine-woods of Northern and Central Europe, in Norway ranging as far north as lat. 67°, in Russia as far as Archangel, and in the Urals up to about lat. 58°. It also breeds in some of the mountainous districts of Southern Europe—as, for instance, near Florence—and in the Caucasus.

Upon a scanty foundation of grass-stalks, mixed with a few heather-twigs, the nest is built almost entirely of moss and roots, the finest material being selected for the lining, in which is also a little vegetable-down. Other nests are described as having a few feathers in the lining.

The eggs are five or six in number, pale bluish-green in ground-colour, with dark reddish-brown spots and specks and an occasional streak, and with underlying markings of pinkish-grey. The markings on some eggs are much more profuse than on others, but on almost all they are most conspicuous near the large end. They vary in length from 0·7 to 0·62 inch, and in breadth from 0·53 to 0·5 inch. They appear to go through the same variations both in size and colour as the eggs of the Goldfinch, from which they are absolutely indistinguishable.

\* *Chrysornis spinus*—Saunders, Manual, p. 167; Sharpe, Handb., I., p. 41.

## THE BRAMBLING.

*(Fringilla montifringilla.)*

PLATE 57, FIG. 1.

The Brambling is only known as a winter migrant to our islands, arriving late in the autumn and remaining until early in the following spring. It is confined to the eastern hemisphere, and ranges from the Atlantic to the Pacific. It breeds throughout the northern portions of the Palæarctic region, frequenting the pine, but more often the birch trees, at or near the limit of forest-growth.

The nest is very handsome, not quite so neatly and compactly made as that of the Chaffinch, and is rather larger. Its principal beauty is derived from the mixture of green moss, lavender-coloured lichens, and white birch-bark, interwoven with cobwebs, thistle-down, and buff inner birch-bark, interwoven with cobwebs and feathers.

Six is the usual number of eggs, but sometimes there are only five, and occasionally as many as seven. They vary in size from 0·85 by 0·6 inch to 0·75 by 0·55 inch. Some eggs of the Brambling cannot be distinguished from those of the Chaffinch, but as a rule the ground-colour is greener, and the spots smaller and paler. The pale bluish-green ground-colour is generally washed here and there with patches of reddish-brown, which look like underlying spots that have run. The overlying spots vary from the size of No. 10 shot down to a point, and in colour from pale reddish-brown to very dark brown; sometimes they are absent altogether.

## THE CHAFFINCH.

*(Fringilla celebs.)*

PLATE 56, FIGS. 19, 20.

The Chaffinch is one of the commonest of our native birds, and is found in all suitable localities throughout the British Islands. It breeds throughout Europe, in Scandinavia as far north as the Arctic circle and occasionally beyond, but in the Ural Mountains only up to lat. 62°.

The nest of the Chaffinch, being so elaborate and highly finished, naturally takes some little time in its construction; indeed, with

the exception of the Long-tailed Titmouse, the female Chaffinch probably takes more time to build her charming little nest than any other British bird.

The eggs of the Chaffinch are from four to six in number. Typical eggs are pale bluish-green in ground-colour, clouded with pale reddish-brown, sometimes to such an extent as to entirely conceal the green ground, spotted and occasionally streaked with dark reddish-brown overlying markings and pale purplish-brown underlying ones, usually most profuse at the larger end of the egg. A somewhat rare variety, which I have taken both in this country, in Greece and in Germany, is scarcely distinguishable from eggs of the Bullfinch; the egg is clear greenish-blue in ground-colour, with large underlying blotches of faint purple, and surface-spots and streaks of rich purplish-brown. The eggs of this species vary in length from 0·8 to 0·7 inch, and in breadth from 0·65 to 0·55 inch.

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### THE LINNET.

(*Fringilla cannabina*).\*)

PLATE 57. FIGS. 2, 3.

The Linnet is generally distributed throughout the British Islands and breeds throughout Europe, in Scandinavia south of lat. 64°, and in East Russia south of lat. 59°.

The nest is formed in the first place of moss and dry grass, strengthened with a few fine twigs, often those of the gorse, dead and withered, and bound together with wool obtained from the branches, where it has been left by the sheep in endeavouring to force their way through the dense thicket. It is lined with hair, wool, and vegetable-down, and sometimes a few feathers.

The eggs of the Linnet are from four to six in number, the latter being the usual clutch. They are greenish-white or French-white in ground-colour, blotched, spotted, speckled, and streaked with reddish-brown and rich purplish-brown. Some eggs are much more richly marked than others, and on some specimens the markings are very small, pale, and indistinct. As is usual, the larger end of the egg is the most spotted, generally in the

\* *Acanthis cannabina*—Saunders, Manual, p. 179. *Cannabina cannabina*—Sharpe, Handb., I., p. 43.

form of an irregular zone. The underlying markings are not very numerous, and on most eggs light and dark overlying spots occur. On some specimens there are a few streaks of rich brown. They vary in length from 0·8 to 0·66 inch, and in breadth from 0·55 to 0·5 inch. Eggs of this species and its allies ought to be very carefully identified, as small examples are indistinguishable from large eggs of the Goldfinch, and large examples from small eggs of the Greenfinch.

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### THE TWITE.

(*Fringilla flavirostris*.)\*

PLATE 57, FIG. 4.

The Twite breeds in most parts of the British Islands, wherever uncultivated bits of heathy land or grouse-moors are to be found. It is especially common on the islands off the coast of Scotland, the Hebrides, the Orkneys and the Shetlands. Outside the British Islands it is only known to breed in the Alpine and sub-Alpine districts of Norway, principally on the islands and near the coast.

The nest of the Twite is beautifully finished inside, and is almost as neat as that of the Lesser Redpole. When it is placed on the ground, the outside is, of course, built in to suit the cavity; but in a tree or amongst heather the nest is somewhat large and clumsy outside, the foundation being twigs of heather interwoven with grass-stalks, which alone form the upper portion. Inside the cup is very small, not more than an inch and a half across and almost as deep. The lining is of fine roots, sheep's wool, feathers, hair or thistle-down, sometimes two or three of these materials at once.

The number of eggs is usually five, very often only four, but occasionally six. They measure from 0·72 to 0·65 inch in length, by 0·53 to 0·47 inch in breadth; they are very pale greenish-blue, and are indistinguishable in their markings from eggs of the Linnet, except that perhaps they are more often streaked.

\* *Acanthis flavirostris*—Saunders, Manual, p. 185. *Cannabina flavirostris*—Sharpe, Handb., I., p. 42.

## THE LESSER REDPOLE.

*(Fringilla rufescens.)\**

PLATE 57, FIG. 5.

The Lesser Redpole is a winter visitor to most parts of England, but breeds more or less commonly to the north of Norfolk and Leicestershire. It nests in the Italian and Styrian Alps, but in other parts of Western Europe it is principally known as a winter visitor, though it has also been found breeding in Holland, Belgium, and the Rhine provinces.

As a rule, the nest is placed in low bushes, but I have also found it at a height of from fifteen to twenty feet above the ground. The nest has a few slender twigs for the foundation, and is built up of dry grass-stalks and a little moss, profusely lined with the down from the cotton-grass, or from willow-catkins, or, if these materials are not obtainable, with feathers, hair, or wool. The lining is generally interwoven with the sides of the nest, and can scarcely be matched for delicacy and beauty.

The eggs are from three to six in number, and vary from 0·65 to 0·6 inch in length, and from 0·5 to 0·42 inch in diameter. The ground-colour varies from bluish-green to greenish-blue. The overlying specks, spots and blotches, principally at the large end of the egg, are dark reddish-brown, and the underlying ones are pale reddish-brown.

## THE MEALY REDPOLE.

*(Fringilla linaria.)†*

PLATE 57, FIGS. 6, 7.

The Mealy Redpole is only known as a winter visitor to Great Britain. It inhabits Northern Europe and Siberia as well as North America.

In its nesting habits it resembles the Lesser Redpole. The eggs also are similar to those of the latter bird, but are slightly larger, and are occasionally more streaked.

Two other races of the Mealy Redpole, *F. exilipes* and *F. holboelli*, have also occurred in England.

\* *Acanthis rufescens*—Saunders, Manual, p. 183. *Cannabina rufescens*—Sharpe, Handb., I., p. 47.

† *Acanthis linaria*—Saunders, Manual, p. 181. *Cannabina linaria*—Sharpe, Handb., I., p. 45.

## THE GREENLAND REDPOLE.

*(Fringilla hornemannii.)*

PLATE 57, FIG. 8.

This is a large form of Mealy Redpole, which is found in Iceland, Greenland, and Eastern North America. It is distinguished from *F. linaria* by its white rump and larger size. It has occurred in Durham in April, 1855.

The eggs are similar to those of the Mealy Redpole, but are larger.

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## THE SNOW BUNTING.

*(Emberiza nivalis.)\**

PLATE 57, FIGS. 9, 10.

In England and Ireland this handsome little bird is only known as a comparatively rare winter visitor, and its chief haunts are the rough open grounds near the sea. In Scotland the "Snow-flake" is commoner, and a few remain to breed on the higher mountains. Saxby found it breeding in Shetland. It is a circum-polar bird, breeding on the tundra of the Arctic regions beyond the limit of forest-growth, in Iceland, Novaya Zemlya and Spitsbergen, and in similar climates at high elevations further south, such as the snow-regions of the Norwegian fells.

A nest I found on the islands off Vadso in Norway was built in a heap of stones and rocks, and we had to remove a considerable quantity before we could see it. The nest is a bulky structure and adapted to the cavity in which it is placed, and is composed of dry grass, with occasionally a few roots or a little moss, or even twigs of the dwarf birch and other Alpine shrubs if the cavity is large; the lining consists of feathers, hair, or down.

The eggs of the Snow Bunting are from five to eight in number; six or seven is a usual clutch. They vary from yellowish-white to pale bluish-green in ground-colour, spotted and blotched with rich reddish-brown, and sometimes finely streaked with deep blackish-brown; these rich surface-markings are intermingled with numerous and large underlying blotches and spots of pale reddish-brown and pinkish-grey. On some specimens most of

\* *Plectrophenax nivalis*—Saunders, Manual, p. 215; Sharpe, Handb., I., p. 75.

the markings are underlying ones, and the surface-spots are very deep in colour. The spots are generally most numerous at the larger end of the egg, sometimes forming an irregular zone or often a semi-confluent mass. They vary from 1·05 to 0·82 inch in length, and from 0·67 to 0·6 inch in breadth.

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### THE LAPLAND BUNTING.

(*Emberiza lapponica*).\*

PLATE 57, FIGS. 11, 12.

The Lapland Bunting is a circumpolar bird, occurring in Great Britain occasionally in winter, and breeding on the tundra of both hemispheres beyond the limit of forest-growth, and in a similar climate at high elevations in Norway as far south as Dovre Fjeld, about lat. 62°, where it nests in the willow-region above the birch-region.

The nest is almost always placed in some hole in the side of one of the little mounds or tussocks which abound on the marshy parts of the tundra; it is composed of dry grass and roots, and profusely lined with feathers.

The eggs are from four to six in number, and differ very much both in size and colour. They vary in ground-colour from pale grey to pale brown, more or less obscured by a profusion of underlying blotches and streaks, which vary in colour from yellowish-brown to reddish-brown; the overlying markings are generally much fewer, and are principally streaks mixed with a few blotches and spots of dark reddish-brown. They vary in length from 0·87 to 0·75 inch, and in breadth from 0·68 to 0·57 inch. The only eggs with which they are likely to be confounded are those of the Tree Pipit and Red-throated Pipit, neither of which use feathers in lining their nests.

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### THE REED BUNTING.

(*Emberiza schæniclus*).

PLATE 57, FIGS. 13, 14.

The Reed Bunting is one of the most widely distributed of the British Buntings. It is found throughout the greater part of the

\* *Calcarius lapponicus*—Saunders, Manual, p. 213; Sharpe, Handb., I., p. 78.

Palæarctic region, with the exception of Palestine and the tundra of the north beyond the limit of forest-growth.

The nest is made of various materials; in some districts dry grass, moss, and withered leaves of rushes form the outside, and fine grass and hairs finish off the interior; whilst in more swampy places it is almost exclusively made of dry bents and reed-stems, the feathery tops of which form the lining.

The eggs are from four to six in number, sometimes only three. They vary in ground-colour from greyish-olive to purplish-buff, spotted, streaked, and blotched with rich purplish-brown, almost black. Many of the streaks are underlying and pale violet-grey in colour, and almost all of the surface-spots are more or less blurred at the edges. The streaks are much thicker and much less tortuous than those on the eggs of the Yellow Hammer, nor are they so long, as a rule, or so numerous; they are very bold, some of the spots being as large and round as No. 4 shot, and they are generally distributed over the entire surface of the egg. They are not subject to any considerable amount of variation, and are not easily confused with those of any other British species. They vary in length from 0·85 to 0·68 inch, and in breadth from 0·6 to 0·54 inch.

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#### THE RUSTIC BUNTING.

(*Emberiza rustica.*)

PLATE 58, FIG. 5.

Three or four specimens of the Rustic Bunting, another East European and Siberian species, have been captured in the British Islands, thus well-establishing its claim to rank amongst our accidental visitors. The range of the Rustic Bunting is very similar to that of the Little Bunting, but extends slightly further to the west. It does not go so far north to breed, neither does it winter so far south.

The ground-colour of the eggs varies from greenish-white to bluish-white, and the overlying spots are greenish-brown and the underlying spots greyish-brown. The spotting is very profuse and more or less confluent at the large end of the egg; but there are no streaks, the character of the egg being that of a Sparrow

rather than that of a Bunting. In this respect it shows an affinity with the eggs of *Emberiza melanocephala* and *E. luteola*, and, to some extent, with those of *E. nivalis*, though the latter often have some small streaks. The eggs vary in length from 0·86 to 0·76 inch, and in breadth from 0·6 to 0·56 inch.

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### THE LITTLE BUNTING.

(*Emberiza pusilla.*)

PLATE 57, FIGS. 15, 16.

Notwithstanding the fact that this rare little Siberian Bunting visits Heligoland almost every year, only a single example has been obtained in the British Islands. It is an Arctic bird, occasionally breeding on the tundra above the limit of forest-growth, but rarely found in summer south of the Arctic circle, except at considerable elevations. Its range extends from the valley of the Dwina eastwards to the Pacific.

The nest found by Schrenck on the Lower Amoor was placed on the ground between tussocks of moss, and made of grass intermixed with the spines of the larch and fir. In various parts of the Yenisei valley I discovered four nests. Two of them were merely holes made in the dead leaves, moss, and grass, copiously and carefully lined with fine dead leaves; the other two were similarly placed, but were lined more or less with reindeer hair.

The eggs in the first nest were very handsome, almost exact miniatures of those of the Corn Bunting. The ground colour is pale grey, with bold twisted blotches and irregular round spots of very dark grey, and equally large underlying shell-markings of paler grey. The eggs in the second nest were much redder, being brown rather than grey, but the markings are similar. Those in the third nest have the markings similar to those previously described, but the ground-colour is browner, being less olive than those of the first clutch and less red than those of the second; whilst those in the fourth nest are intermediate in colour between those of the second and third clutches. They vary from 0·78 to 0·68 inch in length, and from 0·6 to 0·53 inch in breadth.

## THE CORN BUNTING.

*(Emberiza miliaria.)*<sup>\*</sup>

PLATE 57, FIGS. 17, 20.

The Corn Bunting, often inappropriately called the "Common" Bunting, is by no means the commonest or best known of the British species of this genus. It is common enough in some localities, rare in others, and its distribution is certainly local. It has a somewhat restricted range, and inhabits the south-western portion of the Palæarctic region, where it is for the most part a resident.

The nest is generally placed on the ground, in a little depression, but sometimes it is slightly above it; it is rather loosely put together, and made of dry grass, a scrap or two of moss, sometimes roots or tufts of twitch, and is lined with fine grass, and, in most cases, with a few hairs.

The eggs are from four to six in number; and although they differ considerably amongst themselves, their size prevents them from being confused with the eggs of the other Buntings that breed in this country. The ground varies from pale clay-colour to dull white, and the spots, streaks, and blotches vary from rich purplish-brown, almost black, to pale brown, and the underlying markings, which on some eggs are large and numerous, are violet-grey or greyish-purple. They vary in length from 1·05 to 0·87 inch, and in breadth from 0·75 to 0·67 inch.

## THE ORTOLAN BUNTING.

*(Emberiza hortulana.)*

PLATE 57, FIGS. 18, 19.

The Ortolan Bunting is an occasional visitor to Great Britain, and is one of the many species of Palæarctic birds which find the eastern limit of their distribution in Central Asia.

The nest is always placed on the ground amongst herbage, generally in a slight hollow, and is formed of dry grass and roots, lined with fine roots or hair.

The eggs of the Ortolan Bunting are from four to six in number. They vary from the palest of bluish-white to pale salmon-colour,

\* *Miliaria miliaria*—Sharpe, Handb., I., p. 73.

spotted, streaked, and blotched with rich purple-brown, almost black, and with underlying spots of pale violet. The ground-colour of some eggs is very pink. Many of the spots are very large and round, and the streaks are generally short and isolated. Most of the markings are on the large end of the egg, where they form an irregular zone. The eggs vary in length from 0·88 to 0·75 inch, and in breadth from 0·67 to 0·58 inch. They vary considerably in shape, some specimens being almost round, whilst others are considerably elongated, and some are oval. The eggs of the Ortolan Bunting do not resemble very closely those of any other British species. Perhaps they approach most closely to those of the Reed Bunting; but the ground-colour is always clearer and paler, and the markings usually consist of *spots*, not *streaks*.

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#### THE CIRL BUNTING.

(*Emberiza cirlus.*)

PLATE 58, FIGS. 1, 2.

The Cirl Bunting is one of the most local of our resident birds. It is strictly a southern species, and has been found breeding in all the counties of the south coast. On the European Continent it does not appear to breed north of Dresden or east of the Crimea. It is a resident in Central and Southern Europe, but in South Italy, Greece and Asia Minor it breeds in the mountains, wintering in the plains.

A nest of this bird in my collection is somewhat loosely put together, and made externally of various plant-stems, blades of grass, roots and quantities of dead leaves. It is lined with one or two scraps of moss, a few pieces of fine grass and a great quantity of short hair. It measures about four inches in outside diameter, and is about one and a half inch deep inside. Some nests of this bird contain no hair, and are lined with rootlets only, whilst others are almost exclusively made of moss and coarse herbage.

The eggs of the Cirl Bunting are laid early in May. They are four or five in number, and do not vary very much. They are generally bluish or greenish-white in ground-colour, blotched, spotted and streaked with very dark brown, almost black. The streaks are usually very bold and blotchy, and most numerous on

the large end of the egg. The underlying spots are generally small and indistinct, and violet-grey in colour. Some eggs have the ground-colour dull white, and the markings are more of a reddish-brown. They vary from 0·92 to 0·8 inch in length, and from 0·7 to 0·6 inch in breadth. The markings on the eggs of the Cirl Bunting are much darker (almost black) than those on the eggs of the Yellow Hammer, and in shape are much rounder and blunter.

### THE YELLOW HAMMER.

(*Emberiza citrinella*.)

PLATE 58, FIGS. 3, 4.

The Yellow Hammer is by far the commonest and most widely-dispersed of all our native Buntings. Its range is somewhat similar to that of the Corn Bunting, but extends further to the north and east, and not quite so far to the south.

The nest, although somewhat slight, is well put together, and is made of dry grasses and a little moss, and lined with fibrous roots and horsehair.

The eggs are four or five in number, purplish-white in ground-colour, streaked, spotted and dashed with rich purplish-brown. The underlying markings, which are very numerous on some eggs, are pearly-grey. The eggs vary considerably : some are dull purplish-brown in ground-colour, faintly streaked and scratched with brown ; others are so thickly pencilled as to form an irregular network over the entire surface ; whilst a clutch of three in my collection are almost uniformly clouded with pale brown, over which are a few dark streaks. The streaks vary in breadth : some of them are finer than the finest hairs ; others are very broad ; and all are distributed in the most irregular manner, here and there appearing in a tangled mass, connected together by one or two bold lines. The eggs vary in length from 0·95 to 0·8 inch, and in breadth from 0·69 to 0·6 inch. Yellow Hammers' eggs may be readily distinguished from those of the Cirl Bunting—the only eggs with which they are at all likely to be confused—by their much more purple colour. The eggs of the Cirl Bunting are much greener, the spots are generally more bold and decided, and the thin streaks are not so numerous.

## THE BLACK-HEADED BUNTING.

*(Emberiza melanocephala.)*

PLATE 58, FIGS. 6, 7.

The claim of the Black-headed Bunting to be considered a British bird rests upon a solitary example said to have been shot near Brighton. In Italy it breeds in the Riviera and on both shores of the Adriatic. It is a common summer visitor to Greece and Turkey, and I have shot it as far north as the Dobrudscha. It is equally common in Asia Minor, the Caucasus, Palestine and Persia, passes through Afghanistan and Scinde on migration, and winters in Western and Central India.

The nest is rather a bulky structure, and though neatly finished inside, has a somewhat loose and ragged appearance outside. The foundation is made of dry grass, thistle-leaves, and other coarse material ; but the main portion of the nest is constructed entirely of the yellow dry stalks of various small flowering plants, the seed-capsules of which are the most prominent object, and, conjoined with the stiffness of the stalks, which prevents them from bending easily, give the nest a very slender and unfinished look. The lining is of entirely different materials, brown instead of yellow, and consists of dry grass, roots and slender stalks, without any seed-capsules, with not unfrequently a final addition of goat's hair, or a few horse-hairs. The inside diameter is  $2\frac{3}{4}$  inches, with a depth of 2 inches.

The eggs of this bird are usually four in number, not unfrequently five ; but on the Island of Corfu it is said to lay as many as six. Few eggs vary so much in size or shape : a typical egg measures 0·85 by 0·7 inch ; an unusually long and narrow egg is 1·0 by 0·6 inch ; and an unusually small egg is 0·84 by 0·6 inch. There is scarcely any difference in the ground-colour, which only varies from pale greenish-blue to *very* pale greenish-blue ; the overlying spots are brown and the underlying spots are grey. On some eggs all the spots are small, on others they are all large ; but more generally both large and small spots are found on the same egg. They are generally most thickly distributed on the large end, sometimes confluent, but occasionally are evenly distributed over the entire surface.

## THE WOOD LARK.

*(Alauda arborea.)*<sup>\*</sup>

PLATE 58, FIG. 8.

The Wood Lark seems to be nowhere very common, but is found in well-planted districts where the soil is sandy or at least dry. It avoids wet or clay land, but probably breeds in suitable districts throughout the southern half of England and Wales. It is locally distributed throughout Central and Southern Europe. In Scandinavia and West Russia it does not apparently range further north or east than the valley of the Volga.

The nest is always built upon the ground, and is generally well concealed under the shelter of a tuft of herbage or a little bush, or amongst tall grass; whilst Professor Newton states that it is sometimes placed on the smoothest turf, and that he has seen one in a stump of heather. It is made of coarse grass, scraps of moss, and a few bits of twitch, and is lined with finer grass and sometimes a little hair. The nest is generally placed in a little cavity, and is much more firmly constructed than that of the Sky Lark or the Tree Pipit.

The eggs of the Wood Lark are four or five in number. They vary in length from 0·9 to 0·78 inch, and in breadth from 0·7 to 0·6 inch. The eggs of this bird differ very considerably from those of the Sky Lark, the only eggs with which they are at all likely to be confused. The ground-colour is more exposed and whiter, and the spots are reddish-brown instead of olive or neutral-brown, and generally much smaller, better defined, and have not such a tendency to become confluent. The eggs of the Wood Lark also resemble those of the Crested Lark, but eggs of the latter bird are larger, and on an average greener, but the pattern of the spots and the general resemblance is very striking.

## THE CRESTED LARK.

*(Alauda cristata.)*<sup>†</sup>

PLATE 58, FIGS. 9, 10.

The Crested Lark probably visits our islands more frequently than is supposed; for, partly owing to its habits and partly to its

\* *Lullula arborea*—Sharpe, Handb., I., p. 91.

† *Galerita cristata*—Saunders, Manual, I., p. 88.

resemblance to the Sky Lark, it is often overlooked. The Crested Lark is a common though local resident in Central and Southern Europe. In Russia it has occurred at St. Petersburg (lat. 60°) in the west, and breeds up to lat. 54° in the east.

The nest is almost always built upon the ground, either in a little hole scratched out by the parent bird or in the footprint of some animal; it is somewhat loosely made of dry grass, twitch, rootlets, and a few straws, and is often lined with a few hairs; but the latter material is not always used, for sometimes it cannot be obtained.

The eggs of the Crested Lark are four or five in number, and differ considerably in the colour and character of the markings. Some eggs resemble very closely those of the Calandra Lark, the brown spots being well defined, and the grey markings large and conspicuous. The spots on this type are evenly distributed over the entire surface, but do not hide more than half of the ground-colour. Another type is very finely dusted and speckled with hair-brown, most numerously at the large end of the egg, where many of the markings are confluent, forming a zone. Others somewhat closely resemble those of the Sky Lark, and the markings are so thickly distributed as to conceal most of the pale ground-colour. Some eggs are much yellower than others, and they differ considerably in shape. They vary in length from 1·0 to 0·9 inch, and in breadth from 0·71 to 0·6 inch.

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### THE SKY LARK.

(*Alauda arvensis.*)

PLATE 58, FIGS. 11, 12.

The Sky Lark is very widely distributed throughout the British Islands, and is a resident except in the extreme north. It inhabits nearly the whole of the Palearctic region, from England to Kamtschatka.

The nest is a simple little structure, made externally of dry coarse grass and a scrap or two of moss, and it is lined with finer grass, rootlets, and sometimes a few hairs. These materials are very loosely put together, as is usually the case in most nests built on the ground.

The eggs of the Sky Lark are four or five in number, sometimes only three. The ground-colour varies from dull white to white, with just a tinge of olive, and the markings are olive-brown, or neutral brown, the underlying ones being pale grey. The spots are generally so thickly distributed over the entire surface as to conceal most of the ground-colour, and on the large end they are often confluent and form an irregular zone. On those eggs where the markings are not so thickly dispersed, the zone is much broader and darker. A rare but very beautiful variety of the egg of this bird is white in ground-colour, thickly mottled and spotted with brownish-red, and with numerous underlying markings of grey. The eggs are not subject to any great variation in colour, but differ somewhat in shape, some specimens being very round, others pyriform, and many oval; they vary in length from 1·0 to 0·87 inch, and in breadth from 0·72 to 0·63 inch.

### THE WHITE-WINGED LARK.

(*Alauda sibirica*.)\*

PLATE 58, FIG. 13.

The White-winged Lark has once been obtained in this country. It breeds on the steppes and is a common resident in the extreme south-east of Russia. In Siberia it is a migratory bird, wintering in Turkestan.

The nest is built in a little cavity on the ground under a tuft of herbage or beneath a little bush, and is said to be made of grass.

The eggs are four or five in number, and apparently do not differ much. Specimens in my collection from the Volga are yellowish-white in ground-colour, spotted with a light and dark shade of almost neutral-brown, and with numerous underlying markings of violet-grey. The spots are large and almost evenly distributed over the entire surface; but some specimens have most of the markings round the large end, many of them being confluent. They vary in length from 0·96 to 0·86 inch, and in breadth from 0·69 to 0·61 inch. The eggs of the White-winged Lark, although they resemble those of the Sky Lark very closely in size and colour are, however, easily distinguished; they are much more pear-shaped, and the spots are much larger, more

\* *Melanocorypha sibirica*—Sharpe, Handb., I., p. 82.

boldly defined, and not so numerous. They resemble those of the Calandra Lark much more closely, as might be expected, but are on an average smaller.

### THE CALANDRA LARK.

(*Alauda calandra.*)

PLATE 58, FIG. 16.

This large Lark has doubtless occurred in England, and may visit it again, but the only two examples as yet recorded were discovered in dealers' shops, without any authentic history. The Calandra is a common resident in the basin of the Mediterranean, where there are sandy plains, but is not known to breed north of Venice. In south-east Europe it extends slightly more to the north, but the bird is very local. East of the Caucasus, it nests throughout Persia and Turkestan as far as Lake Saisan.

The nest is always built upon the ground amongst herbage, and is made of dry grass, rootlets, etc., and lined with finer material.

The eggs are four or five in number, and somewhat resemble those of the Sky Lark; they are indistinguishable from those of the White-winged Lark, except that on an average they are slightly larger. They vary in length from 1·0 to 0·85 inch, and in breadth from 0·75 to 0·65 inch.

### SHORT-TOED LARK.

(*Alauda brachydactyla.*)\*

PLATE 58, FIG. 14.

The Short-toed Lark has been met with at least half a dozen times in our Islands. Its breeding home is in Southern Europe, and it extends east to Turkestan.

The nest is a simple little structure made of dry grass, rootlets, etc., very closely resembling the nest of the Sky Lark.

The eggs of the Short-toed Lark are four or five in number, sometimes only three, creamy white in ground-colour, profusely mottled and speckled with pale neutral-brown, and with underlying markings of grey. They vary from 0·87 to 0·69 inch in length, and from 0·62 to 0·55 inch in breadth. The eggs are much

\* *Calandrella brachydactyla*--Sharpe, Handb., I., p. 86.

smaller than those of the Sky Lark, but otherwise bear considerable resemblance to them, except that the general tone of colour is much yellower.

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### THE SHORE LARK.

(*Alauda alpestris*).\*)

PLATE 58, FIG. 15.

The Shore Lark was formerly a very irregular visitor to the British Islands, but during the last few years has occurred annually, in winter, sometimes in considerable numbers. It is a circumpolar bird, breeding on the tundra of both hemispheres beyond the limits of forest-growth. In Lapland the Shore Lark lays its eggs from the middle of May to the middle of June, but in Siberia not before the latter date. The nest is always built on the ground, generally in some slight hollow. It is loosely made of dry grass and stalks, and the inside, which is rather deep, is lined with willow-down or reindeer-hair.

Four is the usual number of eggs; but very often only three are laid, and sometimes as many as five. They may be said to be characteristic Lark's eggs, and only differ from those of the Sky Lark by their more olive shade of colour. They vary in length from 0·95 to 0·9 inch, and in breadth from 0·7 to 0·62 inch.

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### THE PIED WAGTAIL.

(*Motacilla yarrellii*).†

PLATE 58, FIGS. 17, 18.

The Pied Wagtail is very widely distributed throughout the British Islands, and, except in the extreme north, is a resident species. On the Continent the distribution of the Pied Wagtail is extremely limited. It breeds sparingly in the south-west of Norway, frequently occurring on Heligoland on migration; and it occasionally breeds in Holland, and more abundantly in North-west France. It is a winter visitor to South-west France, Portugal, and Western Spain, and occasionally crosses the straits into Marocco.

\* *Otocorys alpestris*—Saunders, Manual, p. 249; Sharpe, Handb., I., p. 80.

† *Motacilla lugubris*—Saunders, Manual, p. 113; Sharpe, Handb., I., p. 93.

The nest is built in various situations, amongst the gnarled roots of trees, on the margin of a stream, in a rugged bank, or on the wall-plate of a cattle-shed, whilst less frequently a hole in thatch, a pile of wood, a haystack, or a heap of stones will be chosen. The nest is a somewhat bulky structure, thickly matted together, and made of dry grass, roots, moss, and leaves, and lined with wonderful neatness with wool, hair, and often with feathers.

The eggs of the Pied Wagtail are from four to six in number, greyish-white or the palest of blue in ground-colour, profusely speckled and spotted with greyish-brown, and with underlying markings of French grey. Some specimens have the markings more or less streaky, and on many there are a few hair-like streaks of rich blackish-brown. They vary in length from 0·86 to 0·75 inch and in breadth from 0·63 to 0·56 inch, and many specimens closely resemble certain varieties of those of the House Sparrow, but are seldom so elongated.

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#### THE WHITE WAGTAIL.

(*Motacilla alba.*)

PLATE 58, FIGS. 19, 20.

The White Wagtail was first noticed in England in May, 1841, by the late Mr. F. Bond, who found it breeding at Kingsbury reservoir. Since that date many other specimens have been obtained, chiefly in spring, leading to the conclusion that a few come every year to this country to nest. It breeds throughout Europe as far north as land extends. In the northern portions of its range it is a migratory bird, and it winters in South Europe, where some also remain to breed on the mountains. It nests also in Siberia, as far east as the valley of the Yenisei, and as far north as land extends.

The nesting-site selected by the White Wagtail is precisely similar to that chosen by the Pied Wagtail, and the nest is made of similar materials.

The eggs of this species are five or six in number, and vary considerably. They vary in length from 0·88 to 0·7 inch, and in breadth from 0·62 to 0·55 inch. It is very difficult to distinguish

the eggs of the White Wagtail from those of the Pied Wagtail; but generally the latter are not so blue in ground-colour, and no brown type seems to occur at all.

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### THE GREY WAGTAIL.

(*Motacilla sulphurea.*)<sup>\*</sup>

PLATE 58A, FIG. 1.

In Scotland the Grey Wagtail is more generally distributed than in England, and, though not found on the Outer Hebrides, it occurs on several of the inner islands, and in Ireland it is widely although locally distributed. The range of the Grey Wagtail extends from the Atlantic to the Pacific, but does not appear to include either the Scandinavian or Kamtschatkan peninsulas.

I have almost always found the nest of the Grey Wagtail under an overhanging ledge of rock, built upon the clay or rocky bank, and well concealed behind grass and other herbage. Once only I saw one built in the fork of three stems of an alder, close to the ground, almost overhanging the river. The eggs are laid towards the end of April or early in May.

The nest is very similar to that of the Pied Wagtail, a trifle smaller inside, and perhaps a little deeper, and even more carefully made. It is almost entirely composed of fine roots, with a few stalks of dry grass in the outer and coarser portions, and is lined with cow-hair, the preference being given to white.

The eggs of the Grey Wagtail are five or six in number, generally five, and may be divided into two distinct types—one in which the ground-colour is pale French grey, mottled with light brown, and the other of a much warmer tint, more nearly approaching cream-colour, mottled and spotted with a much richer brown. On many specimens there are one or two rich dark brown, almost black, streaks on the large end. The eggs vary in length from 0·79 to 0·65 inch, and in breadth from 0·59 to 0·54 inch. It is extremely difficult to distinguish the eggs of this bird from those of the Yellow Wagtail or the Blue-headed Wagtail; but those of the Grey Wagtail are, on an average, slightly smaller.

\* *Motacilla melanope*—Saunders, Manual, p. 117; Sharpe, Handb., I., p. 97.

## THE BLUE-HEADED WAGTAIL.

*(Motacilla flava.)*

PLATE 58A, FIG. 2.

The Blue-headed Wagtail is chiefly known as an accidental straggler on migration to our islands, but nests of this species have been found near Gateshead, and doubtless it has bred in several other localities. The Blue-headed Wagtail, subject to some local variation, has by far the largest area of geographical distribution of any species of the genus, extending from the British Islands across Europe and Asia to Alaska. It is a rather late breeder, and its eggs are seldom laid before the middle or latter end of May, often not until the beginning of June, so that probably one brood only is reared in a season.

The nest is built on the ground, and is generally well concealed amongst rank herbage. A bank is a favourite situation, beneath a tuft of grass or amongst the gnarled and half-exposed roots of trees standing in open fields. The nest is made of dry grass, rootlets, and scraps of moss, and lined with fine bents, hair, and sometimes a little wool, and more rarely a few feathers.

The eggs are from five to six in number, yellowish-white or pale bluish-white in ground-colour, mottled, spotted, freckled, and clouded with pale brown, and sometimes streaked on the larger end with rich blackish-brown. They vary in length from 0·83 to 0·73 inch, and in breadth from 0·59 to 0·53 inch. Many of the eggs of this bird are absolutely indistinguishable from those of the Yellow Wagtail and the Grey Wagtail.

## THE YELLOW WAGTAIL.

*(Motacilla raii.)\**

PLATE 58A, FIG. 3.

The Yellow Wagtail is a summer visitor to the British Islands. On the Continent of Europe it breeds in the north of France, passes through the south of France, Spain, and Portugal on migration, and occasionally strays into North-west Italy, in all of

\* *Motacilla campesris*—Sharpe, Handb., I., p. 99.

which districts it is possible that a few remain to breed. An isolated colony appears to exist in South-east Russia and West Turkestan.

The nest is always built upon the ground, generally in a well-sheltered situation, and concealed by a clod of turf or a clump of herbage. Sometimes it is built in the tall grass at the foot of a rough stone wall bordering a grain-field; at others it is on a mossy bank gay with spring flowers, and clothed with a luxuriant growth of herbage. The materials of which the nest is composed vary according to the locality; externally it is generally made of dry grass or twitch.

The eggs are five or six in number, greyish-white in ground-colour, very thickly mottled and speckled with pale brown or olive-brown, often so thickly as to hide all traces of the ground-colour. Many specimens have one or two rich blackish-brown streaks on the larger end. The eggs in a clutch in my collection from Hickling Broad are suffused with a delicate rosy tinge. Many of the eggs of this bird cannot with certainty be distinguished from those of the Sedge Warbler, and it is absolutely impossible to separate them from those of the Blue-headed Wagtail. They vary in length from 0·82 to 0·73 inch, and in breadth from 0·63 to 0·55 inch.

### THE TREE PIPIT.

(*Anthus arboreus*).\*

PLATE 58A, FIGS. 5—8.

The Tree Pipit is a summer migrant to our islands and is very widely distributed. It breeds in northern and central Europe, and in western Siberia as far east as Krasnoyarsk. In Norway it extends as far north as lat. 69°, in the valley of the Petchora to about lat. 65°, and in the Ural Mountains and the valley of the Yenisei to lat. 62°.

The nest is always built on the ground, generally amongst herbage, sometimes on a bank in a wood, and often in the grass or corn-fields, fifty yards or more from the hedge. It is usually made in a little hole, often excavated by the parent birds, and is constructed of dry grass, moss, a few rootlets, or a tuft or two of

\* *Anthus trivialis*—Saunders, Manual, p. 123; Sharpe, Handb., I., p. 103.

twitch, and is lined with finer grass and a little horse-hair. Some nests are much more elaborately made than others, and sometimes dry grass forms the whole structure. It is moderately deep and well rounded, and does not differ much in general appearance from the nest of the Meadow Pipit.

The eggs of the Tree Pipit are from four to six in number, and differ so much that it is almost impossible adequately to describe their variations. The eggs in each clutch are nearly alike, and it is most probable that each bird lays a peculiar type, which it has inherited from its parents and transmits to its offspring. The eggs of this bird may be classified into two groups—one in which the spots are very small and so profusely scattered over the surface as almost entirely to conceal the ground-colour, frequently becoming confluent at the large end ; the other in which the spots are bold blotches and streaks, principally confined to the large end of the egg, leaving the rest of the ground-colour distinctly visible where the spots are smaller and further apart. Each of these two groups may again be sub-divided according to colour, one extreme being pinkish-white and the other pale greenish-blue in ground-colour ; the spots on the former being reddish-brown, and on the latter sometimes olive-brown and sometimes dark reddish-brown. Between these extremes numerous intermediate varieties occur. The eggs vary in length from 0·9 to 0·7 inch, and in breadth from 0·65 to 0·58 inch.

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#### THE MEADOW PIPIT.

(*Anthus pratensis.*)

PLATE 58A, FIGS. 9, 10.

The Meadow Pipit is common throughout the British Islands. It appears to be strictly confined to the western portion of the Palæarctic region from Iceland to the Ural Mountains in the north, and from Morocco to Nubia, Asia Minor and Palestine in the south.

The nest is always on the ground, and generally well concealed ; it is often placed on a slope amongst rank herbage, sometimes at the foot of a little willow bush, or under a bank, in a similar situation to that often chosen by the Robin. Sometimes it is

placed in a meadow amongst the grass, at others in a hollow under a stone, and very often under the shelter of a reed-tussock in a little swampy patch of ground. The nest is made of moss and dry grass, and lined with finer grass, hair, and sometimes a few rootlets ; it is rather loosely put together, but always carefully finished inside, and varies considerably in size and form, according to the peculiarities of the site.

The eggs of the Meadow Pipit are from four to six in number, and are pale bluish or brownish-white in ground-colour, profusely mottled and speckled with spots of brown, amongst which the paler underlying markings can usually be detected. The variations are not very important, and the eggs of each clutch are generally alike. When the eggs are very thickly spotted, many of the spots become confluent, and there is little variation in colour ; but when the spots are fewer, the difference in the ground-colour makes an important difference in the appearance of the egg. On many eggs fine hair-like streaks occur, principally on the large end. They vary in length from 0·85 to 0·75 inch, and in breadth from 0·62 to 0·55 inch.

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#### THE RED-THROATED PIPIT.

(*Anthus cervinus.*)

PLATE 58A, FIGS. 11, 12.

The Red-throated Pipit occasionally visits our islands, and has frequently occurred on Heligoland and in most other countries in Europe. It breeds on the tundra above the limit of forest-growth from the Atlantic to the Pacific, but it becomes rarer west of the Ural Mountains, and in Northern Scandinavia is very local.

The nest is entirely made of dry grass, the coarser pieces being used for the foundation, and the finest reserved for the lining.

The eggs are from four to six in number ; they bear a general resemblance to those of the Tree Pipit, and, like the eggs of that bird, may be divided into two types. One of these, like its representative in the Tree Pipits' eggs, is very similar to the eggs of the Meadow Pipit, but the markings are seldom so profusely distributed over the whole surface of the egg ; the other type, in which the spots are darker and much more distinct, and

partake frequently of the streaky character of a Bunting's egg, resembles more the eggs of the Lapland Bunting than the other type of the eggs of the Tree Pipit. The ground-colour in both types varies from buffish or pinkish-white to very pale greenish-blue, and the surface-markings vary from neutral-brown to reddish-brown; the underlying markings vary from pale brown to pale grey. On one type the spots are large and confluent, but sufficiently wide apart to show a considerable amount of the ground-colour between them; but on the other the spots are small, and so thickly dispersed over the entire surface as almost to conceal the ground-colour. On some eggs the surface-colour is evenly clouded over the entire surface, with here and there a few spots of darker colour. Sometimes the markings take the form of streaky lines and spots. Occasionally one egg in a clutch is much paler than the rest. The eggs vary from 0·82 to 0·68 inch in length, and from 0·62 to 0·55 inch in breadth.

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#### RICHARD'S PIPIT.

(*Anthus richardi*.)

PLATE 58A, FIG. 4.

So many examples of this bird have been obtained, that we may now regard it almost as a regular straggler on autumn migration to our islands. So far as is known, Richard's Pipit is confined during the breeding-season to the central portions of Asia. The northern limit of its range appears to be lat. 58° in the valley of the Yenisei, whence it extends south-east through Dauria as far as the mountains of Eastern Thibet on the confines of China, and south-west as far as Eastern Turkestan on the confines of Cashmere.

The nest of Richard's Pipit has never been described, but probably differs very little from that of other Pipits.

The eggs vary in number from four to six. Some are profusely spotted all over with minute specks and blotches of greenish-brown upon a pale greenish-white ground-colour, whilst in others the spots are reddish-brown upon a pinkish-white ground-colour. They vary in length from 0·9 to 0·82 inch, and in breadth from 0·7 to 0·65 inch. Except in size, the eggs of the present species scarcely differ from those of the Rock Pipit and the Alpine Pipit.

## THE TAWNY PIPIT.

(Anthus campestris.)

PLATE 58A, FIG. 13.

About a dozen examples of this species have been obtained, mostly near Brighton. The Tawny Pipit is a summer visitor to Europe, and breeds in suitable localities as far north as lat. 57°.

The nest is made of dry grass, often intermixed with a few stems of coarse herbage or straws, together with roots, and lined with horse-hair, although in many cases fine roots alone serve the purpose.

The eggs are five or six in number, and are subject to some little variation; the more boldly spotted eggs very closely resemble those of the Rufous Warbler, whilst others might be mistaken for eggs of the Crested Lark. The ground-colour varies from very pale greenish-blue to creamy-white, which is always profusely spotted, but never sufficiently so as to hide it. The overlying spots are reddish-brown, and the underlying spots are grey. The spots are generally elongated, more or less into streaks, and are biggest at the large end of the egg; they are sometimes bold, irregular-shaped blotches, but consist, not unfrequently, of small streaks or nearly round spots, and are sometimes dark and rich in colour, but more often somewhat paler and dull. The number of variations is very great, but the range of variation is comparatively small. The eggs are from 0·95 to 0·8 inch in length, and in breadth from 0·69 to 0·6 inch.

## THE ROCK PIPIT.

(Anthus obscurus.)

PLATE 58A, FIG. 14.

The Rock Pipit is a resident on all the coasts of the British Islands, with the exception of the low-lying eastern shores south of Spurn, where it only appears as a straggler or on migration. Its range in Europe appears to be confined to the rocky portions of the coasts of North-eastern Europe from the shores of the Baltic to the Bay of Biscay.

The nest differs considerably in the material of which it is composed. Sometimes it is entirely made of fine dry grass, at others

seaweed is intermixed or the stalks of various plants growing near the sea, and it is frequently lined with hair.

The eggs of the Rock Pipit are four or five in number, but do not differ very much in colour. The ground-colour is generally so much obscured by the profusion of spots and streaks as to be scarcely discernible, but appears to be nearly white, occasionally slightly tinged with brown or green. The overlying spots vary from reddish to greyish-brown, but the underlying spots are always pale grey. On most eggs the markings are very small and almost confluent, sometimes forming a zone round the large end. Examples which are somewhat more boldly blotched, and others which are more sparingly spotted, are not uncommon. Occasionally a few very dark hair-like streaks occur, principally on the large end. The eggs vary in length from 0·9 to 0·8 inch, and in breadth from 0·66 to 0·6 inch. They very closely resemble those of the Alpine Pipit, but are on an average much browner and a trifle larger.

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#### THE SCANDINAVIAN ROCK PIPIT.

(*Anthus rupestris*.)

PLATE 58A, FIG. 15.

This is a vinous breasted form of our Rock Pipit, which occurs in Western Scandinavia, and as far east as the White Sea. It visits the east and south coasts of England on autumn migration and passes east again in spring. The nest and eggs are apparently identical with those of the ordinary Rock Pipit.

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#### THE ALPINE PIPIT.

(*Anthus spinoletta*.)

PLATE 58A, FIG. 16.

The Alpine Pipit has only been obtained in our islands on five occasions. It is a very local resident in most parts of mountainous Europe. It has not been recorded from Scandinavia or North-west Russia; but it is said to pass through Denmark and Heligoland on migration, and it appears to breed in the Ural Mountains up to lat. 64°.

Its nesting-site is selected on the ground or in a crevice of the rocks: sometimes a site is chosen amongst the stones; but it is

usually amongst the herbage in its marshy haunts. The nest is made of dry grass, moss, and rootlets, and lined with finer roots, and sometimes with horse-hair or wool.

The eggs are four or five in number, generally the latter, very rarely six, and resemble closely those of the Rock Pipit. They vary in length from 0·93 to 0·8 inch, and in breadth from 0·65 to 0·6 inch.

### THE SWALLOW.

(*Hirundo rustica*.)

PLATE 58A, FIGS. 17, 20.

The Swallow, one of the best known and most familiar of our native birds, is generally distributed throughout the United Kingdom. It is found almost throughout the Palaeartic region.

The nest is generally placed on the joist which supports the rafters of a barn or other out-house, a few inches below the tiles or slates which form the roof. In this position it rests upon the horizontal surface of the joist, and is a ring of mud lined with dry grass and a few feathers. Many peculiar nesting-sites of the bird have been recorded.

The eggs are from four to six in number, and vary considerably in shape and markings. The ground-colour is always pure white, and the markings are rich coffee-brown, violet-grey, and light reddish-brown; these are usually distributed over the entire surface of the egg, but most thickly at the large end. The grey underlying markings are far more numerous and larger on some eggs than on others. The spots vary considerably in size: on some eggs they are small specks, on others large spots and blotches, sometimes confluent on the larger end, forming a broad, irregular zone. The eggs vary in length from 0·9 to 0·75 inch, and in breadth from 0·58 to 0·52 inch.

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### THE HOUSE MARTIN.

(*Hirundo urbica*).\*

PLATE 58A, FIG. 19.

The House Martin is generally distributed throughout the British Islands in summer. It breeds throughout Europe, ranging somewhat further north than the Swallow.

\* *Chelidon urbica*—Saunders, Manual, p. 157; Sharpe, Handb., I., p. 328.

In this country the bird usually builds under the eaves of houses or some other overhanging ledge. The outside shell of the nest is almost entirely composed of mud. The birds do not build much at a time, but allow one layer to dry before another is placed, so that each nest takes ten days or a fortnight to finish. The mud is brought in little pellets, and a few straws or dry grass, or even hair, are intermixed to bind it together. Sometimes two or three nests are built together; and in some localities they are placed in rows one under the other. The inside is lined with dry grass and a few feathers. The nest is rounded in form, the quarter of an upright oval, and the hole which admits the birds is at the top, generally in the middle, but often in one corner. The lining materials are chiefly collected as the bird is on the wing—straws and feathers which the wind blows into the air.

The eggs are from four to six in number. They are pure glossy white, and the shell is very smooth. They vary in length from 0·8 to 0·7 inch, and in breadth from 0·55 to 0·52 inch, and very closely resemble those of the Sand Martin, but are a trifle larger, somewhat coarser grained, and more polished.

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#### THE SAND MARTIN.

(*Hirundo riparia*.)\*

PLATE 58A, FIG. 18.

The Sand Martin is found throughout the British Islands, in some districts in immense numbers. In Scandinavia its colonies are found as far north as lat. 70°; but in the valleys of the Petchora, the Ob, and the Yenisei, the most northerly colonies are in about lat. 67°. Middendorff found it on an island on the Pacific coast of Asia, in lat. 55°, and Dybowsky obtained it in Kamtschatka. In North America it breeds from Bering Straits to Baffin's Bay, up to about lat. 68°.

Immediately after its arrival in this country the Sand Martin repairs to its breeding place, and the old holes are used as sleeping-places at night. In all cases the bird excavates its own abode, and generally returns to it for several years in succession. Sometimes the holes are perfectly round, at others they will be rectangular,

\* *Cotile riparia*—Saunders, Manual, p. 159. *Clivicola riparia*—Sharpe, Handb., I., p. 329.

and often oval, and are usually two or three inches in diameter. The end of the hole is widened and hollowed into a kind of chamber, about six inches in diameter; and here the nest is formed. It is usually very slight—a mere bed of dry grass, coarse twitch, a few straws, and lined with one or two large feathers.

The eggs are from four to six in number. They are scarcely so polished as the eggs of the House Martin, but are of as pure a white, and vary in length from 0·76 to 0·62 inch, and in breadth from 0·51 to 0·46 inch.

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### THE PURPLE MARTIN.

(*Progne purpurea.*)

The Purple Martin has a very slender claim to be considered a British bird, but has been believed to have occurred once. It is a summer visitor to the United States and Canada, ranging northwards above the Arctic circle.

The nest appears to be a very loosely-made structure of dry leaves and grass, fine straws and twigs, and is lined with a considerable quantity of feathers. It is placed in the hole of a building, a rock, or a tree.

The eggs are from four to six in number, pure white and very glossy, and measure from 1·0 to 0·93 inch in length, and from 0·8 to 0·65 inch in breadth.

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### FAMILY TETRAONIDÆ,

OR GROUSE.

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### THE COMMON PTARMIGAN.

(*Tetrao mutus.*)\*

PLATE 59, FIGS. 4, 6.

The Common Ptarmigan is a bird of the tundra; and in the British Islands is confined to those moors in Scotland which lie above the limit of forest-growth. It is a circumpolar bird, breeding on the tundra of Europe, Asia, and America, above the limit

\* *Lagopus mutus*—Saunders, Manual, p. 483.

of forest-growth, as far north as land extends, and in a similar climate at high elevations further south.

The nest is very slight, and consists of a little hollow, either scratched out by the bird, or a ready-formed depression in the soil, which is lined with a few twigs, a little withered grass, and sometimes a few feathers that probably drop from the parent's plumage.

In this scanty nest the female deposits from eight to ten or even twelve eggs, which are usually laid early in May, but sometimes not until the end of that month, if the season be backward. They vary in ground-colour from dirty white to rich brownish-buff, and are spotted, speckled, and blotched with rich chocolate-brown. All the markings are on the surface, no grey underlying ones being traceable; the spots and blotches only vary in intensity of colour, the largest being generally the darkest. They vary in length from 1·8 to 1·65 inch, and in breadth from 1·26 to 1·15 inch. The eggs of the Ptarmigan may be generally distinguished from those of the Red Grouse by their much buffer ground-colour, which is all the more conspicuous from the eggs being less profusely spotted.

### THE RED GROUSE.

(*Tetrao scoticus.*)\*

PLATE 59, FIGS. 10, 12.

The Red Grouse, or, as it is locally called, the Moor-fowl, Brown Ptarmigan, or Gor-cock, is a resident bird, and is found on all extensive moorlands throughout Great Britain and Ireland, except in those counties of England which lie south or east of a line drawn from Bristol to Hull.

It can scarcely be said to make a nest; it merely scratches a slight hollow in the ground, and such materials, twigs of heather, dry moss, or dry grass, leaves, etc., as happen to be on the spot, are allowed to tumble in as lining.

The eggs are not subject to much variation; they are usually 1·75 inch in length and 1·32 inch in breadth, and of an almost uniform oval shape, the smaller end being scarcely more pointed than the larger one. The ground-colour of the egg is usually a

\* *Lagopus scoticus*—Saunders, Manual, p. 481.

pale olive, spotted and blotched all over with dark red-brown. The spots are frequently so confluent as almost entirely to conceal the ground-colour. In fresh-laid eggs the brown is often very red, in some instances almost approaching crimson ; it appears to darken as it thoroughly dries, and sometimes almost approaches black. When fresh laid the colour is not very great ; and before the eggs are hatched the beauty of the original colouring is much lessened by large spots coming off altogether, no doubt from the friction of the feathers or feet of the bird when sitting. It is impossible to distinguish the eggs of the Red Grouse from those of the Willow Grouse ; but those of the Ptarmigan are more sparsely marked and are much buffer in general appearance.

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### THE BLACK GROUSE.

(*Tetrao tetrix.*)

PLATE 59, FIG. 7.

The Black Grouse formerly inhabited the whole of Great Britain, wherever suitable localities were to be found ; but in many of these, especially in the south and east of England, it has been exterminated, though in some it has been successfully re-introduced. It also inhabits the pine and birch forests of Europe and Siberia. In Scandinavia its range extends as far north as lat.  $69\frac{1}{2}^{\circ}$  ; but in Russia and West Siberia, as far east as the Yenisei, it scarcely reaches lat.  $68^{\circ}$  ; and in the valley of the Lena it does not exceed lat.  $63^{\circ}$ .

Eggs of the Grey Hen are rarely found before the beginning of May. The site of the nest is varied, but generally well and artfully concealed. It may be where a pine tree or a larch has been snapped off by a winter storm, and its branches covered with a luxuriant growth of bracken and brambles, or it may be under a dense briar or bramble, or not unfrequently under a thick mass of heather and fern. Very little nest is made. A hollow is scratched out and lined with a few bits of herbage, fern-fronds, scraps of heather, or bracken-stems.

In this rudely-formed nest the Grey Hen (a name by which the female is technically known) deposits from six to ten eggs. They are yellowish-white or buff in ground-colour, spotted with rich

brown. These spots vary in size from minute pale specks to rich irregular blotches occasionally as large as a pea. The small spots are generally very numerous, but the larger blotches are few in number and often entirely absent. The shell is minutely pitted and possesses some gloss. The eggs vary in length from 2·1 to 1·9 inch, and in breadth from 1·45 to 1·38 inch. Their much larger size, comparatively fewer markings, and buff instead of purplish appearance effectually prevent them being confused with those of the Red Grouse. They more resemble the eggs of the Capercaille, but are much smaller.

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### THE CAPERCAILLIE.

(*Tetrao urogallus.*)

PLATE 59, FIG. 11.

In the British Islands the Capercaillie, Capercailzie, or Wood Grouse, as it is variously called, appears to be confined to a few counties, such as Perth and Forfar, in Scotland, and the adjoining districts. The range of this species is very similar to that of the Black Grouse. In Scandinavia it extends as far north as lat. 70°; and in Russia and Siberia as far east as the valley of the Yenisei up to about lat. 67°. Where it has not been exterminated the bird is an inhabitant of the pine regions of Europe, and is still found as far south as the Spanish slopes of the Pyrenees and throughout the Cantabrian chain.

The Capercaillie does not make any nest, but merely scrapes a hollow in the ground among the heather or bilberries in the forest, collecting no lining, but merely arranging the bits of dry grass that happen accidentally to be on the spot.

Naumann, who no doubt obtained his information from the German foresters, says that young hens seldom lay less than five or more than eight eggs, but that older birds lay as many as eight to twelve, and in rare instances fourteen or even sixteen. The ground-colour is pale brownish-buff, spotted with reddish-brown; these spots are generally profusely distributed, and in size vary from that of a pin's head to a mere speck. In exceptionally handsome eggs many of the spots approach the size of a pea, and some of them are fantastically shaped, whilst clutches are occasionally

found in which the spots are principally very small and so evenly distributed over the entire surface of the egg as to conceal the ground-colour. The eggs vary in length from 2·35 to 2·0 inches, and in breadth from 1·7 to 1·5 inch, and resemble very closely those of the Black Grouse, but may be distinguished by their larger size.

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FAMILY PHASIANIDÆ,  
OR PHEASANTS AND PARTRIDGES.

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THE PHEASANT.

(*Phasianus colchicus.*)

PLATE 59, FIG 9.

The Common Pheasant has been acclimatized in most parts of Europe; but its true home appears to be in the extreme west of Asia, in the western portions of the basin of the Caspian Sea, and the southern and eastern portions of the Black Sea. In a wild state it is a common resident in the valleys of the Caucasus up to an elevation of 3,000 feet; along the shores of the Caspian from the delta of the Volga in the north to as far east as Asterabad on the southern shores; in the northern parts of Asia Minor as far south as Ephesus; and, curiously enough, on the Island of Corsica.

Each female makes her own nest, though it is not improbable, where the eggs are large in number, that two birds lay in the same nest. It is usually placed amongst fern, under brushwood and brambles, and amongst the herbage in the fields and hedges. It is a very simple structure, a slight hollow lined with a few leaves and bits of herbage. In this the female lays from eight to twelve eggs, though in some cases as many as sixteen or twenty are found. They are generally brown or olive-brown, but many examples are bluish-green, and one in my collection, taken in Northumberland from a clutch of the usual colour, is a delicate greenish-blue, almost the colour of a Starling's egg; they are always unspotted; the shell is smooth and rather polished, but full of minute pits. They vary in length from 1·9 to 1·75 inch, and in breadth from 1·45 to 1·35 inch.

## THE COMMON PARTRIDGE.

*(Perdix cinerea.)*

PLATE 59, FIG. 5.

The Partridge is a resident in all the cultivated districts of the British Islands where game is preserved. Its range begins where that of the Red-legged Partridge and its allies ceases. West of a line from Brussels to Venice the Common Partridge is rare or local, and apparently in the process of being exterminated by the stronger species. In Scandinavia it almost reaches the Arctic circle, but is very local, being continually partially exterminated by severe winters. In West Russia it occurs as far north as lat.  $60^{\circ}$ , but in East Russia only to lat.  $58^{\circ}$ , and as far south as the Caucasus; east of these mountains it ranges into Central Asia and North Persia. In West Siberia it is found as far north as lat.  $57^{\circ}$ , where it appears to be migratory, wintering in North Turkestan.

The nest is a very slight structure, and consists of a few dry grasses and dead leaves, or other vegetable substances, scratched together in a slovenly manner.

The eggs of the Partridge are usually from ten to fifteen or twenty in number, but sometimes many more are discovered; as many as thirty-three have been known, but it is very probable that these large clutches are the produce of more than one female. The eggs are pale olive-brown without markings, and resemble very closely those of the Pheasant, but are much smaller; they vary in length from 1·5 to 1·32 inch, and in breadth from 1·15 to 1·05 inch. White and pale bluish-green varieties are sometimes found. The shell is smooth and possesses considerable gloss.

## THE RED-LEGGED PARTRIDGE.

*(Perdix rufa.)\**

PLATE 59, FIG. 8.

The Red-legged Partridge is principally confined to the eastern counties of England. Its range is very restricted, and it is a species of the extreme south-western portions of Europe. It is of very accidental occurrence in Belgium, local and rare in the

\* *Caccabis rufa*—Saunders, Manual, p. 489.

north of France, but in South and Central France is abundant and generally distributed.

The nest of this bird is made upon the ground amongst the tall grass in a hedge-bottom or in the growing crops, and consists merely of a few bits of dry grass and withered leaves arranged in a little hollow. Mr. J. Cullingford informs me that it often makes its nest amongst the thatch of stacks or on the ground by the road side.

The eggs vary from ten to eighteen in number, and are deposited by the latter end of April or early in May. They are pale buff or stone-colour, speckled, spotted, and blotched with yellowish or light chocolate brown, and some eggs are much more thickly spotted than others. The shell is thick and strong, finely pitted, and shows considerable gloss. They vary in length from 1·6 to 1·5 inch, and in breadth from 1·25 to 1·15 inch.

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#### THE COMMON QUAIL.

(*Coturnix communis.*)

PLATE 59, FIGS. 1, 3.

The Quail breeds throughout the British Islands, including the Outer Hebrides, the Orkneys and Shetlands, but is nowhere common. It is found over the greater part of Europe and Asia.

The nest scarcely merits the name, for it is only a slight hollow scratched in the ground, in which are gathered a few withered bits of herbage or a dead leaf or two. Some nests contain as many as twenty eggs, others only sixteen, and frequently only eight or twelve are found.

The eggs of the Quail are very handsome, varying in ground-colour from creamy-white or buff to yellowish-olive, boldly blotched and spotted with olive-brown and rich blackish-brown. Some eggs are far more thickly blotched than others, many of the markings being confluent; others are sparingly marked with large spots and numerous paler and smaller blotches; less frequently they are minutely and evenly speckled over the entire surface with spots of very dark brown, with here and there large round portions of the ground-colour appearing as if the colour had been accidentally rubbed off. They vary in length from 1·2 to 1·1 inch, and in breadth from 0·92 to 0·82 inch.

FAMILY *TURNICIDÆ*,  
OR *HEMIPODES*.

THE HEMIPODE.

(*Turnix andalusica*).\*)

PLATE 59, FIG. 2.

Three examples of this South European species have been said to have been obtained in England, and, by some authors, the species is admitted into the British List in consequence, but the occurrences are admitted with doubt. This Hemipode, usually called the "Andalusian Hemipode," is a resident in the extreme south-east of Europe and North-eastern Africa, and is a very unlikely bird to have visited this country, so that the specimens recorded, even if they were actually shot in England, were most probably escaped birds.

The Hemipode makes no nest, but lays its eggs in a depression in the ground.

The eggs cannot easily be confused with those of any other European bird, as they differ from the eggs of Game Birds in the important fact that they are double-spotted, none of the eggs of the latter birds ever having any grey underlying markings.

\* *Turnix sylvatica*—Saunders, Manual, p. 492.

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